

## ABSTRACTS

The Gerontological Society of America  
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Abstracts are arranged numerically by session and in the order of presentation within each session.

### SESSION 5 (SYMPOSIUM)

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#### GERONTOLOGY EDUCATION COMPETENCIES AND ACCREDITATION: ACCOMPLISHMENTS, CONSIDERATIONS AND PROGRESS

**Chair:** J.C. Frank, *University of California, Los Angeles, Los Angeles, California, University of Southern California, Los Angeles, California*

**Co-Chair:** H. Sterns, *University of Akron, Akron, Ohio*

This symposium will focus on efforts led by the Association of Gerontology in Higher Education (AGHE) in revitalizing the national consensus based competencies for gerontology education and the steps to date in the developmental process of gerontology education programmatic accreditation. Competency development was anchored in the seminal work of Wendt, Peterson and Douglass (1993) and the more recent competency standards of related fields. The AGHE competency process included input from both internal and external stakeholders to reach consensus. The competencies span the foundations, core processes and applications to settings where gerontologists work, including research and education. The goal of accreditation is to ensure that education provided by institutions of higher education meets acceptable levels of quality. Accreditation also offers some buffer to many of the challenges facing higher education today. During the symposia, individual papers will provide an overview of the competency development process; the final set of AGHE national consensus based competencies for gerontology education; a summary of the feedback received during the comment period on accreditation by Society and AGHE members; the challenges of higher education and the potential benefits of accreditation for the field of gerontology; and next steps. Ample time will be reserved for audience questions and discussion.

#### AGHE NATIONAL CONSENSUS-BASED GERONTOLOGY EDUCATION COMPETENCIES

J.C. Frank<sup>1,2</sup>, J. Damron-Rodriguez<sup>1</sup>, *1. University of California, Los Angeles, Los Angeles, California, 2. University of Southern California, Los Angeles, California*

AGHE built consensus for the new gerontology education competencies by using a tiered “circle of influence” method, beginning with AGHE leadership and extending to AGHE members for further internal review and vetting; followed by external input from key stakeholders including colleagues, employers, affinity organizations and older adults. With each of the widening circles of critique and comment, feedback was systematically reviewed, grouped, vetted and much was incorporated into the revision of the competency document. In addition, a number of town hall discussions, presentations, and small group discussions were held over an 18 month period. The competencies were anchored on the seminal work of Wendt, Peterson and Douglass (1993) and are applicable to all levels of higher education. The AGHE Competency Workgroup defined gerontologists in this way: “Gerontologists improve the quality of life and promote the well-being of persons as they age within their families, community and society through research, education and application of interdisciplinary knowledge of the aging

process and aging populations”. During this symposium, we will review the process, and steps taken to assure inclusiveness and transparency during the developmental phases of this work; and premier the final set of gerontology education competencies. Examples of utilizing the competencies for curricula development, mapping and competency-based outcome evaluation will be provided.

#### SECURING THE FUTURE OF GERONTOLOGY IN HIGHER EDUCATION: A PROVOST'S PERSPECTIVE ON THE NEED TO PROFESSIONALIZE GERONTOLOGY

R. Wacker, *Provost, University of Northern California, Greeley, Colorado*

The articles in the special edition of *Gerontology & Geriatrics Education* (2012), *Accreditation in Gerontology: Opportunities and Challenges*, captured the many sides of the ~40-year-old debate regarding the wisdom of establishing accreditation for gerontology programs. Is it time to move forward? This paper will present an administrative perspective about why the changing context of higher education, including the reduction of public support, the commensurate increase of private/tuition funding, and the heightened accountability for programmatic outcomes; necessitates accreditation for gerontology programs to secure the future of gerontology as a profession.

#### PROGRESS AND PROCESS: ACCREDITATION FOR GERONTOLOGY

H.L. Sterns, *1. Institute for Life-Span Dev. & Gerontology, The University of Akron, Akron, Ohio, 2. Northeastern Ohio Medical University, Rootstown, Ohio*

This presentation will review the activities of the AGHE Task Force on Accreditation which is an interdisciplinary group of gerontologists under the guidance of the AGHE Executive Committee and GSA Council. A summary of the feedback received during the comment period on accreditation by GSA and AGHE members will be presented. The development of competencies is seen as an essential step in development of dimensions for academic program evaluation and was carried out by the Sub Committee on Competencies. The Sub Committee on Organization is exploring approaches to the development of an accreditation process. Major issues in the development of accreditation will be presented as well as plans to seek input on developing consensus on an accreditation process from gerontology education programs.

### SESSION 10 (SYMPOSIUM)

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#### CONSUMPTION PRACTICES IN LATER LIFE: IDENTITY, ACTIVITIES AND DIVERSITY

**Chair:** M. Hyde, *Stress Research Institute, Stockholm, Sweden*

Despite the growth of the mature market and the evidence that current generations of older people are heavily engaged in consumer culture, consumption practices in later life remain under-researched. Yet consumption is increasingly central to later life and social gerontologists ought to understand how this impacts on the identities and activities of older people as well on wider social environments. If, as some have

claimed, the cultures of the third age are constructed through consumption, it should be possible to explore these cultures and their associated consumerist lifestyles through the study of later life consumption practices. To explore this Gilleard and Higgs outline four areas where consumerism sustains, or develops, such cultures: cosmetics and clothing, entertainment and leisure, travel and tourism and information and communication technologies. In their paper on how the accumulation of possessions impacts on residential relocation amongst older Americans Ekerdt and Baker explore the potentially oppressive nature of consumption. Evans and Hyde take a historic perspective and examine time trends in shopping activities for older and younger Americans using data from ten years of the American Time Use Survey. Finally Allen, Hillcoat-Nalletemby and Phillips look at business attitudes to older consumers. This symposium will advance our understanding of consumption practices in later life by bringing together new empirical data with the theoretical debates in third age studies. This is an important yet underdeveloped area of research that is of interest not only to gerontologists but also to other disciplines such as market research, tourism and leisure studies.

### CONSUMERISM AND THE THIRD AGE

C. Gilleard, P. Higgs, *UCL, London, United Kingdom*

If lifestyle consumerism is one key element determining the cultures of the third age, we argue, it is displayed most evidently in the consumption of non-essential goods and services such as black goods, eating out and entertainment, fashion, holidays, self-care products and travel. In this paper we present evidence of changing patterns in non-essential household consumption over the last half century, amongst the over-fifties, demonstrating how a 'silver' market has expanded over this time from a very small base post-war and is now occupying a commanding position within most developed economies. Despite the growth of consumer-led later lifestyles, however, youth rather than age provides the dominant image selling most non-essential goods and services, at the same time extending an anti-ageing message to ever younger segments of the adult population. Such contradictions remain central, we suggest, to the cultures of the third age.

### POSSESSIONS HAVE AGENCY IN LATER LIFE

D. Ekerdt, L. Baker, *Univ of Kansas, Lawrence, Kansas*

The arrangement of the material world can act upon people quite aside from their having created that world in the first place. Belongings, accumulated over a lifetime for various reasons, become an infrastructure within the household. They can congeal into an undifferentiated mass of "stuff" that in turn shapes behavior. The 2010 wave of the Health and Retirement Study asked older Americans whether their possessions are an obstacle to residential relocation. Altogether, 77% of persons aged 60+ said they were very or somewhat reluctant to move given the effort it would take to deal with their things. Reluctance to move was stronger the more commodious, peopled, affluent, and long-established the household, and among those with more functional limitations. The positive meanings of possessions and home are an emphasis in gerontology, but anxiety about these matters also deserves research. Impingement by the material environment is one of the predicaments of consumption.

### SHOPPING PATTERNS FOR OLDER AMERICANS FROM 2003-2012: EVIDENCE FROM THE AMERICAN TIME USE SURVEY

E. Evans<sup>1</sup>, M. Hyde<sup>2</sup>, *1. Psychology, University of Liverpool, Liverpool, United Kingdom, 2. Stress Research Institute, Stockholm University, Stockholm, Sweden*

Shopping is a key everyday activity for people of all ages. Yet, despite evidence that older people are increasingly engaged in consumer culture, consumer studies are still overwhelmingly focused on younger age groups. Consequently almost nothing is known about the shopping

patterns of older people, whether these have changed over time or vary for different groups of older people. To redress this, data from 10 years of the American Time Use Survey (2003-2012) were used to explore time trends in the time spent shopping between and within age groups. The results show that, apart from the oldest and youngest groups, age differences in time spent shopping have largely disappeared. However, amongst those aged 60 and over differences by gender, income, marital status and age persist. Understanding the shopping practices of older people may help businesses to become more age-aware and ensure that older people have a positive shopping experience.

### BUSINESS ATTITUDES TO OLDER CONSUMERS: MARKET FAILURE OR FAILURE TO MARKET?

M.C. Allen, S. Hillcoat-Nalletamby, J.E. Phillips, *Centre for Innovative Ageing, Swansea University, Swansea, United Kingdom*

The increasing number and proportion of older people within society, many of whom are relatively wealthy compared to younger generations, signals potential opportunities for businesses. The older consumer market segment has been described as the 'silver market', 'golden economy' and 'longevity dividend'. The promise of this new group of older consumers is substantiated by the size of the market and its anticipated growth over time. However, counter to economic reasoning, companies often do not have specific programmes to attract and keep older consumers and struggle to effectively target them, thus potentially losing revenue. This paper will discuss business attitudes towards older consumers given apparent market failure to capitalise on the burgeoning market to date, alongside the changing role of new cohorts of older consumers entering mass consumer culture.

### SESSION 15 (SYMPOSIUM)

#### LIFE ADVERSITY AND THE COURSE OF DEVELOPMENT: A FOCUS ON RESILIENCE PROCESSES

**Chair:** F.J. Infurna, *Psychology, Arizona State University, Tempe, Arizona*

**Discussant:** A.J. Zautra, *Psychology, Arizona State University, Tempe, Arizona*

Life adversity can come from many different sources to impact development in adulthood and old age, ranging from early childhood trauma to premature declines in health, caregiving duties, and loss of close social relationships. The goal of this symposium is to bring together a collection of papers that target factors that promote resilience and adaptive coping, despite experiencing life adversity that could adversely affect health and well-being. Jobin and colleagues examine the age-differential role of optimism in old age and found that dispositional optimism protected against increases in depressive symptoms for the young-old, but not old-old, suggesting that optimism is adaptive depending on one's point in the lifespan. Carr examines the role of four different types of emotion-focused coping for facilitating better psychological and social well-being to spousal loss and found that no one strategy is uniformly protective for all outcomes. Infurna and colleagues use daily diary data from participants in midlife and old age and find that early childhood trauma is associated with stronger declines in well-being when confronted with daily stressors and that mastery is a resilience factor promoting more positive outcomes. Ferraro and Morton's results from a national sample of adults indicate that personal control and perceived life trajectories are resilience factors that reduce the likelihood of psychological distress in old age due to major childhood maltreatment. The discussion by Alex Zautra will integrate the four papers, highlight the importance of and various sources of resilience in adulthood and old age, and consider future routes of inquiry.

## **IS DISPOSITIONAL OPTIMISM ALWAYS ADAPTIVE? A LOOK AT PERCEIVED STRESS AND CHANGES IN DEPRESSIVE SYMPTOMS ACROSS OLDER ADULTHOOD**

J. Jobin<sup>1</sup>, C. Wrosch<sup>1</sup>, M. Scheier<sup>2</sup>, 1. *Psychology Department, Concordia University, Montreal, Quebec, Canada*, 2. *Carnegie Mellon University, Pittsburgh, Pennsylvania*

Dispositional optimism is often associated with favourable outcomes but contextual conditions for adaptive self-regulation (e.g., opportunities and resources) may change across older adulthood (Carver, Scheier & Segerstrom, 2010; Heckhausen, Wrosch & Schulz, 2010). We expected that dispositional optimism would serve adaptive functions among young-old adults, but may lose its adaptive value among older-old adults. This 6-year longitudinal study examined associations between age, optimism, perceived stress, and depressive symptomatology across four waves using an age-heterogeneous sample of 172 community-dwelling older adults (64 – 90 years old). Results indicated that dispositional optimism protected against increases in depressive symptoms over time in young-old adults, but not among older-old adults. Within-person associations further demonstrated that optimism protected young-old (but not old-old) individuals from experiencing depressive symptoms if the perceived higher-than-normal stress. These results imply that optimism benefits young-old adults, but may lose its adaptive function in older-old adulthood. Implications for successful aging will be discussed.

## **PSYCHOSOCIAL RESILIENCE IN THE FACE OF LATE-LIFE SPOUSAL LOSS: WHICH COPING TACTICS ARE MOST PROTECTIVE?**

D. Carr, *Institute for Health, Health Care Policy, and Aging Research, Rutgers University, New Brunswick, New Jersey*

Problem-focused coping (PFC) is considered a more effective strategy than emotion-focused coping (EFC) when managing major life stressors. Yet when the stressful event is irreversible and cannot be altered, such as spousal loss, EFC is considered particularly effective. Scholars have not identified the specific EFC tactics that are most protective for older bereaved spouses, nor have specific EFC tactics been linked with distinctive aspects of psychosocial resilience. Using data from the Changing Lives of Older Couples (CLOC) study, a longitudinal survey of recently bereaved older adults, I prospectively explore the effects of four aspects of EFC (religious coping, denial, positive reappraisal, and distraction) on two aspects of psychological (depressive symptoms, psychological well-being) and social (informal and formal social integration) well-being. Analyses are adjusted for baseline mental health and demographics. Results show that no one strategy is uniformly protective for all outcomes. Implications for theory and practice are highlighted.

## **CHILDHOOD TRAUMA IS ASSOCIATED WITH GREATER EMOTIONAL REACTIVITY TO DAILY NEGATIVE AND POSITIVE EVENTS: THE ROLE OF MASTERY**

F.J. Infurna, C. Rivers, J. Reich, A.J. Zautra, *Psychology, Arizona State University, Tempe, Arizona*

Childhood trauma increases one's likelihood of premature health declines in midlife and old age. Relatively little is known, however, regarding pathways underlying this relationship. Using data from a 30-day daily diary of participants in Midlife (n=191, Mage =54, SD=7.50, 46% women), we examined whether childhood trauma is associated with emotional reactivity to daily negative and positive events as a pathway linking childhood trauma to health and the moderating role of mastery. Childhood trauma was associated with stronger decreases in well-being with negative events and stronger increases in well-being with positive events. For those reporting childhood trauma, higher levels of personal mastery were associated with stronger decreases in well-being with negative events and stronger increases in well-being with positive events. We discuss emotional reactivity as one pathway

linking childhood trauma to health, and psychosocial resources to consider when building resilience-promoting interventions for mitigating the detrimental health effects of childhood trauma.

## **ANTECEDENTS OF LIFE COURSE RESILIENCE AFTER MAJOR CHILDHOOD MALTREATMENT**

K.F. Ferraro, P.M. Morton, *Center on Aging and the Life Course, Purdue University, West Lafayette, Indiana*

Considerable research reveals that some types of childhood misfortune are a long-term threat to optimal aging. Nevertheless, some persons face extensive misfortune and thrive. This presentation explicates and tests plausible explanations for optimal aging in the face of major maltreatment during childhood. Using data from a national sample of adults who suffered repeated acts of physical and/or emotional abuse as children, results reveal that personal control was associated with a lower likelihood of psychological distress in adulthood. Whether for victims of physical or emotional abuse, personal control reduced the likelihood of neuroticism, negative affect, and psychotropic drug use in later life. The analysis highlights the role of psychosocial resources to successfully adapt to major forms of child abuse.

## **SESSION 20 (SYMPOSIUM)**

### **RESEARCH BASED POLICY INITIATIVES TO REDUCE HOSPITAL & NURSING HOME TRANSITION, A STATE PERSPECTIVE**

**Chair:** S. Spoelstra, *College of Nursing, Michigan State University, East Lansing, Michigan*

**Discussant:** S. Szanton, *John Hopkins University, Baltimore, Maryland*

Transitions among settings can influence quality-of-life, cost, and mortality, and are often precipitated by sentinel events like abuse or falls; however, some are due to the lack of services or use of evidence-based-care. Many state policies are not research based, and often do not focus on minimizing or preventing transitions. Researchers and policymakers need to form relationships to guide research to improve these policies. This symposium will highlight research efforts to improve policies for elderly across the State of Michigan. Each participant will bring a unique perspective to the issue, reporting on factors that influence transitions, as well as identifying strategies for translating evidence-based interventions to minimize transitions. Dr. Given will describe transitions and support services across the state; and integrated care policies in first presentation. Next, Dr. Pickering will present on injury related care transitions by nursing home residents and examine the usefulness of transitions as a quality indicator. Ms. DeKoeckoeck will then explore the impact of a Nursing Facility Transition Initiative moving patients from the nursing home into the community; what factors differs among settings; transitions experienced; and policies needed to broaden this program. Next, Dr. Spoelstra will report on a translational research project implementing evidence-based pain, medication management, strength and balance, depression and environmental interventions; and policy changes needed for statewide implementation. Finally, the discussant, Dr. Szanton, an aging researcher, with experience working with CMS, will emphasize how these presentations underscore the need for research based policy initiatives and the need for working relationships with policymakers.

### **HOSPITAL ADMISSIONS FROM NURSING HOMES AND RETURNS: PATTERNS AND COSTS OF CARE**

C.W. Given<sup>1</sup>, K. Oberst<sup>2</sup>, H. An<sup>2</sup>, 1. *College of Human Medicine, Michigan State University, East Lansing, Michigan*, 2. *Michigan State University The Institute For Health Policy, East Lansing, Michigan*

Among dually eligible custodial care nursing home patients, how do diagnoses, functional conditions and transition supports explain admis-

sions and 15 and 30 day re-admissions to Michigan hospitals? Using Medicare and Medicaid claims to identify cardio-pulmonary exacerbations and uncontrolled infections as sentinel conditions (which account for 28% of admissions to US hospitals), this presentation will examine how diagnoses, length of hospital stay are related to discharge to; alternative location (home assisted living) skilled nursing home unit and days in that unit, followed by return to custodial care. Patient function and cognition, physician visits, together with nursing home characteristics will be included to further explain these transitions and the range of annualized costs per patient.

#### **INJURY RELATED CARE TRANSITIONS AS AN INDICATOR OF QUALITY IN NURSING HOMES**

C.E. Ziminski Pickering, *College of Nursing, Michigan State University, East Lansing, Michigan*

Nursing home (NH) residents account for 2.2 million emergency department (ED) visits annually with 18% of these visits injury related, leading some to suggest ED care transitions should be used as a quality indicator of NH performance. Fractures and falls are two quality indicators currently used, however they are not fully representative of the scope of injuries which occur in NHs. This project describes injury related ED care transitions by NH residents and examines its usefulness as a quality indicator. Through use of Medicare, Medicaid and MDS data, analysis will examine longitudinal outcomes of NH residents with an ED injury visit. The hypothesis guiding analysis is that NH residents who experience an injury related ED visit are more likely to experience poor outcomes than those who did not. Findings will be presented.

#### **HEALTH CARE USE AFTER NURSING HOME DISCHARGE**

T. DeKoekoek<sup>1</sup>, C.W. Given<sup>2</sup>, H. An<sup>2</sup>, M. Schueller<sup>1</sup>, S. Spoelstra<sup>1</sup>, *1. Michigan State University College of Nursing, East Lansing, Michigan, 2. Michigan State University Department of Family Medicine, Institute for Health Policy, East Lansing, Michigan*

The State of Michigan serves nearly 20,000 disabled and elderly low-income in a home and community based waiver, providing services to assist living in the community. A Nursing Facility Transition Initiative (NFTI) assists nursing home residents, who prefer to return home, to receive transition support and waiver services. Nursing home placement is costly and associated with a constellation of negative outcomes for older adults, and most older adults prefer to live in the community. We describe the sample and report on 10-years of data comparing NFTI and regular waiver clients performance in walking, transferring, toileting, and their short-term memory loss. The purpose is to determine if those factors influence number, type, or hours of waiver services, reimbursement of NFTI, and 12-month outcomes of: return to nursing home, ER, or hospitalization so that we can recommend policy modifications for NFTI and waiver to the State. Findings will be presented.

#### **TRANSLATING EVIDENCE-BASED CARE IN A STATE WAIVER PROGRAM TO REDUCE TRANSITIONS**

S. Spoelstra, *College of Nursing, Michigan State University, East Lansing, Michigan*

Disability reflects a gap between an individual's abilities and the environment in which they function, and is the primary modifiable factor in preventing institutionalization. We report on a pilot study testing dissemination and implementation of a proven intervention, intervening directly on pain, medication management, strength and balance, depression and the home environment, in the State of Michigan waiver program to reduce re-institutionalization. We are enrolling 20 clients who were hospitalized or nursing home within the past 14-days, and providing the intervention plus usual waiver services. We will compare those 20 to a match (age, race, gender) cohort from 2012 who were in the hospital or nursing home and received usual waiver service. Our key outcome of interest is re-institutionalization (hospital or nursing home). Our hypothesis is that low-income disabled older adults who receive the

intervention plus usual care will manifest fewer readmissions. Enrollment is ongoing. Findings will be presented.

### **SESSION 25 (SYMPOSIUM)**

#### **MENTAL HEALTH DISPARITIES IN RACIALLY AND ETHNICALLY DIVERSE POPULATIONS**

**Chair:** G. Kim, *The University of Alabama, Tuscaloosa, Alabama*

**Discussant:** J. Jackson, *University of Michigan, Ann Arbor, Michigan*

As our nation becomes more racially and ethnically diverse, understanding mental health needs of racially/ethnically diverse elderly groups becomes more important. Given that the National Institute on Aging (NIA) has been putting strong efforts to reduce disparities in physical and mental health outcomes and health care between racial/ethnic minorities and nonminorities, this symposium assembles a panel of experts to address racial/ethnic disparities in mental health and mental health care across the life course. The main objectives of this symposium are to (1) address current issues of racial/ethnic disparities in mental health and mental health care among older adults, (2) understand some determinants of mental health and mental health care disparities across the life course, and (3) discuss ways to reduce existing mental health disparities among racial/ethnic minorities. Experts in the field will address various topics on mental health disparities including, but not limited to, longitudinal trends of racial/ethnic disparities in mental health among older adults and geographic disparities in mental health care disparities. Speakers will discuss not only quantitative approaches to disparities but also qualitative approaches to disparities. Racial/ethnic minority groups that will be discussed in the symposium include African Americans/Blacks, Latinos/Hispanics, Asians, and/or other groups. In order to address NIA's strong support for using existing secondary data sets, some speakers will also present findings from several major secondary data sets that are publicly available such as Medical Expenditure Panel Survey and Collaborative Psychiatric Epidemiology Surveys.

#### **HEARTS AND MINDS, STRESS AND SUGAR: DISPARITIES AND DIFFERENCES IN MENTAL AND PHYSICAL HEALTH**

B. Mezuk, *1. Family Medicine & Population Health, Virginia Commonwealth University School of Medicine, Richmond, Virginia, 2. Institute for Social Research, University of Michigan, Ann Arbor, Michigan*

In this talk I will provide a conceptual overview and review empirical evidence regarding the mechanisms linking mental health and physical health, and how these processes contribute to the development and persistence of disparities in mid- and late-life. Drawing on findings from the Health and Retirement Study, the Epidemiologic Catchment Area Study, the National Health and Nutrition Examination Study, and other surveys, I will describe the latest epidemiologic research regarding the relationships between stress, stress-related psychiatric disorders (i.e., depression and anxiety), and cardiometabolic conditions (i.e., type 2 diabetes and cardiovascular disease). Situating these findings in a life course framework that acknowledges the dynamic interplay between individuals and their environment, I aim to provide insight into the etiologic processes that contribute to mental health disparities in later life and suggestions for interventions to mitigate these inequalities.

#### **MEASURING TRENDS IN MENTAL HEALTHCARE DISPARITIES AMONG RACIAL/ETHNIC MINORITY ELDERLY**

D.E. Jimenez, *Dartmouth Medical School, Lebanon, New Hampshire*

Background: Disparities in mental health service use by racial/ethnic minority elderly are well-documented. Attention is now turning to the question of whether racial/ethnic disparities in mental healthcare are increasing or diminishing. The net effect of changes in healthcare organization and immigration, along with any explicit policies designed

to reduce disparities, is not clear. Methods: Four, two-year longitudinal datasets from Panels 9-14 (2004-2011) of the Medical Expenditure Panel Surveys were combined to estimate trends in racial/ethnic disparities in mental healthcare among older adults (aged 65+) with probable mental health need. Results: African-American-White, Hispanic-White, and Asian-White disparities in any use of mental healthcare remained constant from 2004-2011. Conclusions: The mental healthcare system continues to provide less care to racial/ethnic minority elderly than to older Whites, suggesting the need for policy initiatives to improve services for these racial/ethnic minority groups.

### **RACIAL/ETHNIC DISPARITIES IN MENTAL HEALTH CARE: DOES GEOGRAPHY MATTER?**

G. Kim, *Center for Mental Health and Aging / Department of Psychology, University of Alabama, Tuscaloosa, Alabama*

The purpose of this symposium presentation is to summarize the speaker's research on racial/ethnic disparities in mental health care among older adults, especially focusing on the role of geography. The speaker will present recent findings on geographic disparities from publicly available secondary data sets such as the Collaborative Psychiatric Epidemiology Surveys (CPES), Medical Expenditure Panel Survey (MEPS), and Behavioral Risk Factor Surveillance System (BRFSS). Outcome variables that will be discussed are mental health care service utilization, satisfaction with and perceived benefits from mental health care received, and initiation of mental health care. The speaker will present evidence of significant geographic variation of racial/ethnic disparities in various mental health care outcomes. These findings suggest that in order to reduce racial/ethnic disparities at the national level, improving mental health care and delivery in certain geographic areas (e.g., states or counties) may be essential. Clinical and mental health policy implications will be discussed.

### **MENTAL HEALTH BENEFITS OF RELIGIOSITY ARE TRANSMITTED INTERGENERATIONALLY**

C.M. Abdou, L.L. Brown, *Gerontology, University of Southern California, Los Angeles, California*

Both minority status and SES are associated with poorer childhood outcomes. However, cultural capital is thought to buffer against stress—particularly status-based stressors. Nevertheless, research to date has documented group differences in outcomes without examining cultural processes underlying these differences. This is particularly true of research attempting to understand African American–European American health disparities. In the proposed manuscript, we examine whether the cultural resource of parental religiosity reduces disparities in childhood outcomes. In focusing on religiosity, we build upon prior research demonstrating positive effects of religiosity on mental health and educational outcomes in older lower-income African American and Latino samples. Specifically, we examined the effects of parental religiosity on socioemotional functioning (e.g., sociability, shyness, aggression) in African American, European American, and Latino children at age three, predicting that higher religiosity would be associated with better functioning, especially when parents associate religious beliefs with family care.

## **SESSION 30 (SYMPOSIUM)**

### **CONTEMPORARY APPROACHES TO STUDY COGNITIVE DEVELOPMENT IN THE SECOND HALF OF LIFE**

**Chair:** G. Hülür, *Humboldt University, Berlin, Germany*

**Co-Chair:** D. Gerstorff, *Humboldt University, Berlin, Germany*

**Discussant:** C. Hertzog, *Georgia Institute of Technology, Atlanta, Georgia*

The study of cognitive aging has come a long way in helping us better understand the nature and correlates of how central cognitive abilities change in the second half of life. This symposium is devoted to

showcasing contemporary endeavors that are geared towards shedding additional light onto key questions the field has been tackling for a long time. In doing so, the symposium compiles empirical papers that move towards within-person considerations of changes in ability structure and fluctuations in performance, a comprehensive assessment of the confounding effects of practice and study dropout, and innovative ways to compensate for cognitive losses. Hülür et al. use data from the Seattle Longitudinal Study to examine cognitive dedifferentiation across the adult lifespan and address this issue from a within-person perspective. MacDonald and Stawski employ data from select measurement bursts to compare different operational definitions of within-person variability and their relations to the psychosocial and health domains. Anstey et al. employ sophisticated models to data from the Australian Longitudinal Study of Ageing to demonstrate how methodological artefacts may have confounded previous findings on late-life memory aging. De Frias will present findings on memory compensation in middle-aged and older adults and highlight the role of mental health, adaptive emotion regulation strategies, and trait mindfulness. The discussion by Christopher Hertzog integrates the four papers, highlights the potentials and limits of these contemporary approaches to better understand cognitive development in the second half of life, and considers future routes of inquiry.

### **COGNITIVE DEDIFFERENTIATION WITH INCREASING AGE AND PROXIMITY OF DEATH: WITHIN-PERSON EVIDENCE FROM THE SEATTLE LONGITUDINAL STUDY**

G. Hülür<sup>1</sup>, N. Ram<sup>2</sup>, S.L. Willis<sup>3</sup>, K. Schaie<sup>3</sup>, D. Gerstorff<sup>1,2</sup>,  
*1. Humboldt University, Berlin, Germany, 2. Pennsylvania State University, State College, Pennsylvania, 3. University of Washington, Seattle, Washington*

A central aim of lifespan psychology is to understand ontogenetic changes in the structure of individuals' actions, thoughts, and behaviors. The dedifferentiation hypothesis suggests that the structure of cognitive abilities becomes less differentiated in old age. Although this implies age-related change in the within-person coupling of cognitive abilities, empirical tests have typically approached the issue from a between-person perspective. In the present study, we pursue a within-person test using up to eight repeated measures of fluid, visualization, and crystallized abilities, obtained from 415 participants of the Seattle Longitudinal Study over 49 years. Results revealed that with advancing age and proximity to death, within-person coupling increased (a) among the crystallized abilities, (b) between visualization and fluid abilities, and (c) between visualization and crystallized abilities. In addition, within-person couplings between fluid and crystallized abilities increased with age. We discuss the importance of within-person analyses for understanding changes in the structure of behavior.

### **A MEASUREMENT BURST APPROACH FOR OPERATIONALIZING AND UNDERSTANDING VARIABILITY MARKERS OF COGNITIVE AGING**

S.W. MacDonald<sup>1,2</sup>, R.S. Stawski<sup>3</sup>,  
*1. Psychology, University of Victoria, Victoria, British Columbia, Canada, 2. Centre on Aging, Victoria, British Columbia, Canada, 3. Oregon State University, Corvallis, Oregon*

Increasing intraindividual variability (IIV) across reaction time (RT) trials of cognitive tasks share systematic links to aging processes (cognitive and physiological deficits), neurodegenerative pathology (Alzheimer's disease), and brain injury. However, few studies have systematically compared competing operationalizations of variability, decomposed RT variability into labile or stable components, or identified corresponding moderators. We employ data from select measurement burst studies to compare common variability definitions (coefficient of variation, raw and residualized within-person standard deviation), and examine psychosocial and health predictors of RT variability. Preliminary findings demonstrate RT variability both within- and between-persons (ICC range = .34 - .79), and important differences

between definitions of variability. Further, psychosocial and health moderators are uniquely associated with slower RT mean and greater RT variability, reflecting potential modifiable risk factors impacting cognitive and brain health. Discussion will focus on the implications of competing variability operationalizations and corresponding moderators for improving our understanding of cognitive aging.

### **GENDER AND DISTANCE TO DEATH EFFECTS ON LATE-LIFE MEMORY DECLINE: INDIVIDUAL DIFFERENCES OR METHODOLOGICAL ARTEFACTS?**

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Missing data occur in all longitudinal ageing studies, is rarely random, and often occurs in participants with poorer physical health, higher levels of depression, and cognitive decline. Using data collected over four waves of the Australian Longitudinal Study of Ageing ( $n = 2087$  at baseline, mean age = 78), we evaluated trajectories of memory decline using two approaches. First, a typical multilevel model, was used to analyse the data. Second, a multi-level pattern-mixture model that allows the estimation of trajectories of memory decline after adjusting for practice effects, and persistence in the study was used. In the typical model, females had faster memory decline and distance to death influenced observed trajectories. The Pattern-Persistence Model fully explained the effects of gender and distance to death, on memory ageing. These findings suggest that methodological factors may account for some of the individual differences observed in very late-life cognitive ageing.

### **MEMORY COMPENSATION IN OLDER ADULTS: THE DIFFERENTIAL ROLE OF MENTAL HEALTH, EMOTION REGULATION, AND MINDFULNESS**

C. de Frias, *University of Texas at Dallas, Richardson, Texas*

Efforts to identify individual differences in compensatory behaviors are paramount to promoting cognitive resilience in late adulthood. Prior research has examined structural properties and individual growth trajectories of memory compensation. The current study examined associations between everyday memory compensation and three person-level resource domains (i.e., health, emotion regulation, and trait mindfulness) in middle-aged and older adults. In this study, 89 community-dwelling middle-aged and older adults completed the multi-dimensional Memory Compensation Questionnaire, along with measures of health, emotion regulation strategies, and trait mindfulness. Hierarchical regressions showed that poorer mental health was related to more frequent use of select compensatory strategies (e.g., reliance on others for memory assistance, effort investment). Cognitive reappraisers reported using more complex (internal) compensatory strategies. Conversely, having a more mindful predisposition was associated with less frequent use of compensatory strategies. The results suggest that health-related quality of life, adaptive strategies to regulate emotions, and trait mindfulness are additional contexts that determine the degree of engagement in everyday memory compensation.

## **SESSION 35 (SYMPOSIUM)**

### **THE LEGACY OF LILLIAN TROLL; A TRAILBLAZER FOR FAMILY GERONTOLOGY**

**Chair:** V.H. Bedford, *School of Psychological and Brain Sciences, Indiana University, Bloomington, Indiana*

**Co-Chair:** K. Fingerma, *University of Texas, Austin, Texas*

**Discussant:** A. Lowenstein, *Center of Research & Study of Aging, Haifa, Israel*

Lillian Troll died October 24, 2013 at age 98. Her daughter wrote of her death, “she looked at me and smiled. I send that smile to all of

you, bearing the warmth and sweetness of her life.” This symposium honors the memory of this warm scholar whose astute observations and bold conceptualizations ignited decades of progress in the study of families and aging. The papers presented honor Troll by building on her insights and her interdisciplinary approach. Their authors are fueled by her “mentorship” in the broadest sense of the word. Gatz uses Troll’s interest in adults’ views of the life course via their understanding of age norms and age bias, by comparing the cohorts of Troll’s 1979 survey with a similar sample four decades later. Fingerma et al. builds on Troll’s emphasis on the importance of everyday interactions among adult family members. They use a diary technique to examine daily interactions between middle-aged adults and their grown children. Antonucci draws on Troll’s creativity, which evolved into a mutual research focus. Antonucci reports findings regarding attachment as a life span concept, how friends and family negotiate their conflicts across the life course, and the role of residential propinquity in these relationships. Sutor et al. piggy-back on Troll’s seminal research that demonstrated intergenerational conflict is not pervasive. They apply this method to beliefs about adult children’s contact and support of their older parents. Ariela Lowenstein will synthesize these papers with the Troll legacy.

### **AGE BIAS: FROM SURVEY TO AUTOETHNOGRAPHY**

M. Gatz, *Univ of Southern Calif, Los Angeles, California*

Lillian Troll was interested in how people view the lifecourse, how they divide the lifecourse to create age groups, what behaviors are seen as appropriate at different ages, and individual differences in the extent to which one adheres to expectations about what behaviors are age-appropriate or inappropriate. Age is unusual among social categories insofar as—particularly in developed countries with low rates of early life mortality—nearly everyone can expect to become a member of Old Age. Old age thus contrasts with other social categories such as race, ethnicity, gender, or membership in voluntary social groups. This presentation will compare results from Troll’s survey of age norms and age bias in 186 adults collected nearly four decades ago to current responses from a sample of similar size and characteristics. Additionally, the talk will review how, as Troll herself aged, she reflected on the experience.

### **THE LEGACY OF THE UN-MUNDANE: POSITIVE AND NEGATIVE ASPECTS OF DAILY LIFE IN ADULT FAMILIES**

K. Fingerma, Y. Cheng, K. Kim, *University of Texas, Austin, Texas*

Lillian Troll described adult family relationships as they occur in real life, including positive and negative daily experiences. Few studies have examined daily life in these ties, however. Middle-aged adults ( $N = 237$ ) from the Family Exchanges Study completed diary surveys for 7 days regarding activities with grown children. As Troll described, nearly all (96%) middle-aged parents interacted with a grown child that week. Parents reported engaging in the following pleasant activities with grown children at least once: laughing (88%), shared meals (62%), shopping (22%), and watching a movie or sports (51%). Moreover, 34% of middle-aged adults reported being irritated with grown children, 41% worried about a grown child, and 37% reported a child got on their nerves during that week. Grown children affected middle-aged adults’ daily experiences. Positive interactions translated into more positive mood and negative interactions were associated with worse better daily mood and more physical symptoms.

### **LILLIAN’S LEGACY: WHAT WE’VE LEARNED FROM WHAT SHE TAUGHT US**

T.C. Antonucci, *University of Michigan, Ann Arbor, Michigan*

Lillian cared about family and friends, good and bad. Living a long life, as Lillian fortunately did, meant she studied many aspects of life. She believed science should start with critical observations and that nothing is too ordinary to study. I will focus on three areas where Lillian provided foundational contributions. In 1976 Lillian wrote of attach-

ment as a life span concept. I will present recent findings on life span attachment. She also spoke of the importance of family and friends and the demilitarized zones they create. I will present recent perspectives on the influence of positive and negative relationship quality with family and friends. And, finally Lillian spoke of the importance of residential propinquity. Recent advances suggest the need to consider both geographic and technological propinquity. These areas benefitted from Lillian's keen observations of life as well as her creative and careful studies of how these phenomena evolve.

#### **USING WITHIN-FAMILY DATA TO ADDRESS 1960S CONCERNS REGARDING THE GENERATION GAP BETWEEN PARENTS AND ADULT CHILDREN**

J. Suitor<sup>1</sup>, M. Gilligan<sup>2</sup>, M. Rurka<sup>4</sup>, K. Pillemer<sup>3</sup>, 1. *Purdue University, West Lafayette, Indiana, 2. Iowa State, Ames, Iowa, 3. Cornell University, Ithaca, New York, 4. Elon University, Elon, North Carolina*

Research on intergenerational relations spanning the 1960s and 1970s was concerned with patterns of contact and support to older parents. This line of work was fueled by concern regarding the social changes occurring across that period, including the civil rights, anti-war, and women's movements, which might lead to conflict with, and abandonment of, older parents. Although research in the 1980s suggested that parents and children typically stayed in regular contact and that children provided care to older parents, questions regarding the availability of adequate care resurfaced as the Baby Boomers' parents entered their later years. Using data from the Within-Family Differences Study, we propose that the substantial degree of variation found in Baby Boomer families suggests that in the 1960s, as well as today, most parents had reliable and supportive relationships with some, although not necessarily all of their adult children.

#### **SESSION 40 (SYMPOSIUM)**

##### **WHY AREN'T ALL OLD PEOPLE LONELY?**

**Chair:** C. Victor, *Brunel University, Uxbridge, United Kingdom*

In a speech about older people to the National Children and Adults Services (NCAS) conference on October 18th 2013 the British Health Secretary Jeremy Hunt highlighted the "problem of loneliness that in our busy lives we have utterly failed to confront as a society" and stated variously that "it is a source of "national shame" that as many as 800,000 people in England are "chronically lonely". His suggestion to solve the problem of loneliness in later life is to emulate the 'respect' and explicit inter-generational solidarity he states is articulated within Asian countries and "that every lonely person has someone who could visit them and offer companionship". Research has consistently demonstrated that loneliness is perceived by 35% of those aged 65+ as a 'normal part of ageing' and 50% expect to get lonelier as they age. There is an extensive body of literature describing loneliness, identifying key risk factors and articulating the negative consequences. Approximately 10% of those aged 65+ report that they are often/always lonely. However this means that two thirds of this age group are not lonely. Despite this body of work, we are still unable to develop effective interventions. By focussing upon those who experience loneliness are we focussing on the wrong group? Would we be better off researching those who do not become lonely? This symposium will focus upon the majority of older people who do not become lonely in order to generate new perspectives on the issue of loneliness in later life

##### **ARE MOST OLDER PEOPLE REALLY NOT LONELY?**

C. Victor, *Brunel University, Uxbridge, United Kingdom*

Research into loneliness in later life is dominated by 'prevalence' estimate cross sectional studies; fewer investigations adopt a longitudinal perspective. Studies with 2 data collection points classify older people into four groups: the never lonely; the always lonely; those with wors-

ening loneliness and those with decreasing loneliness. Studies with additional follow up points include a 'fluctuating' category. Using the English Longitudinal Study of Ageing we examine loneliness trajectories for 5000+ people aged 50+. Analysis of changes in loneliness over the 6 years from wave 2 (2004) and wave 5 (2010) using the UCLA loneliness scale demonstrates that 66% are not lonely at any point. Using a self rating loneliness question from wave 1 (2002) to wave 5 (2001) demonstrates that 71% of participants do not rate themselves as lonely at any follow up point. The majority of older people are not lonely and do not become lonely as they age.

##### **WHY ARE NOT ALL OLDER WIDOWED PEOPLE LONELY?**

K.M. Bennett, *Psychology, University of Liverpool, Liverpool, United Kingdom*

Loneliness may result from a lack of social contact; from the discrepancy between desired and actual social contact; or arising from the loss of the attachment figure. There is evidence that widows may experience these types of loneliness. One might expect that all older widowed people would be lonely since they have lost their attachment figure and may have reduced social contact. However, using data from a corpus of 236 qualitative interviews with widowed people, I find that 58% are lonely. Many of them discuss how they managed it. The remaining 42% do not report loneliness. I examine the factors that contribute to a) absence of loneliness, b) the reduction or removal of loneliness. The factors fit with an ecological, systems level model, adapted from resilience research. Widowers utilise resources at the individual, community and societal levels. Focusing on these resources offers opportunities to ameliorate the effects of loneliness.

##### **LONELINESS AMONG THE SOCIALLY ISOLATED: FINDINGS FROM THE ENGLISH LONGITUDINAL STUDY OF AGEING**

A. Shankar, A. Steptoe, *Department of Epidemiology and Public Health, University College London, London, United Kingdom*

Reduced social contact with others is associated with increased loneliness. There is, however, considerable variation in this and there is limited research examining what factors are associated with feelings of loneliness among those who are objectively isolated. The present analysis used data from wave 5 of the English Longitudinal Study of Ageing to examine the associations between loneliness and age, gender, limiting long-standing illness, wealth, geographical location, personality factors, religious beliefs and perceptions of control in 218 highly isolated individuals. Regression analyses were carried out to examine these associations. Just over 45% of the participants reported never feeling lonely. In univariate analyses, female gender, neuroticism, less perceived control, and greater deprivation were positively associated with loneliness. In multivariate analyses, only neuroticism and perceived control were associated with being lonely. There are differences in reported loneliness even among the most isolated and this may be related to stable personality characteristics.

##### **REFLECTIONS FROM AN ETHNOGRAPHY OF OLDER AMERICANS LIVING ALONE: THE INFLUENCE OF RESOURCES AND AGE SEGREGATION ON LONELINESS**

E. Portacolone, *University of California in San Francisco, San Francisco, California, Afghanistan*

This paper suggests two hypotheses that may explain why some older adults living alone do not experience loneliness. The first is that living alone in older age can become so challenging to make the possibility of feeling lonely a luxury. Some older adults live alone have so few resources and so many mounting challenges that they cannot afford to feel lonely. The second is that some older solo dwellers do not experience loneliness because they relocated in age-segregated settings. These suggestions stem from the author's two-year ethnographic

investigation of 47 San Franciscans over 75 living alone. The author will compare the take on loneliness of four profiles of older adults living alone distinguished by their amount of resources available and degree of age segregation. The presentation will spur discussions on: (1) the challenging condition of living alone in advanced age in conventional housing; (2) the ambiguous trend towards age segregation.

### STRATEGIES TO PREVENT LONELINESS

J. Gierveld, T. Fokkema, *Social Demography, NIDI, The Hague, Netherlands*

About 20 percent of men and women are mildly lonely; another 8 to 10 percent are intensely lonely (Victor et al., 2005). With increasing age, adults are confronted with chronically illness, death of partner and other peers and consequently with higher risks of loneliness. We argue the necessity of loneliness prevention strategies for handling future life events that might trigger the onset of loneliness. Out of the three loneliness coping strategies differentiated (Peplau & Perlman, 1982) we opt for 'improving one's social convoy' by investing time and energy in the quantity and especially in the quality of relationships. We use a process model of coping with loneliness that we tailor to the requirements of adults who are currently not or only mildly lonely. In using this model, we address several phases of the prevention process. Specific attention will be devoted to the main pitfalls associated with each of the phases.

### SESSION 45 (SYMPOSIUM)

#### PANEL ON NEW DIRECTIONS IN SOCIAL DEMOGRAPHY, SOCIAL EPIDEMIOLOGY, AND THE SOCIOLOGY OF AGING

**Chair:** L. Waite, *University of Chicago, Chicago, Illinois, NORC at the University of Chicago, Chicago, Illinois, Center on Demography and Economics of Aging, Chicago, Illinois*

**Discussant:** F. Goldscheider, *University of Maryland, College Park, Illinois*

At the request of the National Institute of Aging, the National Research Council's Committee of Population established the Panel on New Directions in Social Demography, Social Epidemiology, and the Sociology of Aging. This panel prepared a report detailing recent contributions and identified new directions of research in the sub-fields. This report resulted from paper presentations and panel discussions. The panel developed a three dimensional conceptual model that include differing levels of analysis, differing development stages, and examples of outcomes of interest along social, institutional, and biographical dimensions. The panel also proposed five recommendations which include: 1) researchers should develop conceptual models for social processes in aging; 2) these models should be used to develop key measures for data collection; 3) models should be promoted in the areas of biomeasures, family relationships, and new technology; 4) the NIA should supplement surveys with people related to the sample group and ensure representation for groups of interest; and 5) transdisciplinary research should be promoted and encouraged. The symposium will address issues raised by the NRC report. These include how biosocial processes play a role in healthy and unhealthy patterns of aging (Tara Gruenewald) and the strengths and shortcomings of biomeasures (Maxine Weinstein). The other two presentations focus on social and economic contexts. Howard Litwin offers insight at an international level, assessing measures of social networks using both NSHAP and SHARE. Finally, Jacqui Angel and Richard Settersten examine how changes in the social and economic contexts alter the experiences and meanings of aging.

### NEW SOCIAL AND ECONOMIC REALITIES OF AGING: OPPORTUNITIES AND CRISES

R.A. Settersten<sup>1</sup>, J. Angel<sup>2</sup>, *1. Human Development & Family Sciences, Oregon State University, Corvallis, Oregon, 2. University of Texas at Austin, Austin, Texas*

Profound changes in social and economic contexts in the United States and throughout the world have dramatically altered the experiences and meanings of aging. On the social side, we illustrate how the life course has been reconfigured via the shifting boundaries and markers of life periods; the erosion of traditional pathways through education, work, and retirement; and the circumstances and choices of younger cohorts, which differ significantly from past cohorts. We also describe the growing diversity of family and social relationships; their new strengths, vulnerabilities, and ambiguities; and their effects on social support, health, and intergenerational financial exchanges. On the economic side, we illustrate the growing contingencies of retirement for some individuals and groups, and concerns related to public economies and the viability of aging policies and programs. We emphasize the significance of particular policies and programs as levers for both responding to new realities and preparing for the future.

### CAPTURING THE INTERPERSONAL MILIEU IN THE SOCIOLOGY OF AGING: CHALLENGES AND OPPORTUNITIES

H. Litwin, *IGDC, Hebrew University, Jerusalem, Israel*

The Final Report on New Directions in the Sociology of Aging assigns social networks a key moderating role in the associations between micro and macro factors, on the one hand, and health and well being outcomes relevant to late life, on the other. The measurement of social networks is an ever changing landscape. This paper explores the costs and benefits of focusing on whole or ego-centered networks, using indirect rather than direct network measures, employing aggregate constructs like "network type" as opposed to individual indicators, and depicting network states versus tracing network change. Networks supply informal transfers (time and money) and facilitate service utilization, but they may also transfer negative properties and/or restrain service use. The implications of the respective methodological choices for the interpretation of study findings and for policy recommendations are illustrated based on findings from major longitudinal databases on aging, particularly SHARE and NSHAP.

### BIOSOCIAL INVESTIGATIONS IN THE STUDY OF HEALTHY AGING: WHAT HAVE WE LEARNED? WHAT LIES AHEAD?

T.L. Gruenewald, *Davis School of Gerontology, University of Southern California, Los Angeles, California*

Social scientists have long been interested in identifying biosocial processes that play a role in healthy or unhealthy patterns of aging. Methodological advances continue to facilitate the incorporation of biological measurements into population-based, longitudinal studies of health and aging, as well as smaller-scale experimental and observational investigations. Utilizing efforts to understand the biological embedding of social status as an example, this presentation will highlight some of the theoretical achievements and promises, as well as some of the limitations and challenges, of biosocial investigations. Particular attention will be given to the potential of biosocial investigations for refining life course models of healthy aging as well as the utility of biological measures as surrogate endpoints and early warning signs for intervention. However, some of the methodological limitations and theoretical challenges these studies have raised will also be reviewed in an effort to avoid the pitfalls, and promote the promises, of biosocial research.



## BIOMARKERS: IS THE GLASS HALF FULL OR HALF EMPTY?

D. Gleit<sup>1</sup>, N. Goldman<sup>2</sup>, M. Weinstein<sup>1</sup>, 1. *Georgetown University, Washington, District of Columbia*, 2. *Princeton University, Princeton, New Jersey*

Over the past 15 or so years, biomarkers have increasingly been incorporated into social surveys. Collecting those biomarkers is a costly investment with complex logistics that can impose significant respondent burdens; are they paying appropriate dividends? Here we raise three points. First, as discussed by Friedman and Kern (2014), we note the need for caution in using biomarkers as endpoints (outcomes): they do not necessarily predict future health and survival. Second, we question how compelling is the evidence showing that biomarkers mediate the relationship between social status and health. And third, we look at the prognostic value of biomarkers for mortality. We see needs for greater replication – can findings be duplicated across datasets?; for comparative studies – do the findings hold up over time and geography?; and for improvements to our strategies for data reduction – our summary scores across biological systems are far from optimal.

## SESSION 50 (SYMPOSIUM)

### AMBIENT INDEPENDENCE MEASURES FOR GUIDING CARE TRANSITIONS

**Chair:** K. Wild, *Neurology, OHSU, Portland, Oregon*

**Co-Chair:** J. Kaye, *Neurology, OHSU, Portland, Oregon*

**Discussant:** S.J. Czaja, *University of Miami, Miami, Florida*

After age 65, about 70% of Americans will need some long-term care services (adult day services, home care, assisted living, nursing home) to maintain independence. Our research goal has been to develop systems that improve our ability to unobtrusively monitor important health changes due to chronic disease and aging, allowing timely intervention to prevent avoidable loss of independence. We have demonstrated that continuous collection of important health information in the home can enable early identification of clinically significant changes. By collecting additional behavioral and physiological sensor-based data to monitor independence outcomes, the current project evaluates how such technologies may contribute to care transition interventions. These Ambient Independence Measures (patterns of mobility, sleep, medication adherence), collected using unobtrusive sensors distributed throughout an individual's natural living environment, can provide a unique window into the daily functional performance of seniors. In so doing, they allow caregivers, both informal and professional, to base care decisions on objective, systematically assessed real-time activity data at a level that is not attained by current conventional practices. The symposium will present an overview of the AIMS project and its intended goal to test the hypothesis that objective everyday sensed measures may prevent or delay transitions to higher care need. We will then present data from informal and professional caregivers regarding metrics they use in decision making about care transitions. We will discuss specific continuous activity monitoring data as they inform transition decisions. Finally, continuously collected measures of social engagement will be presented as an example of an important predictor of changing care needs.

**THE AMBIENT INDEPENDENCE MEASURES FOR GUIDING CARE TRANSITIONS STUDY (AIMS): INTEGRATING TECHNOLOGY AND CLINICAL ASSESSMENT TO BETTER INFORM DECISION MAKING**  
J. Kaye, D. Austin, J. Petersen, P. Jacobs, N.C. Mattek, N. Larimer, H.H. Dodge, K. Wild, *Oregon Health & Science University, Portland, Oregon*

This presentation orients the audience to the overall project design and novel infrastructure of the Ambient Independence Measures for Guiding Care Transitions study (AIMS). AIMS first tests the ability to

capture key functional outcomes (mobility, sleep, socialization, cognition, behavior, medication-taking and wellness) needed to guide care transitions. This is achieved by installing an array of unobtrusive sensors and devices in volunteer's homes: motion-activity sensors, electronic medication-tracker, physiologic sensor 'station', computers and phones. Participants provide weekly Internet-based self-report of life events and health status. Using the longitudinal home-based data, predictive care transition algorithms are iteratively created. In parallel a variety of stakeholders and care teams are assessed to determine the gaps in their information needs to guide optimal decision making and how providing AIMS data may improve their capacity. Subsequently, a RCT of AIMS measures compared to usual care determines if automated continuous measures of function result in optimal care transitions.

### CARE PROVIDERS AND CARE TRANSITIONS: FACTORS THAT INFORM DECISIONS ABOUT LEVEL OF CARE

K. Wild, M. Bowman, M. Gregor, A. Seelye, J. Kaye, *Neurology, OHSU, Portland, Oregon*

Decisions about care needs and transitions in levels of care for older adults in long term care facilities depend on coordination between professional staff and family members. Optimally, these decisions are based on evaluations of relevant health and behavioral changes. We held focus groups with professional and informal caregivers to identify the metrics used to inform their decisions regarding changes in care needs. Initial survey-based responses indicated that falls, changes in memory/confusion, and medication adherence were important factors guiding decisions. Themes that emerged from focus group discussions included the reliance on a combination of objective evidence and "gut feelings," differences between family and professional carers' perceptions, and the general fear of transition among residents and their families. Data from in-home monitoring were also seen by professionals as important in documenting the post-transition "positives" such as increased socialization and activity in a safer setting, and overall improvement in quality of life

### DESIGN OF AN AMBIENT IN-HOME MONITORING PLATFORM FOR USE IN ASSESSING TRANSITIONS TO HIGHER LEVELS OF CARE

P.G. Jacobs, D. Austin, J. Yeagers, T. Riley, J. Petersen, N. Larimer, J. Kaye, *Biomedical Engineering, OHSU, Portland, Oregon*

In this presentation, we describe the technical aspects of the ORCAT-ECH ambient in-home sensor platform and how we are using this platform to collect behavioral metrics from seniors living independently within their homes. We will describe how infrared (IR) sensors are used to assess mobility including room transitions and walking speeds. IR sensors are also used to assess sleep patterns by placing them above a bed; and they are used in conjunction with door sensors to estimate time spent outside of the home. Computer and phone usage is tracked using both custom and commercial software as we assess how socialization metrics change and can be predictive of a need for higher levels of care. Lastly, we provide an overview of the in-home wireless network and a description of how data is moved from the homes to a remote server where data can be processed.

### PREDICTING TRANSITIONS TO HIGHER LEVELS OF CARE AMONG ELDERLY: A BEHAVIORAL APPROACH

D. Austin<sup>1</sup>, R.M. Cross<sup>3</sup>, P. Jacobs<sup>2</sup>, N.C. Mattek<sup>1</sup>, J. Petersen<sup>2</sup>, K. Wild<sup>1</sup>, J. Kaye<sup>1</sup>, 1. *Neurology, Oregon Health & Science University, Portland, Oregon*, 2. *Oregon Health & Science University, Portland, Oregon*, 3. *Oregon State University, Corvallis, Oregon*

Using data collected wirelessly from passive infrared sensors and everyday devices (pill box, phones, computers) strategically installed in the home, we measure and fuse behavioral data collected across

multiple key functional areas (activity and mobility, sleep, medication adherence, physiologic trends, and socialization) with traditional standardized clinical assessments and weekly Internet-based self-report data from 150 elders living independently. The data is used to build predictive models such as mixed effects logistic regression models to determine the individual and group factors associated with increased probability of transitioning to higher levels of care. Our working hypothesis is that slower walking speed, less activity, poor sleep and medication adherence, fluctuating weight, and decreased socialization will be important predictors of the need for higher levels of care in the elderly population. These then would be the focus of more informed real-time proactive care planning.

#### **AMBIENT ASSESSMENT OF SOCIAL ENGAGEMENT**

J. Petersen, D. Austin, J. Yeagers, T. Riley, K. Wild, J. Kaye, *Oregon Health & Science University, Portland, Oregon*

Social activity is an important part of healthy aging that has been shown to reduce risk of placement in long term care facilities—an undesirable and expensive outcome for many older adults. Given the importance of social activity and the inherent difficulties with measuring social activity levels via surveys, we at ORCATECH are developing a system to unobtrusively monitor social activity. This system detects changes in social engagement that may signal changes in health, cognition, or risk of transition to higher care needs. Currently, we monitor computer usage including applications and websites visited, phone usage, time out-of-home, and total activity levels while home. We will present longitudinal data from each of these social domains, demonstrating the types of data we are collecting and its health implications. Monitoring social engagement may delay or prevent loss of independence as people age.

### **SESSION 55 (PAPER)**

#### **MARRIAGE AND INTIMATE RELATIONSHIPS**

##### **THE ROLES OF CONCEALMENT AND PERCEIVED SUPPORT ON MARITAL QUALITY IN COUPLES WITH CHRONIC WIDESPREAD PAIN**

K.S. Lyons, K.D. Jones, S. Hiatt, L.M. Miller, *Oregon Health & Science Univ, Portland, Oregon*

Chronic widespread pain (CWP) is a common, debilitating and costly rheumatic pain syndrome that affects primarily women across the lifespan. Research suggests that CWP reduces the ability of the couple to engage in shared activities and the invisibility of illnesses can compromise the supportive context of the couple. Drawing upon the Developmental-Contextual Model of Couples Coping with Chronic Illness (Berg & Upchurch, 2007), the current study examined 191 CWP couples (aged 26 to 81) to determine risk factors for poor couple adjustment. Multilevel modeling was used to control for the interdependent nature of the data and examine both actor and partner effects. Level 1 results indicated that patient and partner relationship quality was moderately correlated ( $r = .51$ ). Controlling for patient age, length of relationship, and patient physical health, an initial model found higher patient depressive symptoms to significantly predict poorer relationship quality for both members of the couple. However, when measures of concealment and perceived support from partner were included, both concepts were significantly associated with how the couple rated the quality of their relationship with both actor and partner effects. Final models accounted for 50% of the variance in patient relationship quality and 52% of the partner's relationship quality. Discussion will focus on the important roles of dyadic coping and perceived support within couples in the context of CWP.

#### **CONSTRUCTING A SENSE OF COMMITMENT IN “LIVING APART TOGETHER” RELATIONSHIPS IN MID- TO LATER LIFE: LAT PARTNERS RESPONDING TO GENERALIZED OTHERS**

K.M. Kobayashi, L. Funk, *University of Victoria, Victoria, British Columbia, Canada*

LAT (Living Apart Together) relationships involve two people in a long-term romantic relationship who choose to live in separate households. Because they tend to lack structural commitments, LAT relationships can be viewed as a manifestation of more voluntary forms of partnership based primarily on emotional bonds, in the context of institutionalized individualism. Despite increasing social acceptance of (and considerable media interest in) non-traditional partnerships, in many ways these relationships are still seen as deviant (and as lacking commitment) by outsiders. In our paper we draw on interpretive analyses of qualitative interviews with 28 mid- to later life LAT couples (56 participants) to explore how these couples construct a sense of commitment in their relationship under these conditions (e.g., responding to both generalized and specific others in rationalizing their relationships). Though participants emphasized specific examples of friends that envy their relationship, they also described more negative reactions from others who expect cohabitation as part of the natural progression of relationships. In response, participants described their commitments as strong, and as rooted, for the most part, in sexual fidelity, mutual exchanges of support, affection, long-term orientation, willingness to work through difficulties, and a history of shared time together. Structural ties, though normally avoided, were also evident among some participants. Ambivalence among some participants with respect to commitment can be explained with reference to their strong desire to maintain independent within their relationship.

#### **CHILDHOOD ANTECEDENTS OF ADULT ROMANTIC ATTACHMENT IN LATE MID-LIFE MEN**

C.E. Franz, *Psychiatry, University of California San Diego, La Jolla, California*

Attachment theory has become a key approach for understanding the ontology of close relationships across the life course. For both adults and children, relational/attachment bonds appear to serve multiple purposes ranging from emotional regulation to protection of the species. We examined developmental antecedents associated with romantic attachment in late midlife (age 61) in 994 male twins from the Vietnam Era Twin Study of Aging. Adult attachment was assessed with the Experiences in Close Relationships Inventory (Brennan et al. 1998). Indicators of multiple childhood stressors were assessed in previous data collections. Using mixed effects models, low family warmth (Moos, 1981) and more childhood traumas (Pennebaker, 1988) predicted higher levels of anxious attachment at age 61. Low family warmth and non-white ethnicity predicted higher levels of avoidant attachment. Neither childhood socioeconomic disadvantage nor having parents with a history of legal, drug, alcohol or mental health problems predicted later attachment. When recent stressors were included in the models, however, only the effect of parental warmth remained significant—in part due to significant associations between childhood and current stress. Primarily environmental, not genetic factors, accounted for associations between childhood experiences and adult attachment. Concurrently, men with less secure adult attachment reported fewer confidants, lower happiness with best friend, fewer years in a current intimate relationship, lower satisfaction with the most intimate relationship, greater likelihood of divorce, and higher stress. Thus early experiences had some effect on later life feelings of safety and security in intimate relationships but ongoing experiences remain important.

## NEW INTIMATE RELATIONSHIPS AS A RESOURCE FOR INDEPENDENT LIVING IN LATER LIFE

T. Bildtgård<sup>1</sup>, P. Öberg<sup>2</sup>, *1. Social work, Stockholm university, Stockholm, Sweden, 2. University of Gävle, Gävle, Sweden*

Despite increased research interest in transitions into new intimate relationships in later life, little focus has been on how transitions affect older people's social networks. We investigate the impact of entering into new intimate relationships in later life on interdependent lives. Results are based on both qualitative interviews with 28 Swedes (63–91 years) either dating or living in new relationships initiated 60+ (marriage, cohabitation, LAT), and a quantitative survey to 60–90 year old Swedes (n=1225; response rate 42%). A central theoretical frame is Elder's (1994) principle of interdependent lives. A new relationship usually meant integration into the new partner's social and filial networks (some problems will be discussed) and a restructuring of the relationship chain so that time and energy is redirected to the new partner. A new partner was described as a resource for living independent lives by the older informants, and as a way of "unburdening" the children. Finally, the qualitative interviews hinted at a hierarchy of dependencies. This was confirmed by the survey. A majority of respondents would primarily turn to their partners for social, emotional and practical support, with children as a distant second and "others" third. An exception was personal hygiene, where partners remained the first choice, but where the social services were preferred to children. This hierarchy was the same in new relationships. The results, partly contradicting previous research findings, are discussed in light of Western individualism generally and Swedish welfare-state and state supported individualism in particular.

## MORE THAN MONEY: UNDERSTANDING MARITAL INFLUENCES ON RETIREMENT SAVINGS RATES

S.H. Payne, J. Yorgason, *School of Family Life, Brigham Young University, Provo, Utah*

Much has been done to understand predictors of financial preparation for retirement. What is often missed, however, is the value that marriage may have in helping individuals prepare and it can provide a rich contextualization for evaluating retirement issues as most individuals retire as part of a couple (Atchley, 2001). Knoll, Tamborini, and Whitman (2012) found married young adults placed greater value on saving for retirement than their young adult counterparts that are single or cohabiting. Therefore, understanding aspects of the relational context that may influence saving for retirement, such as marital quality and materialism, would add to the current literature. Using data from 584 individuals identifying themselves as married, the purpose of this study, using structural equation modeling, was to examine how personal and relational characteristics were linked to financial attitudes, knowledge, and capabilities and financial well-being using the family financial socialization framework (Gudmunson & Danes, 2011). Supporting the first two hypotheses, marital quality, materialism, age, and household income were found to directly predict financial prudence as a measure of financial attitudes, knowledge, and capabilities and to indirectly predict retirement savings rate as a measure of financial well-being. Financial prudence supported the first hypotheses as well by directly predicting retirement savings rate. Education also supported the first hypothesis, in that it directly predicted an individual's measure of financial prudence. In support of the third hypothesis, education was associated with retirement savings rate. Results suggest the importance of considering both financial and non-financial predictors of saving for retirement.

## SESSION 60 (PAPER)

### NEW DIRECTIONS ON DEMENTIA DIAGNOSIS AND TREATMENT

#### DEPRESSION AND COGNITIVE IMPAIRMENT AMONG OLDER RESIDENTIAL CARE RESIDENTS: 2010 NATIONAL SURVEY OF RESIDENTIAL CARE FACILITIES (NSRCF)

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Cognitive impairment and depression are common conditions affecting older adults. According to the Department of Health and Human Services' 2010 National Survey of Residential Care Facilities (NSRCF), nearly half of all older residents (aged 65 and older) in assisted living and similar residential care communities (RCCs) had dementia (49%), about a quarter had depression (26%), and 15% had both. Recent research has indicated that depression and dementia may not only co-occur, but that depression may be a risk factor for dementia. While there is growing evidence about the co-occurrence of dementia and depression in the general older adult population, little is known regarding the co-occurrence of these conditions among older residential care residents. Using data from the NSRCF, the first nationally representative survey of RCCs with four or more beds, this study aims to: (a) assess if residents with depression (n=1928) are more likely to be cognitively impaired than other residents (n=4900); and (b) identify facets of cognitive impairment (short-term and long-term memory, confusion, and decision-making) associated with depression. Bivariate analyses (accounting for complex survey design using STATA software) show that more residents with dementia and other cognitive impairments had depression (30%) than other residents (25%). Compared to residents without depression, residents with depression tend to have short-term (55% versus 46%) and long-term (34% versus 28%) memory problems and confusion (57% versus 48%). Multivariate results will be presented on the association between depression and dementia and other cognitive impairments, after controlling for resident and provider characteristics.

#### THE SOCIAL ENVIRONMENT, APOE E4, AND DEMENTIA: THE SOCIAL ENVIRONMENT AS A MODERATING FACTOR AMONG INDIVIDUALS GENETICALLY PREDISPOSED TO DEVELOP DEMENTIA

J.L. Poey, *University of Massachusetts Boston, Boston, Massachusetts*

The APOE e4 allele is a well known genetic risk factor for Alzheimer's disease and has been associated with hippocampal damage. Variability has been found in this relationship, with twin studies showing monozygotic twins who both have the APOE e4 allele to be discordant for developing Alzheimer's disease. This would indicate environmental influences on the manifestation of disease symptoms. A poor social environment has also been associated with an increased risk of Alzheimer's disease and hippocampal damage. However, there has been limited exploration into the potential moderating influence of the social environment on the relationship of the APOE e4 allele to cognitive functioning. Previous studies have used regional and non-U.S. samples in order to investigate these relationships. This study examined the relationship of the social environment and the APOE e4 allele to cognitive diagnosis using the first U.S. nationally representative sample of older adults focusing on dementia, the Aging, Demographics, and Memory Study (ADAMS) data. It also explored the potential moderating influence of the social environment on the relationship of the APOE e4 allele to cognitive diagnosis. Results indicate that the APOE e4 allele is associated with a greater risk of cognitive difficulty while being more socially engaged and more socially connected are associated with a lower risk of cognitive difficulty in this population. Aspects of the social environment were also found to moderate the relationship of the APOE e4 allele to cognitive diagnosis.

## A PROACTIVE OUTREACH TO IDENTIFY, ASSESS, AND TREAT COGNITIVE DISORDERS IN RURAL DWELLING VETERANS: A DEMONSTRATION PROJECT

T.C. Andersen, *Neurology, Gerontology & Social Work*, Salt Lake City, Utah

In a collaborative demonstration project the University of Utah and the VHA Office of Rural Health partnered with St. Johns Institute for Cognitive Health to provide free memory and cognitive health evaluations for U.S. Veterans. The project is called "Providing Rural Veterans Access to Proactive Memory Care". Traumatic brain injury, post-traumatic stress disorder, and progressive dementing diseases, cause memory disorders to be highly prevalent among veterans. The goal of this program is to identify United States Veterans suffering from memory loss and provide care and/or referral assistance. Services offered include: Cognitive impairment or memory loss assessments, neuropsychological testing as needed, Proactive social work and health educational services, including support and resources, and care coordination with patient's primary care provider. This project highlights the Proactive Dementia Care (PDC) model, developed at the University of Utah Department of Neurology. This intervention was developed and clinical tested over the last 8 years and provides individualized health education and social work services supporting families in the development of a unified plan of progressive support. From August, 2011 through December, 2013, 352 Veterans were enrolled with cognitive evaluations occurred at four screening sites: Jackson and Afton, Wyoming, and Idaho Falls and Pocatello Idaho. The age range of the enrolled Veterans ranged from 24 to 100. Of the 352 enrolled Veterans, 336 were men. Details of the results from pre and post evaluations of the PDC intervention and the lessons learned from this project will be discussed in detail.

## PREVENTING HOSPITALIZATIONS IN COMMUNITY-DWELLING OLDER ADULTS LIVING WITH DEMENTIA: REVIEW OF STUDIES 1990-2013

E.A. Phelan<sup>3</sup>, K. Debnam<sup>1</sup>, L. Anderson<sup>2</sup>, S. Owens<sup>4</sup>, *J. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 2. Centers for Disease Control and Prevention, Atlanta, Georgia, 3. University of Washington, Seattle, Washington, 4. Directors of Health Promotion and Education, District of Columbia, District of Columbia*

Increasing attention is being paid to optimizing care for persons living with dementias, including Alzheimer's disease. One of Healthy People 2020 key dementia-related objectives is "to reduce the proportion of preventable hospitalizations in persons with Alzheimer's disease and other dementias." We conducted a scoping review to determine whether there was any measurable effect on acute-care hospitalizations among community-dwelling older adults with dementia. Studies were identified through professional on-line searches (PubMed, CINAHL, Cochrane, Embase, PsycINFO, Wholis, Proquest, EBSCO, and WOS) and feedback from content experts. Of the 423 initial citations, 94 met at least one inclusion criterion, and ten met all inclusion criteria (i.e., had a comparison group, published between 1990-2013, and in English). The majority of eligible studies included health services use (i.e., hospitalizations) as a secondary outcome. Participants in these studies were diagnosed with dementia with severity ratings ranging from mild to severe. Participants were recruited from a range of healthcare and community agencies. Most interventions involved face-to face assessment of the persons living with dementia, their caregivers, and development and implementation of a care plan. No statistically significant reduction in hospitalizations was found across these studies, although one study observed a reduction in hospital days. These findings suggest further research is needed and given the focus on hospitalizations as a secondary outcome, the development of more directive interventions targeted at reducing and preventing acute healthcare utilization by persons with

dementia would be important to help meet the goals of Healthy People 2020.

## PARKINSON'S DISEASE AND LEWY BODY DEMENTIA AND DRIVING: A REVIEW OF THE LITERATURE

K.M. Turk, E. Dugan, *Gerontology, University of Massachusetts Boston, Boston, Massachusetts*

Parkinson's disease is a progressive neurodegenerative disease that affects motor function and cognition. Parkinson's disease patients are likely to experience dementia attributable to the manifestation of Lewy bodies in the neurons of the cerebral neocortex. There is significant research about Parkinson's disease and driving, however, very little is known about Lewy Body dementia and driving ability, though the two diseases are closely linked. The purpose of this study was to review the literature about Parkinson's disease and driving and Lewy Body dementia and driving. Based on the Downs and Black (1998) checklist for the assessment of the methodological quality of studies of health care interventions, six indicators were used to score each article on quality. Articles from 1993-2013 that were published in English, used human data, and made a connection between Lewy body dementia and driving or Parkinson's disease and driving were scored and used in the final review. The following databases were searched: EBSCOhost, PubMed, Google Scholar, Proquest, Web of Knowledge, and Publishing Connect. One article about Lewy Body dementia and driving met the inclusion criteria, whereas twenty-one articles met the inclusion criteria for Parkinson's disease and driving. Results indicated cognitive testing is a major predictor of safe driving for those with Parkinson's disease, drivers with Parkinson's disease tend to drive significantly less, limit driving more, and have less confidence behind the wheel than healthy age matched controls. This review also identified a major gap in research about Lewy Body dementia and driving highlighting the need for further research.

## SESSION 65 (SYMPOSIUM)

### INTERACTIVE WORKSHOP

**Chair:** J.A. Steiger, *Office of Medical Student Education, George Washington School of Medicine, Washington, District of Columbia*

This part of the symposium will be led by the CAST faculty to engage the attendees in interactive dialogue about what they experienced during the live theatre performance. Participants will explore the challenges and complex issues demonstrated by the experiences of Gwendolyn, her family and the healthcare professionals. An opportunity will be provided to share practical strategies applicable to the care of many individuals with dementia and their families. In addition, attention will be given to evidence based practices, resources and approaches to interprofessional care that can enhance the quality of life for entire families. Participants will be able to deepen their understanding by asking questions of the characters (actors will continue to play their role throughout the workshop).

### "TRANSITIONS" THEATRE

C.P. Samenow, *Psychiatry and Behavioral Sciences, George Washington University School of Medicine, Washington, District of Columbia*

This session includes the performance of a play written specifically for educating healthcare professionals in a person-centered approach to caring for individuals living with dementia and their families. Through dynamic scenes with professional actors and music, a family is portrayed that includes an older woman, Gwendolyn, with advancing dementia who lives with her son and his wife, and their teenage daughter. The Taylor family is at a critical juncture and needs to make decisions about the care for Gwendolyn. The play raises issues that include the dilemma and dynamics among healthcare professionals and families, such as identifying possible resources, caregiver burnout, team support and

interaction, and system challenges. “Transitions” will be presented by the theater director and a team of 5 actors who will draw the audience into the intimate conversations/experiences of the family members in various scenarios throughout this particular day.

### **“TRANSITIONS”: AN INTERACTIVE PLAY ABOUT AN INDIVIDUAL WITH DEMENTIA, HER FAMILY AND HEALTH CARE PROFESSIONALS**

B. Lunsford, *1. School of Nursing, The George Washington University, Washington, District of Columbia, 2. Center for Aging, Health and Humanities, Washington, District of Columbia*

This symposium will discuss the importance of engaging healthcare professionals in more experiential opportunities for learning and problem-solving complex healthcare issues. Interactive theatre (that can be performed in any classroom, meeting room or auditorium) draws the learner in to research and reflection in a way not possible in traditional lecture/discussion by portraying the first hand experiences of individuals and healthcare professionals. In the first part of this symposium, a play will be presented, “Transitions” that was developed by the Center for Application and Scholarship of Theatre (CAST) and George Washington Center for Aging, Health and Humanities (CAHH). The CAST theatre writer, producer, and director developed this production in collaboration with healthcare professionals, individuals with dementia and their families to provide a dynamic educational experience for healthcare professionals in person-centered care of an older woman with advancing dementia and her family. The second part of this symposium will be an interactive dialogue with attendees. The dialogue will focus on the audience perceptions of what they experienced, as well as the opportunity to explore practical strategies for person-centered care and the optimal utilization of healthcare resources to assist the individual with dementia and her family. The symposium concludes with the educational outcomes achieved from the use of “Transitions” in the Washington D.C. Area Education Center Consortium. Outcomes include participants’ evaluation of the value of using interactive theatre, change in practice in care of older adults with dementia and their family, and change in practice to a more person-centered approach to care.

## **SESSION 70 (SYMPOSIUM)**

### **RACIAL/SOCIOECONOMIC DIFFERENCES IN DISABILITY POST-STROKE: LESSONS FOR GERONTOLOGY**

**Chair:** B.D. Capistrant, *University of Minnesota, Minneapolis, Minnesota*

**Discussant:** C. Mendes de Leon, *University of Michigan, Ann Arbor, Michigan*

Racial and socioeconomic differences in disability and physical function persist throughout older age. Stroke affects 8% of adults 65+ and contributes to losses of independence and physical function. Notable racial and socioeconomic patterns emerge for stroke risk and outcomes; for instance, Blacks and persons at lower socioeconomic position have increased risk of incident stroke and lower physical function post-stroke than whites and higher socioeconomic status, respectively. Although mechanisms underlying health disparities in physical function in older age are of interest to gerontologists/geriatricians and neurologists alike, disciplinary silos often separate empirical evidence of these disparities. This symposium will present evidence of racial and socioeconomic differences in post-stroke disability and explore how these mechanisms of post-stroke disparities extend the understanding of health disparities in older-age disability beyond stroke. One presentation builds on evidence of progressive losses of physical function before the stroke and finds post-stroke physical function differences by race and socioeconomic position (SEP) are evident prior to stroke. Another presentation explores explanations of racial differences in post-stroke outcomes, including pre-stroke function and post-stroke care. A third presentation considers both racial and socioeconomic differences in

post-stroke outcomes from two large, prospective cardiovascular and stroke cohorts and finds insurance status is salient for timing of functional decline. Lastly, a discussant will draw out common themes from these papers and connect them with the broader literature on racial and socioeconomic disparities in disability in older age. Using stroke as a case study, this symposium will generate insights into disability health disparities in old age.

### **THE ROLE OF POST-STROKE CAPACITY AND RACIAL DIFFERENCES IN POST-STROKE DISABILITY**

L. Skolarus, V.A. Freedman, J. Burke, *University of Michigan, Ann Arbor, Michigan*

Despite marked racial differences in stroke incidence, little is known about whether post-stroke disability differs by race and if so, why. We used the National Health and Aging Trends Study (NHATS) to explore post-stroke differences in disability by race. In the NHATS subsample of stroke survivors (N=806), we found that Blacks have a higher prevalence of limitations in self-care, mobility and household activities than Whites. Lower physical capacity for Blacks, measured with a validated, self-reported 12-point scale—rather than socioeconomic differences—was the most important factor accounting for this association. We discuss possible reasons for racial differences in capacity including: 1) pre-stroke capacity; 2) care during the acute stroke period; 3) post-acute rehabilitation care or; 4) factors in the late post-stroke period and argue that further understanding of the causes of racial differences in capacity after stroke is needed to reduce activity limitations after stroke and decrease racial disparities.

### **DIFFERENCES IN DISABILITY BY RACE AND SOCIOECONOMIC POSITION MATTER PRE-STROKE, NOT JUST POST-STROKE**

B.D. Capistrant<sup>1</sup>, M. Glymour<sup>2</sup>, *1. Division of Epidemiology & Community Health, University of Minnesota, Minneapolis, Minnesota, 2. University of California - San Francisco, San Francisco, California*

Recent evidence suggests individuals who later experienced stroke had faster increases in disability even before stroke onset than similar aged individuals who did not subsequently experience stroke. Although stroke outcomes often vary by race and socioeconomic position (SEP), few studies have examined heterogeneity in pre-stroke disability by these factors. We followed 17,000 older adults from the Health and Retirement Study cohort for up to 12 years to address this gap in the literature. Specifically, we modeled change in I/ADL dependence before, at the time of, and after the stroke stratified by race and measures of SEP at study baseline. Although blacks and persons at lower SEP in general have worse disability post-stroke than whites or higher SEP, respectively, our results suggest that this difference in post-stroke functioning primarily reflects pre-stroke racial and socioeconomic disparities. Although conceptualized to induce acute increases in disability, stroke itself does not exacerbate existing disability disparities.

### **SOCIOECONOMIC STATUS AND DISABILITY TRAJECTORIES BEFORE AND AFTER VASCULAR EVENTS IN THE ELDERLY**

M.S. Dhamoon<sup>1</sup>, Y.P. Moon<sup>2</sup>, W. Longstreth<sup>3</sup>, M. Elkind<sup>2</sup>, *1. Icahn School of Medicine at Mount Sinai, New York, New York, 2. Columbia University, New York, New York, 3. University of Washington, Seattle, Washington*

There are socioeconomic disparities in immediate post-stroke disability, and emerging evidence from large prospective cardiovascular cohorts also shows disparities in long-term disability trajectories. In the Northern Manhattan Study (NOMAS) cohort of stroke patients followed annually for 5 years and with censoring of recurrent stroke, we found an annual decline in function in those with Medicaid/no insurance compared to those with Medicare/private insurance. In another analysis in

the NOMAS prospective cohort of initially stroke-free participants, we examined 210 participants who experienced an ischemic stroke during follow-up. Among those with Medicaid/no insurance, there was a faster long-term decline in function after stroke compared to before stroke. In the Cardiovascular Health Study, we have confirmed a steeper decline in function after stroke compared to before, as well as racial and socioeconomic disparities in long-term trajectories of disability. These findings suggest a disproportionate burden of disability in lower socioeconomic positions over the long-term.

## SESSION 75 (SYMPOSIUM)

### CYTOMEGALOVIRUS AND THE AGING OF THE IMMUNE SYSTEM: A MULTIDISCIPLINARY PERSPECTIVE

**Chair:** B. Zaniello, *University of Washington, SEATTLE, Washington*

**Co-Chair:** J. Nikolich-Zugich, *University of Arizona, Tucson, Arizona*

**Discussant:** G. Pawelec, *University of Tübingen, Tübingen, Germany*

Cytomegalovirus (CMV) is a common beta-herpesvirus that is known to cause fatal disease in immunosuppressed hosts and may be associated with greater morbidity and mortality in elderly populations. This morbidity and mortality may be related to intermittent but persistent CMV reactivation and/or reinfection with different CMV strains, with a subsequent impact on health, particularly on the immune system (potentially contributing to “immunosenescence”). This translational symposium will feature new data from recent population studies, human trials and animal model research in this emerging area of study. Talks will approach CMV from a multi-disciplinary perspective, bridging epidemiology, immunology, and gerontology, with clinical practice; topics will include identifying and characterizing the virus’s presence in the aging body, vaccine efficacy in the setting of CMV infection, and the CMV survival (dis)advantage. Potential changes to clinical care will be also be discussed (e.g., vaccine boosters and the prophylactic use of antivirals) as well as other areas of timely interest.

### CYTOMEGALOVIRUS REACTIVATION AND SHEDDING IN THE ELDERLY: FREQUENCY, CAUSES, AND CLINICAL IMPLICATIONS

B. Zaniello, *University of Washington, SEATTLE, Washington*

While there are increasing data supporting a role for cytomegalovirus (CMV) in the aging of immune system (and therefore increased mortality and morbidity in older adults) little is known about how CMV infection manifests itself in the immunocompetent host. CMV reactivation (in the blood) and shedding (in saliva and urine) has been well described in the HIV positive and transplant populations but not in the elderly, despite evidence linking both reactivation and shedding in that population to poorer outcomes. I will present data on CMV reactivation and shedding in the geriatric population as well as discuss the clinical utility of laboratory tests used to characterize those events, both common (PCR, CMV IgM) and experimental (e.g., quantitative antibody titers). Data on anti-viral agents and their potential benefit to the healthy elderly population will also be covered.

### EXPLORING THE ROLE OF CMV IN STRESS-RELATED ALTERATIONS OF THE AGING IMMUNE SYSTEM

A.E. Aiello<sup>1</sup>, A.M. Simanek<sup>2</sup>, C. Hanna<sup>4</sup>, J. Dowd<sup>3</sup>, *1. Epidemiology, University of North Carolina-Gillings School of Global Public Health, Chapel Hill, North Carolina, 2. University of Wisconsin, Milwaukee, Wisconsin, 3. Hunter/CUNY, New York, New York, 4. University of Michigan, Ann Arbor, Michigan*

Research findings have demonstrated significant socioeconomic patterning of CMV antibody levels in aging populations. Some have hypothesized that stress-induced immune alterations may mediate the

relations between socioeconomic status and CMV antibody levels. I will present data showing that life stressors influence CMV antibody levels. In addition, I will present results demonstrating that CMV may mediate the association between income and T-cell markers of aging. Last, I will present data examining the impact of CMV in combination with other pathogens on telomere length/activity. Together, these data will provide insights on the pathways by which socioeconomic status and stress may influence CMV and ultimately age related cellular changes.

### DIRECT AND INDIRECT EFFECTS OF THE CYTOMEGALOVIRUS (CMV) INFECTION UPON IMMUNE SYSTEM HOMEOSTASIS AND FUNCTION

J. Nikolich-Zugich<sup>1</sup>, A.M. Wertheimer<sup>1</sup>, B. Park<sup>2</sup>, M.S. Bennett<sup>1</sup>, D. Nikolich-Zugich<sup>1</sup>, V. Pulko<sup>1</sup>, J. Uhrlaub<sup>1</sup>, M. Smithey<sup>1</sup>, *1. Center on Aging and Department of Immunobiology, University of Arizona College of Medicine, Tucson, Arizona, 2. Oregon Health & Sciences University, Portland, Oregon*

Cytomegalovirus infection has been shown to have fascinating and incompletely understood effects upon health, longevity and immune function in the course of human aging. We will present data from controlled, deliberate lifelong infection of laboratory rodents with CMV and from a large cohort of CMV-infected and CMV-negative human subjects aged 21-100, exploring the impact of CMV on immune repertoire, homeostasis and function against infection. We discuss the results from the standpoint of viral immune evasion, CMV biology and the long-term tango between the immune system and this latent persistent virus in the course of aging, including gaps in the current knowledge and the need for future studies.

### THE IMPACT OF CMV INFECTION ON IMMUNITY AND SURVIVAL IN OLDER HUMANS

G. Pawelec, *Second Department of Internal Medicine, University of Tuebingen, Tuebingen, Germany*

There is great inter-individual variability in the increased disease susceptibility and decreased response to vaccination in elderly people; therefore, it would be useful to establish sets of immune biomarkers that reflect immune competence of the individual in this context to allow better selection of prophylaxis and treatment options and to facilitate understanding of the mechanistic basis of immunosenescence. Ideally, this would mean performing longitudinal studies assessing innate and adaptive immune parameters in the context of genetic background, nutrition, socioeconomic factors etc., and correlating these with morbidity and mortality at follow-up. Here I will discuss our data from six such longitudinal studies, including the new Berlin BASE II study from which we are beginning to assemble a more complete picture of clinically-relevant immune signatures. We see an over-riding impact of CMV infection in all these studies. Interventions to prevent or reverse immunosenescence may therefore need to include targeting infectious agents such as CMV.

## SESSION 80 (SYMPOSIUM)

### AN EDUCATION IN HOPE: FINAL RESULTS, THE IMPACT OF ART CART: SAVING THE LEGACY, AN INTER-GENERATIONAL, INTERDISCIPLINARY PROJECT ON OLDER ADULT PROFESSIONAL ARTISTS

**Chair:** J. Jeffri, *National Center for Creative Aging, Washington, District of Columbia, American University, Washington, District of Columbia, Columbia University, New York City, New York*

**Co-Chair:** J. Bear-Lehman, *New York University, New York City, New York*

**Discussant:** P.A. Miller, *Columbia University, New York City, New York*

ART CART; SAVING THE LEGACY is a nine-month interdisciplinary, inter-generational service-learning program that connects aging

professional artists with interdisciplinary teams of university students to prepare/preserve their creative work. During the program, professional artists also exemplify social engagement, high self-esteem and self-motivated productivity while also needing environmental modifications to their studios, and sometimes health interventions to maintain and increase productivity, prevent falls, manage fatigue and reduce clutter in order to continue being creative and producing art. The purpose of this symposium is to present the final results of a study of the effectiveness of ART CART on the psychosocial well-being and safe functioning of older adult professional artists (62 years of age and older) in the NYC and Washington DC metro area. Existing data support productivity and social engagement as means to reducing morbidities and mortality, while increasing psychosocial and physical well-being (Clark, Azen, Zemke, Jackson, Carlson, Mandel, et al., 1997; Jackson, Carlson, Mandel, Zemke, Clark, 1998; Waite, 2011; Cohen, 2000, 2006; Miller, 2003a, 2003b, 2004, 2008; Miller & Toner, 1991). It is important to analyze the highly-functioning intervention and control groups of professional artists, since the research will be replicated in 2015 in four locations with a control group from the general population. Existing data can help tell us if professional artists are a model for society, how artists cope and adjust to age-related changes or morbidities in order to continue engagement in the activities and roles most meaningful to them, and their contribution to existing models of “successful” aging.

**THE IMPACT OF ART CART: SAVING THE LEGACY COMPARED TO THE GENERAL POPULATION**

J. Jeffri<sup>1,2,3</sup>, P.A. Miller<sup>3</sup>, J. Bear-Lehman<sup>4</sup>, S. Kang<sup>5</sup>, 1. *National Center for Creative Aging, Washington, District of Columbia*, 2. *American University, Washington, District of Columbia*, 3. *Columbia University, New York City, New York*, 4. *New York University, New York, New York*, 5. *Binghamton University, Department of Social Work, Binghamton, New York*

In this second iteration of ART CART, a nine-month interdisciplinary, inter-generational service-learning program that connects artists with interdisciplinary teams of university students to prepare/preserve their creative work, the program included 19 artists and 38 students from several universities in New York City and Washington DC. In preparation for a 2014-2015 national rollout of ART CART, an experimental research study was conducted to measure the impact of ART CART on the following outcome variables for two groups of artists (those participating in ART CART and a matched control group): morale/depression, social isolation, productivity/activity levels, and safe functioning. This presentation will provide an overview of: 1) the ART CART program; 2) the qualitative and quantitative results of the 2012-13 research study and for the program, including the study purpose and rationale, the sample, and the design and methods and 3) implications for future research with a control group from the general population.

**THE IMPACT OF ART CART: SAVING THE LEGACY – ASPECTS OF EMPOWERMENT OF AN OLDER ARTIST POPULATION - PATRICIA A. MILLER, ED.D, OTR/L, FAOTA, COLUMBIA UNIVERSITY/PROGRAMS IN OCCUPATIONAL THERAPY; JANE BEAR-LEHMAN, PH.D., OTR/L, FAOTA, NEW YORK UNIVERSITY STEINHARDT/ NYU COLLEGE OF DENTISTRY**

P.A. Miller<sup>1</sup>, J. Bear-Lehman<sup>2</sup>, 1. *Columbia University, New York, New York*, 2. *OT, New York University, New York, New York*

In the 2012-13 ART CART: SAVING THE LEGACY, the artists’, their working partners’ and the fellows’ testimonies speak to how strongly ART CART has surpassed their expectations and reasons for participating in the program; how it has made a permanent and lasting impression. The artists attest to the importance of documentation of their art and are very appreciative to the ART CART program in its success in teaching them “something so hard”. Documentation was not only a practical skill; it was presented as an opportunity for life review. The

richness of life review required that long-forgotten works be reviewed, and in this process, many artists discovered themes for their work and enjoyed a new/re-awakening of their earlier works. At the same time, the life review provided the fellows with real-life experience and they learned that “aging is just a natural process through which one can appreciate the beauty of living”.

**ART CART’S IMPACT: TRANSFORMATIVE LEARNING IN AN INTERGENERATIONAL, INTERDISCIPLINARY ENVIRONMENT**

P.H. Lawton, *Art Education, Corcoran College of Art + Design, Washington, DC, District of Columbia*

The ART CART project presented opportunities for transformative learning to occur across multiple generations. The artists, partners, fellows, and faculty represented three generations of participants spanning a variety of disciplines. Transformative learning, one of many adult education theories, results from critical self-reflection that can lead to a change in belief, attitude or perspective (Mezirow, 1991; Cranton, 1994). Transformative learning may also occur as the result of an empowering event such as intergenerational programs (like ART CART) in which participants engage in social interaction through sharing narratives, interpreting/discussing works of art, and hands-on activities that may lead to both personal and communal transformation. This “empowering event” may come about in any number of ways depending upon the individual, his stage of development in the life cycle, and his environment. Sharing knowledge, life experiences, and collaborating in hands-on activities provide the impetus for an empowering event to occur.

**SESSION 85 (SYMPOSIUM)**

**RELEASING THEIR STORIES: USING THE NARRATIVES OF INCARCERATED AND INCARCERATED ADULTS TO EXPOSE SOCIAL INJUSTICES**

**Chair:** T.M. Maschi, *Graduate School of Social Service, Fordham University, New York, New Jersey*

The aging in prison crisis is monumental in scope which has economic, clinical, and moral implications. Major organizations, such as the American Psychological Association and the Robert Wood Johnson Foundation, have called attention to the lack of understanding of the social determinants of health culturally responsive workforce to address diversity in aging. To address this gap in education and professional training, the Narratives of Justice Project as an ancillary project to the Moving Stories Project, was created to expose students and professionals to the narratives of incarcerated and formerly incarcerated older adults. Using a pre and post test design and a sample of 63 master’s level students, preliminary quantitative (e.g., paired t-tests) and qualitative findings suggest that students demonstrate a positive change in knowledge, attitudes, and skills about working with older adults with criminal justice histories and increased awareness about empathy for social injustices. These findings have important implications for the use of narratives and stories into sensitivity training to increase professional competencies for marginalized older adults and to provide strategies to identify and respond to social injustices in the field, such as those invoked by the aging in prison crisis.

**PRISONERS OF AGE PHOTOGRAPHY PROJECT: ADDRESSING SOCIAL INJUSTICES USING PORTRAITS OF ELDERLY INMATES**

T.M. Maschi<sup>1</sup>, A. Katz<sup>2</sup>, 1. *Graduate School of Social Service, Fordham University, New York, New Jersey*, 2. *University of Southern California, Davis, California*

More than two million North Americans are now behind bars, an estimated 35 percent of them edging far past middle age. A series of photographs and interviews with elderly inmates and corrections per-

sonnel conducted in prisons both in the United States and Canada from 1996 to 2004 serve to capture the complexity of a subject that is seldom contemplated – aging offenders in the correctional system. This presentation is of the Prisoners of Age Project, which shows the photographs gathered by across the world representing the images and stories of older adults in prison. The images will encourage participants to explore the socio-economic causes of crime and delinquency, while encouraging them to consider the human dimension of doing time while growing old in prison; the objective being to open the eyes of the participants, to play a role in stimulating social and institutional change by addressing these issues of social justice and human dignity through images and interviews.

#### **ART: A HEALING THERAPY FOR OLDER ADULTS AGING IN PRISON**

A. Hongo, A. Katz, *USC, Los Angeles, California*

Art: A Healing Therapy for Older Adults Aging in Prison Prisons are not built for the aging, a vulnerable population often forgotten in the mix. An environment deeply rooted in violence, tension and fear is not conducive to disclosure or trust. Art workshops provide a unique opportunity to freely express feelings in a safe and non-judgmental arena. One does not need to be a professional artist or creative mogul to participate in art therapy. This presentation provides an overview of an art therapy program used with a group of older women in prison. Preliminary quantitative and qualitative evaluation results suggest that art therapy has a therapeutic affect on the health and well-being of older adult women. These findings have important implications for the use of the arts in prison with older people. Art can provide a safe and purposeful means of expression, thereby providing a therapeutic means of releasing feelings, stress and emotion. Art generated by older adults in prison has implications to educate students and professionals about lived experiences and the use of art for healing. Older prisoners are particularly vulnerable and art therapy may provide an effective means of bypassing unconscious and conscious defenses, promote disclosure and diminishing symptoms without verbal interpretation.

#### **WHAT OLDER ADULTS IN PRISON AND THE ARTS CAN TEACH ABOUT SOCIAL INJUSTICES**

A.D. Katz<sup>1</sup>, T.M. Maschi<sup>2</sup>, A. Hongo<sup>1</sup>, *1. Social Work, University of Southern California, Los Angeles, California, 2. Fordham University, New York, New York*

This symposium will demonstrate how to use the arts and facilitated dialogues in the classroom, professional trainings, and workshops to increase knowledge, values and skills to address social injustice, such as the aging prisoner crisis, using the arts. It draws from a multimedia book project that partnered researchers, educators, artists, students, practitioners and incarcerated older adults in creative works. The presenters will demonstrate how to use the arts and first hand experiences of older adults in prison to assess participants' learning outcomes. The first presentation will demonstrate on the use oral history narratives of incarcerated and formerly incarcerated older adults of their experiences before, during, and after prison with learners, the second presentation will draw from an international photography project of diverse groups of aging people in prison, the third presentation will demonstrate how to use art generated from older adults in prison to educate students and professionals about their lived experiences and the use of the arts for healing. The symposium will include an experiential component and an overview of the evaluation plan and a survey instrument developed to measure attitudes, knowledge and skills towards aging and older adults, criminal and social justice issues, and the use of the arts, multi-media, and advocacy in education and training. A training facilitation guide will be provided to participants to implement the project in their respective institutional or community settings. This symposium emphasizes the importance of teaching empathy to help facilitate practice and policy reform efforts based on the current research.

## **SESSION 90 (SYMPOSIUM)**

#### **JAPAN'S LEGISLATIVE EXPERIENCE, CURRENT STATUS AND FUTURE CHALLENGES IN PREVENTING ELDER ABUSE**

**Chair:** N. Tsukada, *Nihon University Graduate School of Business, Tokyo, Japan*

**Co-Chair:** L. Nerenberg, *California Elder Justice Coalition, California, California*

**Discussant:** M. Twomey, *Center of Excellence on Elder Abuse and Neglect, University of California, Irvine, Irvine, California*

Japan enacted the "Law for Preventing the Abuse of Older People and Providing Assistance to Caregivers" in November 9th, 2005, which became effective in, 2006. Japan also started the "Law for Prevention the Abuse of People with Disabilities" in 2013, and this put Japan into a very unique position where it has four independent domestic violence laws. The Law for Preventing the Abuse of Older People and Providing Assistance to Caregiver covers five different types of abusive and neglectful acts and responsibilities of personnel of long-term care institutions and in-home care service providers. This symposium first introduces roles and responsibilities of the national and local governments and private citizens of the country for preventing the abuse of older people, protecting the victims of abuse and assisting caregivers in reducing the burden of caregiving for the overall purpose of achieving elder abuse prevention and elder rights protection. Second, most recently conducted research outcomes regarding current status of victims and abusers of elder abuse in metropolitan municipalities are presented. The research data were collected in collaboration of Asahi Newspaper Company via internet from February to March, 2013, and the respondents were professionals at the department in charge of elder abuse. Structured questionnaires were sent to 229 metropolitan municipalities. A total of 177 completed surveys were returned (response rate of 77.3%), and its obtained 934 cases were analyzed. Finally, future challenges are discussed by introducing an elder abuse prevention system in Matsudo-city.

#### **JAPAN'S LEGISLATION FOR PREVENTING ELDER ABUSE**

N. Ikeda<sup>1</sup>, N. Tsukada<sup>2</sup>, *1. Osaka Advocacy Law Office, Osaka, Japan, 2. Nihon Univrsity, Tokyo, Japan*

The Law for Preventing the Abuse of Older People and Providing Assistance to Caregivers came into effect in 2006. As shown in the name of the legislation, it is considered protection of older people and assistance of caregivers are inseparable for preventing elder abuse. The Law indicated two elder abuse settings, one in home and the other in institutions. Regarding the latter case, institutions are audited by Long-Term Care Insurance Act and can be at targets of business revocation. For both elder abuse in home and institutions, anyone who discovered an older people who is believed to have been abused by him/her caregiver or someone working for any of the nursing care institutions or nursing care service providers must report the incidence to the municipal government if the older person's life or health is in great danger. This paper discusses Japanese's elder abuse prevention system and key institutions as well.

#### **REALITIES AND ISSUES OF ADMINISTRATIVE SERVICES FOR ELDER ABUSE PREVENTION AND EARLY DETECTION IN URBAN MUNICIPALITIES IN JAPAN**

K. Usui<sup>1</sup>, Y. Hayami<sup>1</sup>, C. Tsumura<sup>1</sup>, S. Masuda<sup>1</sup>, N. Yamamoto-Mitani<sup>2</sup>, M. Kaneda<sup>1</sup>, S. Maruo<sup>1</sup>, *1. Konan Women's University, Hyogo, Japan, 2. Tokyo University, Tokyo, Japan*

A questionnaire survey was conducted via electronic data with the aims to reveal an overview of elder abuse in urban municipalities and the actual conditions of administrative services. The survey targets were the divisions in charge of elder abuse in a total 229 municipali-



ties. Responses were obtained from 225 municipalities (98.3% recovery rate). The number of cases subsequently determined to constitute abuse comprised 32.8% and 34.0% of the cases in the national survey, respectively. "Establishment of a 24-hour consultation system" as an early detection and caregiver support initiative has been implemented in 56 municipalities (24.9%), and "Incident verification within 48 hours of consultation" has been in 106 municipalities (47.1%). Within the 69 municipalities 10 wards and 10 capitals (29.0%) noted "Incident verification within 48 hours of consultation" was specified in official manuals. Greater efforts for early detection of elder abuse and caregiver support are urgently needed.

#### **ELDER ABUSE IN JAPANESE METROPOLITAN CITIES: A STUDY OF ABUSER TRAITS**

N. Tsukada<sup>1</sup>, C. Tsumura<sup>2</sup>, K. Usui<sup>2</sup>, S. Masuda<sup>2</sup>, A. Katsumata<sup>3</sup>,  
1. *Nihon University Graduate School of Business, Tokyo, Japan*,  
2. *Konan Women' University, Kobe-City, Japan*, 3. *Rehabilitation Institution, Tokyo, Japan*

Eight years has been passed since the enactment of the "Law for Preventing the Abuse of Older People and Providing Assistance to Caregivers" in Japan. This paper examined traits of individual abusers of older adults. Data were collected in collaboration with Asahi Newspaper Company via internet from February to March, 2013. Respondents were professionals working for the department in charge of elder abuse in metropolitan municipalities. Structured questionnaires were sent to 229 metropolitan municipalities, and a total of 177 completed surveys were returned (response rate of 77.3%). N=934 reported elder abuse-cases were analyzed. Preliminary analyses revealed that 76.8% of victims were females and "physical abuse"(69.1%) was the highest reported abuse type. Most frequently reported abusers were sons (44.5%), 43.8% of them had identified mental disorders. About 48% of the sons rely on victims' pensions. Recommendations include facilitating sons' financial independence from older parents.

#### **ELDERLY PROTECTIVE SERVICES OF MATSUDO CITY AND FUTURE CHALLENGES**

T. Wada, *Home Healthcare Services, Irahara Primary Care Hospital, Matsudo City, Chiba, Japan*

Matsudo City, population of approximately 470,000, is in Chiba prefecture, neighboring to the Metropolitan Tokyo. The Elderly Protective Services of the city have 4 conspicuous features; 1. Accepting reports of victims of any age regardless of the stipulation of the law. 2. Giving assessment on the urgency of cases immediately, and case workers are obliged to take direct contact with victims within 24hours, if necessary. 3. Carrying out case management in the affiliation with various sections of the municipal government office. 4. Focusing not only on the rescue of victims, but on the support of perpetrators and family members who are often suffering from serious care-giving burdens. On the other hand, there are many challenges we are facing. They include overwhelming under-reportings due to complicated reporting systems, vague definition of elder abuse of the law often preventing effective case management, and difficulty in coping with financial exploitation based on Japanese culture.

### **SESSION 95 (PAPER)**

#### **HEALTH AND COMMUNITY-BASED CARE AND FINANCING**

##### **ESTIMATING COMMUNITY FIRST CHOICE ENROLLMENT**

I. Stockwell, A.M. Tripp, *The Hilltop Institute, Baltimore, Maryland*  
Beginning October 1, 2011, the Centers for Medicare and Medicaid Services (CMS) offered state Medicaid agencies a new option for rebalancing their long-term supports and services spending from institutional

care to home and community-based services (HCBS), called Community First Choice (CFC). In order to assess the affect of Maryland participating in CFC, The Hilltop Institute estimated how many individuals would participate in the new program and how many hours of personal or attendant care they would use. The expected number of CFC participants included individuals who meet one of the following criteria: 1) currently use personal care under a 1915(c) Medicaid waiver, 2) meet nursing facility level of care from the state plan personal care program, 3) are known to be Medicaid-eligible, likely meet nursing facility level of care, and are on the waiting list for a waiver, or 4) are expected to be severely disabled and included in the Medicaid Expansion population. Hilltop also examined plans of care, claims files, and assessment data in order to estimate service utilization for these individuals. Data analysis showed that a significant number of individuals on waiting lists for Medicaid waivers use personal care services through the state plan and that, on average, recipients used 96 percent of the personal or attendant care hours allocated on their plan of care (although this varied by acuity level). The findings of this study were used to assess the financial impact of participating in CFC and to allocate personal care funds across acuity groups.

#### **KEEPING OLDER ADULTS IN THE COMMUNITY: PREDICTING RETENTION OF MENTAL HEALTH AND OTHER HCBS CLIENTS**

M. Rose, L.S. Noelker, *Katz Policy Institute, Benjamin Rose Institute on Aging, Cleveland, Ohio*

Many states are seeking to rebalance Medicaid expenditures by broadening the availability of home- and community-based services (HCBS) as an alternative to more expensive institutionalization. However, continued community living for older adults with severe mental illness and/or dual eligibility for Medicaid and Medicare poses special challenges due to the intensity of services needed and the difficulties they present for service providers. Data from a private, non-profit agency that provided in-home services for 1,057 clients in the Cleveland, Ohio, area in FY2011 were used to identify predictors of the clients' length of stay in HCBS programs. The agency provided intensive case management to most clients, particularly those with mental health disorders. Among these clients were 413 individuals receiving in-home mental health services, including 173 dual eligibles, and 644 other HCBS clients, including 194 dual eligibles. Regression analysis was used to identify significant predictors of length of stay; findings showed that clients in the agency's mental health or adult day program had longer lengths of stay, while clients with dementia experienced significantly shorter stays. Other predictors of longer lengths of stay were dual eligibility, older age, female gender, disability or never having been employed, and a diagnosis of schizophrenia. These data suggest that many older adults, including those with severe mental illness, can be maintained successfully in the community with appropriate services, funded by Medicare and Medicaid when available, and intensive case management by mental health social workers and counselors.

#### **TOTAL MEDICARE EXPENDITURES UNDERTAKEN BY HOSPICE BENEFICIARIES DURING HOSPICE ELECTION**

T.J. Christian<sup>1</sup>, M.R. Plotzke<sup>1</sup>, J.M. Teno<sup>2</sup>, K.E. Lucas<sup>3</sup>, H. Loeffler<sup>3</sup>,  
1. *Abt Associates, Cambridge, Massachusetts*, 2. *Center for Gerontology and Health Care Research, Brown University, Providence, Rhode Island*, 3. *Centers for Medicare & Medicaid Services, Baltimore, Maryland*

We combined 100% Medicare hospice, Part A, Part B, and Part D claims to calculate total Medicare utilization expenditures during hospice elections in calendar year 2012. Our analysis found that the Medicare hospice benefit paid for 91,322,751 service days in 2012 with total payments equal to \$15,046,808,584 (\$15.0 billion). Additionally, we found that Medicare paid \$710,087,321 (\$710.1 million) for non-hospice services beneficiaries utilized during hospice enrollment

in the following categories: inpatient care services (\$202,981,798; or 28.6% of total), skilled nursing facility services (\$40,333,844; 5.7%), home health care (\$32,140,138; 4.5%), durable medical equipment (\$49,529,040; 7.0%), and other Part B services (\$385,102,500; 54.2%). Rates per day of Medicare payments for non-hospice Parts A and B services were greatest among states in the South (\$10.67 per service day in the South vs. \$7.42 Northeast; \$6.70 Midwest; \$4.04 West). Hospice beneficiaries themselves paid an additional \$135,454,501 million (\$135.5 million) in coinsurance for these non-hospice Parts A and B services. We also identified \$417,901,263 (\$417.9 million) in Part D utilization paid by all payers. In total, Medicare services utilized by hospice beneficiaries totaled \$15.0 billion (for hospice services) along with an additional \$1.3 billion (for non-hospice services) for a grand total of \$16.3 billion in 2012. Medicare hospice benefit expenditures have quintupled since 2000, and this analysis demonstrates beneficiaries concurrently utilize a substantial amount of non-hospice services during hospice election. We recommend ongoing regulatory oversight to ensure that covered hospice services are not inappropriately billed to non-hospice parts of Medicare.

#### **UNDERSTANDING AND ACHIEVING PERSON-CENTERED QUALITY OF LIFE OF ELDERS RECEIVING HOME AND COMMUNITY BASED SERVICES**

S. Karon<sup>1,2</sup>, M. Schlaak<sup>2</sup>, 1. *RTI International, Madison, Wisconsin*, 2. *University of Wisconsin - Madison, Madison, Wisconsin*

Home and community based services (HCBS) provide supports that enable people with disabilities and chronic health conditions to remain in their homes, when desired. While the ultimate purpose of these services should be to support people in having the best quality of life possible, few systems exist to determine how well that is being achieved. The PEONIES system, developed to place person-centered quality of life at the center of care planning and quality assurance, was used to assess the quality of life of people receiving Medicaid managed long-term services and supports in Wisconsin. This system provides information about 12 distinct domains of quality of life including the specific outcomes desired by each individual, the types and sources of support needed to support each outcome, and how successfully each is being supported. In Wisconsin in SFY2012, 90% of the desired quality of life outcomes were being fully supported, but the level of support varied by domain. The most frequent sources of support were family and the independent actions of individual receiving assistance. In this presentation, we will share more detail on the types of outcomes that are most important to elders, the types and sources of supports needed and successful support of desired outcomes. Implications for policy and practice will be emphasized, including ways in which formal care systems can work most effectively with the informal providers of support to assure that elders have the quality of life they desire.

#### **THE MEDICARE PART D LOW-INCOME SUBSIDY AND NONADHERENCE DUE TO COST: A RACIAL AND GENDER COMPARISON**

L. Bakk<sup>1</sup>, A.T. Woodward<sup>2</sup>, 1. *University at Buffalo School of Social Work, Buffalo, New York*, 2. *Michigan State University School of Social Work, East Lansing, Michigan*

Racial and gender disparities in cost-related medication nonadherence (CRN) exist despite the implementation of Medicare Part D. The Low-Income Subsidy (LIS) was established under Part D to provide assistance with out-of-pocket prescription drug costs for qualified low-income beneficiaries. While the LIS increases access to medications by reducing drug cost burden, studies have not investigated the LIS's impact on racial and gender differences in CRN. Using cumulative advantage/disadvantage theory as a framework, this cross-sectional study examined whether LIS status directly and indirectly affects the relationship between race, gender, and CRN. Data from the 2007 wave of the Prescription Drug Study, a subsample of the Health and

Retirement Study, were used. The analytic sample consisted of 1,279 respondents age 65 and older who were enrolled in Medicare Part D and taking at least one prescribed medication. The outcome variable of interest was CRN, which included not filling, stopping, or skipping doses of a prescription because of cost. The analysis was conducted using logistic regression models. Results indicated that racial disparities in CRN existed under Medicare Part D. However, the inclusion of the LIS variable mediated differences between older Blacks and Whites. Applying for the LIS had a direct affect on CRN, and poorer health and lower income increased the likelihood of nonadherence after accounting for LIS status. Findings suggest that racial differences in CRN are largely driven by applying for the LIS, and provide support for the efficacy of the LIS as a means of reducing disparities among certain vulnerable subpopulations.

### **SESSION 100 (SYMPOSIUM)**

#### **LATE BREAKING NEWS FEATURING ESPO & JUNIOR INVESTIGATOR SHORT TALKS**

**Chair:** R. Buffenstein, *UTHSCSA, San Antonio, Texas*

Late Breaking News featuring ESPO & Junior Investigator Short Talks This session will include paradigm changing new hot topics in aging research. In addition papers will be selected from submitted abstracts featuring mainly emerging scholars and junior investigators. These papers will be chosen by a program committee that evaluates the quality of the work and its relevance to the GSA. People chosen to present from the submitted abstracts will all receive a travel award.

#### **ALZHEIMER-INDUCED CHANGES IN BIOMARKERS IN THE HUMAN LATERAL GENICULATE NUCLEUS**

E. Couser, S. Bernstein, *University of Maryland, Baltimore, Baltimore, Maryland*

While Alzheimer's disease (AD) patients are known to experience histological retinal changes, the thalamic intermediaries connecting eye and cortex have been understudied. We wanted to examine whether AD biomarkers are expressed in the normal human lateral geniculate nucleus (LGN) and whether AD alters the presence of these markers. We also wanted to determine whether these markers are expressed in pre-clinical AD. Following IRB approval, we obtained human tissue samples from the Maryland Brain and Tissue Bank. These included normal, pre-clinical, and severe AD. We immunohistochemically evaluated human LGN for the expression of both AD markers (phosphorylated Tau, amyloid precursor protein (APP) and amyloid- $\beta$  (A $\beta$ )) and inflammation using standard immunohistochemistry (IHC) procedures. Cellular inflammation was compared using IBA1. Slides were analyzed using confocal fluorescent microscope and Fluoview Software. While normal tissue showed minimal expression of AD biomarkers, there was a progressive increase in Tau, APP, A $\beta$ , and inflammation in the lateral geniculate nucleus through the different stages of AD severity. Interestingly, the inflammatory response and deposits of AD biomarkers were shown in significant amounts in the pre-clinical samples of the LGN. The LGN-thalamic structure shows AD-induced alterations as the disease progresses and very early in the disease process. This may result in a decreased ability to process visual information, and visual problems. The presence of inflammation and AD-related biomarkers in pre-clinical AD patients suggests that for at least some older adults, changes in visual processing ability and speed may be due to AD onset, and not normal age-related visual decline.

## AGE-RELATED ALTERATIONS IN THE RENIN-ANGIOTENSIN SYSTEM AND SYSTEMIC CHRONIC INFLAMMATION MEDIATE MITOCHONDRIAL DYSFUNCTION IN AGING

T.N. Burks, R. Marx, L. Powell, J.D. Walston, P.M. Abadir, *Geriatric Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland*

Aging is associated with alterations in the renin-angiotensin system (RAS) and chronic activation of low grade inflammation. Both of these changes have been linked to cardiovascular disease and increased mortality. It is established that increased angiotensin II type I receptor (AT1) signaling leads to the production of reactive oxygen species (ROS) through activation of NADPH oxidase (Nox). Cardiac tissue expresses Nox2 and Nox4 which increase ROS and antioxidants, respectively. The molecular connection between age-related alterations in RAS and inflammation in cardiac muscle has not been fully characterized. We investigated this connection using the interleukin-10 knockout (IL10 KO) mouse that has been used to model chronic inflammation. We demonstrate that there is an increase in AT1 expression in young IL10 KO as compared to young wild-type and old IL10 KO mice. Furthermore, there is a decrease in the expression of Nox4 in young IL10 KO driving the decrease in levels of catalase and activity of peroxidase. The increase in ROS leads to oxidative damage to cardiac DNA, proteins, and mitochondria in young IL10 KO mice. Moreover, the high energy demand of cardiac tissue causes the mitochondria to overcompensate in young IL10 KO, leading to an increase in damaged mitochondria with reduced mitophagy. We conclude that an increase in AT1 signaling and activation of chronic inflammation cause dysfunctional mitochondria and a premature aging phenotype in the cardiac muscle. Thus, our data demonstrates that it may be imperative for prognostic test to be developed and administered at earlier ages.

## DIFFERENTIAL NUTRIENT EXTRACTION WITH ACARBOSE TREATMENT

R.A. Brewer, N.D. Miyasaki, D.L. Smith, *University of Alabama at Birmingham, Birmingham, Alabama*

Acarbose (ACA) is a competitive  $\alpha$ -glucosidase and  $\alpha$ -amylase inhibitor approved for use in type 2 diabetes. Recent laboratory experiments have demonstrated administration of ACA (0.1% by weight) leads to increased lifespan in mice, with a sex-biased benefit towards males. The mechanism for this lifespan effect is unclear; however, as ACA acts in the gut, reduced carbohydrate absorption may play a role. To assess the effects of ACA on nutrient uptake, male and female C57BL/6J mice were provided ad libitum diet containing ACA at concentrations of 0.05%, 0.10%, 0.15%, or a no-dose control. Male mice receiving all doses of ACA weighed significantly less following six months of treatment than control fed mice (-5 to -11%,  $p < 0.05$ ), with no differences in female mice body weights ( $p > 0.05$ ). Macronutrient analysis performed on pooled in-treatment group feces from males indicated increasing ACA dosage led to decreasing carbohydrate extraction and increased fat and protein extraction from the diet (i.e. ingestion minus excretion). While total caloric intake was increased with ACA treatment (27-64%,  $p < 0.05$ ), calories extracted from the diet were similar among all groups. Fecal levels of individual fatty acids (per gram feces), including arachidonic acid and omega-3 fatty acids, were decreased with ACA treatment. ACA treated mice have significantly larger caecums than control fed mice ( $>200\%$ ,  $p < 0.001$ ) and altered fecal fatty acid profiles, suggesting increased carbohydrate fermentation. These studies demonstrate ACA alters nutrient uptake, which may contribute to increases in lifespan.

## INCREASED SENESCENT CELL BURDEN HINDERS STEM CELL TRANSPLANTATION SUCCESS IN SKIN

A. Palmer<sup>1,2</sup>, T. Tchkonja<sup>1</sup>, J.L. Kirkland<sup>1</sup>, *I. Robert and Arlene Kogod Center on Aging, Mayo Clinic, Rochester, Minnesota, 2. Mayo Medical Scientist Training Program, Rochester, Minnesota*

Adipose-derived stem cell (ADSC) transplantation is a developing strategy to treat non-healing diabetic ulcers and other chronic superficial wounds. Factors such as increased age, obesity, and diabetes are associated with delayed wound healing as well as lower efficacy of stem cell transplantation. In addition, these conditions are associated with an increased burden of senescent cells throughout the body. Senescent cells are growth-arrested cells that remain metabolically active and have been shown to promote a pro-inflammatory environment through the secretion of various cytokines, growth factors, and matrix remodeling factors, collectively known as the senescence-associated secretory phenotype. We aim to determine the role of increasing senescent cell burden in transplant failure. Our hypothesis is that removal of senescent cells from the recipient mouse prior to transplantation will improve transplant outcomes. To address this hypothesis, we use murine ADSCs transplanted onto dorsal skin wounds in mice, allowing us to track stem cell engraftment and incorporation into regenerating tissue, as well as wound closure. In these studies, we use a novel mouse model in which senescent cells can be selectively cleared by administration of a drug that encourages apoptosis of cells highly expressing p16, a characteristic of senescent cells. The insights we gain into the role of senescent cells in stem cell transplantation may be hugely beneficial to the development of new therapeutic strategies to increase the efficacy of ADSC transplantation for wound healing and other applications.

## SESSION 105 (SYMPOSIUM)

### EVERYDAY QUALITY OF LIFE IN BLACKS AND WHITES WITH OSTEOARTHRITIS: A MULTI-SITE, MULTI-METHOD STUDY

**Chair:** P.A. Parmelee, *Center for Mental Health & Aging, The University of Alabama, Tuscaloosa, Alabama*

**Discussant:** F. Keefe, *Duke University, Durham, North Carolina*

This symposium presents preliminary findings from EQUAL, a multi-site study of racial/ethnic differences in osteoarthritis (OA) of the knee. There is considerable divergence in the experience and effects of OA among African Americans (AAs) and non-Hispanic Whites (NHWs), attributable to a range of biological, psychological and social processes. However, previous work on racial/ethnic differences has focused largely on prevalence and treatment, with little attention to the emotional impact of OA-related pain and disability. EQUAL examines racial/ethnic differences in short-term and longitudinal relationships among pain, disability, everyday activities and mood states, and emotional well-being among AAs and NHWs. Functional assessments, self-reports, and real-time measures of activities, symptoms and affect are combined to construct a comprehensive view of how OA affects physical and emotional functioning. A key focus is on how traditional, global indices of physical and emotional quality of life are reflected in (and shaped by) transitory, within-day variations in symptoms, affect and activities. This session begins with an overview of conceptual framework, design and methods, and preliminary findings on racial/ethnic differences (Parmelee). Greenlee addresses sample recruitment, focusing on the challenges of recruiting minority participants in diverse settings and circumstances. Smith describes use of experience sampling methodology to capture momentary symptoms and associated variations in activities and affect. The final paper (DeCaro) describes use of actigraphy to capture physical activity levels, with emphasis on the special challenges of electronic monitoring in an older, frail population. Discussion (Keefe) addresses conceptual challenges and innovations of this research. (All presentations supported by R01-AG041655)

## EVERYDAY QUALITY OF LIFE IN OSTEOARTHRITIS: AN OVERVIEW OF THE EQUAL PROJECT

P.A. Parmelee<sup>1</sup>, J.L. Greenlee<sup>1</sup>, J.C. Williams<sup>1</sup>, K. Zakoscielna<sup>1</sup>, D.M. Smith<sup>2</sup>, 1. *Center for Mental Health & Aging, The University of Alabama, Tuscaloosa, Alabama*, 2. *Stony Brook University, Stony Brook, New York*

EQUAL is a multi-site longitudinal study of the experience and effects of physician-diagnosed osteoarthritis (OA) of the knee among African American and non-Hispanic White older adults. The study combines traditional self-report and performance measures with a one-week protocol of real-time monitoring of symptoms, activities, and affect using both actigraphy and experience sampling methodology. This presentation reviews the study's biopsychosocial conceptual model and the gaps in the literature that it addresses, particularly addressing the dynamics of racial/ethnic differences in the emotional impact of OA-related pain and disability. Special emphasis is given methodological decision points, particularly the logic of combining a two-wave, two-burst experience sampling methodology (ESM) design with traditional measures. Preliminary findings address how basic racial/ethnic differences in OA pain, disability and emotional impact differ as a function of measurement approach, contrasting traditional and ESM assessments. The challenges of multi-site, multi-method research are discussed.

## EQUAL SAMPLE RECRUITMENT, ATTRITION AND COMPLIANCE DIFFER BY RACE AND SITE

J.L. Greenlee<sup>1</sup>, C.M. Hytner<sup>2</sup>, 1. *Center for Mental Health & Aging, The University of Alabama, Tuscaloosa, Alabama*, 2. *Stony Brook University, Stony Brook, New York*

Recruiting large, diverse community samples is often difficult. This paper discusses EQUAL's efforts to recruit and retain a 50% AA, 50% NHW sample in Alabama and New York. Barriers to recruitment, including respondent interests and screening exclusions, are discussed. At this writing, about 11% of contacts from diverse recruiting resources are expressing interest in the study. 104 subjects have completed baseline: 33% are AA, with site differences reflecting both community demographics and recruiting resources. Attrition and compliance appear to differ as a function of race/ethnicity and site. Refusals among persons initially interested in the study are greater among AAs (21%) than NHWs (10%). However, compliance with the 7-day experience sampling protocol is better among AAs (80% completing more than 80% of calls, vs. 57% of NHWs). Thus, once enrolled, AAs are more likely to complete the study. Findings are discussed in terms of implications for research on racial/ethnic differences.

## EXPERIENCE SAMPLING OF PAIN AND MOOD QUALITY IN AFRICAN AMERICAN AND NON-HISPANIC WHITE ADULTS WITH OSTEOARTHRITIS OF THE KNEE

D.M. Smith<sup>2</sup>, C.M. Hytner<sup>2</sup>, P.A. Parmelee<sup>1</sup>, 1. *Center for Mental Health & Aging, The University of Alabama, Tuscaloosa, Alabama*, 2. *Stony Brook University School of Medicine, Stony Brook, New York*

Ecological momentary assessment refers to a class of methods in which subjective assessments are elicited in real time, as respondents go about their daily lives; thus, these methods can reduce systematic biases related to memory and context. The ecological method we employ in the EQUAL study, an experience sampling method (ESM), also provides a rich and dynamic portrait of symptoms and emotions as they move throughout the day. By briefly surveying participants four times per day over a one week period, we are able to gather fine-grained information on activities, pain, and mood quality. We can also align this data with objective measures of physical activity and sleep quality over the week. Analyses of these data focus on how daily fluctuations in the experience of pain relate to overall functional ability and emotional well-being, with the goal of illuminating racial/ethnic differences in quality of life in people with OA.

## WAIST AND WRIST ACTIGRAPHY AS A MEASURE OF PHYSICAL ACTIVITY PATTERNS AMONG OLDER ADULTS WITH OSTEOARTHRITIS IN THE EQUAL PROJECT

J.A. DeCaro, L. Van Buren, *Center for Mental Health & Aging, The University of Alabama, Tuscaloosa, Alabama*

Given improvements in the quality of data produced by accelerometers, assessment of physical activity in everyday life has become viable among "free living" adults. Yet for older adults, patterns of movement and sedentary behavior can challenge standard assumptions about thresholds for activity vs. inactivity. We report on 64 EQUAL participants who wore ActiGraph GT3X triaxial accelerometers across 7 days on the waist during waking hours to capture major body movement, and on the dominant wrist across 24 hrs., to capture limb movement and sleep patterns. On the waist, both standard and Low Frequency Extension (LFE) filters were applied; LFE has greater sensitivity to capture slow movements but may introduce greater error. We discuss participant burden and compliance, and illustrate use of these data streams in conjunction with experience sampling to detect distinct forms of physical or sedentary activity.

## SESSION 110 (SYMPOSIUM)

### UNDERSTANDING BEHAVIORAL SYMPTOMS IN PERSONS WITH DEMENTIA: CHARACTERISTICS, ASSOCIATIONS, AND MEASUREMENT

**Chair:** B.R. Hansen, *The Johns Hopkins University, Baltimore, Maryland*

**Co-Chair:** K.A. Marx, *The Johns Hopkins University, Baltimore, Maryland*

**Discussant:** K. Van Haitsma, *Polisher Research Institute, North Wales, Pennsylvania*

The number of persons with dementia is expected to quadruple worldwide between 2010 and 2050, making it a public health crisis. Behavioral symptoms are a hallmark of dementia, almost universal, and one of the most challenging aspects to treat. Behavioral symptoms are associated with hospitalizations, inappropriate medication use, and poor quality of life in persons with dementia as well as caregiver burden and depression. The impact of the projected worldwide growth in dementia incidence combined with the high prevalence of behavioral symptoms, and their negative consequences, indicate the need for more careful study of their occurrences. This symposium focuses on the most common and disturbing behavioral symptoms and examines their prevalence, characteristics and measurement challenges drawing upon different studies in progress. Choi et al. examines rejection of care, agitation and aggressive behaviors as distinct but overlapping occurrences in 272 persons with dementia from the NIH supported Project ACT trial. Hansen et al. examines aggressive behaviors in 630 persons with dementia in the NIH supported REACH II trial. Marx et al. examines the role of activity in addressing these behaviors in hospitalized patients using an Alzheimer's association supported feasibility study. Trahan et al. presents methodological strengths and challenges of direct observations as a methodology to record and analyze behavioral occurrences. Taken as a whole these papers suggest that behavioral symptoms are complex and co-occur yet are amenable to modification and measurement. Understanding common behavioral symptoms can help enhance novel measurement and intervention strategies to enhance the quality of life of families.

## PREVALENCE OF AGGRESSIVE BEHAVIORS IN PERSONS WITH DEMENTIA BY CAREGIVER REPORT IN A DIVERSE, COMMUNITY-DWELLING SAMPLE

B.R. Hansen, N. Hodgson, L.N. Gitlin, *The Johns Hopkins University, Baltimore, Maryland*

Aggressive behaviors in dementia are highly stressful for persons with dementia and their caregivers. The NIH-supported Resources for Enhancing Alzheimers Caregiver Health II (REACH II) initiative was the first study to recruit a large sample of geographically and race/ethnically diverse caregivers and persons with dementia, providing a unique opportunity to examine caregiver-reported aggressive behaviors among 630 persons with dementia (207 Hispanic/Latino, 207 Black/African-American, and 216 White/Caucasian). In an ongoing secondary analysis of aggressive behaviors in the REACH II baseline data, 39.4% (n=248) persons with dementia demonstrated at least one aggressive behavior in the preceding week, with 11.1% (n=70) having two or more behaviors. Most commonly reported was verbal aggression (34.4%, n=217), followed by hurting others (8.6%, n=54), destroying property (7.1%, n=45), and hurting self (3.3%, n=21). Differences between race/ethnic groups were found for only one sub-type of aggression, destroying property, but not for the other sub-types.

## REJECTION OF CARE, AGITATION, AGGRESSION – DISTINCT BUT OVERLAPPING BEHAVIORS

S. Choi, K. Kim, L.N. Gitlin, *School of Nursing, The Johns Hopkins University, Baltimore, Maryland*

We examined 3 commonly reported dementia-related behaviors: rejection of care (ROC), agitation and aggression in 272 patients living at home with family caregivers. Patients were primarily female (52.7%), white (69.9%) and older (M=82.1 years, SD=8.4) with mean MMSE=13.0 (range=0.0-29.0). 147 caregivers (54.0%) indicated ROC behaviors occurred an average of 9.6 (SD=20.1) times per/week. Agitation alone was present in 34.3%, ROC alone in 4.5%, and both in 49.4% of patients (p<.01). ROC increased with cognitive decline; agitation was present in patients with mild cognitive impairment, with highest prevalence in those with moderate impairment. ROC was also strongly associated with verbal aggression,  $\chi^2=12.74$  (1, N=272), p<.01, and physical aggression,  $\chi^2=9.60$  (1, N=272), p<.01. Findings suggest that ROC, agitation, and aggression are distinct yet overlapping behaviors. Understanding overlapping and distinguishing features of these behaviors would be important for devising effective management strategies.

## TESTING THE FEASIBILITY OF THE TAILORED ACTIVITY PROGRAM (TAP) TO MANAGE BEHAVIORS IN PERSONS WITH DEMENTIA ON A CHRONIC CARE UNIT

K.A. Marx<sup>1</sup>, L.N. Gitlin<sup>1</sup>, K. VanHaitsma<sup>2</sup>, D. Alonzi<sup>3</sup>, T. Gentile<sup>2</sup>, 1. *Center for Innovative Care in Aging, Johns Hopkins University, Baltimore, Maryland*, 2. *Polisher Research Institute, North Wales, Pennsylvania*, 3. *Johns Hopkins Bayview, Baltimore, Maryland*

Neuropsychiatric behaviors are one of the primary reasons that person with dementia are hospitalized, yet staff working on these units typically receive little training in how to manage difficult behaviors. This study tested the feasibility of adapting the TAP program to a hospital setting. 20 participants (average age 77.5 years, 60% female, 85% Caucasian) were enrolled at the time of admission to hospital unit specializing in geriatric mental health. An average of 5.6 (SD=2.8, Range: 2-10) neuropsychiatric behaviors per participant were reported at admission, with the most frequently reported being agitation (94.1%), dysphoria (70.6%), irritability (70.6%), apathy (58.8%) and anxiety (52.9%). A one month follow-up, post discharge, revealed a significant decline in anxiety (p=.022) and agitation (p=.038). Using a more conservative  $\alpha=0.1$ , apathy (p=.087) and appetite/eating disorders (.072) were significantly lower at follow-up. Nonpharmacologic interventions, such as TAP, can be modified and applied in a hospital setting.

## DIRECT OBSERVATION OF NEUROPSYCHIATRIC SYMPTOMS OF DEMENTIA VIA VIDEO RECORDING: OPPORTUNITIES AND BARRIERS IN MEASUREMENT

M.A. Trahan<sup>1</sup>, K. Van Haitsma<sup>3</sup>, B.R. Hansen<sup>2</sup>, K.A. Marx<sup>2</sup>, D. Patel<sup>2</sup>, I.H. Stanley<sup>2</sup>, C. Duntzee<sup>3</sup>, L.N. Gitlin<sup>2</sup>, 1. *Trahan Behavioral Services, Washington, District of Columbia*, 2. *Johns Hopkins University, Baltimore, Maryland*, 3. *Polisher Research Institute, North Wales, Pennsylvania*

Measuring neuropsychiatric symptoms (NPS) with direct observations has important advantages compared to indirect rating scales, including being more reliable and accurate. We review advantages and challenges of direct observation using video recordings. Data were from a feasibility study evaluating effects of activity on NPS in a geriatric-psychiatry hospital unit. Direct observation data were recorded using Observer XT 10.5. Twenty participants engaged in activity sessions during 63 video observations (M=3.7, range=1-7) for 936 video minutes (M=55.1, range 7-96 minutes). Three participants were not recorded because either s/he refused, was discharged early, or had time conflicts with the videographer. Of the 63 videos, 35% had poor sound quality (activity music too loud to hear participants' verbals) and 44% had visibility problems related to camera angles (sunlight created silhouettes). Protocol recommendations for future users of video recording include avoiding silhouettes, increasing sound capabilities, and cuing session start time when taping, among others.

## SESSION 115 (SYMPOSIUM)

### INTERGENERATIONAL RELATIONS AND WELL-BEING

**Chair:** J. Sutor, *Purdue University, West Lafayette, Indiana*

**Co-Chair:** M. Gilligan, *Iowa State, Ames, Iowa*

In recent years, the study of later-life families has focused increasing attention on the ways in which relations between the generations affect parents' and adult children's well-being. This symposium brings together five papers that pose a diverse set of research questions to shed new light on this issue. In the first paper, Birditt, Hartnett, Fingerman, Zarit, and Antonucci use data from adult children to compare the effects of relationships with parents and offspring on well-being. In the second paper, Reczek and Umberson explore theoretically and empirically how the intersection of gender and sexual identity plays a role in caregiving to older parents. In the third paper, Dykstra connects the constructs of "linked lives" and "lives in context" to address the ways in which institutional arrangements support individual autonomy in families in North America and Europe. Both of the next two papers investigate the role of parental favoritism in well-being. In the fourth paper, Sutor, Gilligan, Peng, and Pillemer use data collected from adult children to compare the relative consequences of being the most favored or most disfavored on depressive symptoms. In the fifth paper, Pillemer, Sutor and Gilligan examine whether the impact of children's problems on older mothers' well-being is moderated by whether the problems are experienced by favored offspring. Finally, the panelists and audience members will discuss how the collective findings increase understanding of the processes by which relations between the generations affect both parents' and adult children's well-being.

### INTERGENERATIONAL RELATIONSHIP QUALITY AND WELL-BEING: AN EXTENSION OF THE INTERGENERATIONAL STAKE

K. Birditt<sup>1</sup>, C.S. Hartnett<sup>2</sup>, K. Fingerman<sup>4</sup>, S.H. Zarit<sup>3</sup>, T.C. Antonucci<sup>1</sup>, 1. *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*, 2. *University of South Carolina, Columbia, South Carolina*, 3. *Pennsylvania State University, State College, Pennsylvania*, 4. *University of Texas at Austin, Austin, Texas*

Positive and negative relationship qualities with adult children and parents may have distinct influences on psychological well-being. We

present two studies in which participants reported relationship quality with children, parents, and their own well-being. Study 1 participants were aged 40 to 60 and reported on both of their parents, and up to three adult children. Study 2 participants were aged 26 to 93 and reported on both of their parents and the child (aged 13+) they relied on most. Results show that relationships with children were more consistently associated with well-being than ties with parents and negative qualities were more highly associated with well-being than positive qualities. Findings are consistent with the intergenerational stake hypothesis which suggests that parents are more invested in their children than the reverse and with the negativity effect indicating that negative aspects of relationships have a greater effect on well-being than do the positive aspects.

#### **ADULT CHILDREN'S PROVISION OF CARE TO LATER-LIFE PARENTS: HOW GENDER AND SEXUALITY MATTER**

C. Reczek<sup>1</sup>, D. Umberson<sup>2</sup>, 1. *Ohio State University, Columbus, Ohio*, 2. *University of Texas at Austin, Austin, Texas*

Adult children are a central source of caregiving for later-life parents, especially when parents experience age-related health problems. Importantly, past research demonstrates that who provides care, and how this care is provided, is highly gendered and influenced by marital status. Women are more likely than men to provide care to an aging parent—to their own parent or, if married, their spouse's parent. Past research on gender, marital status, and intergenerational care provision has focused entirely on heterosexual couples caring for aging parents. This raises questions about how gendered dynamics of caregiving might differ for partners in same-sex couples. This paper is a first step toward theorizing and empirically exploring the dynamics of caregiving for aging parents across the gendered relational contexts of gay, lesbian, and heterosexual married couples. We analyze gender and caregiving through the analysis of 90 in-depth interviews with gay, lesbian, and straight married adult children.

#### **INTERGENERATIONAL FAMILY RELATIONS: AUTONOMY AND INTERDEPENDENCE**

P.A. Dykstra, *Sociology, Erasmus University Rotterdam, Rotterdam, Netherlands*

This presentation connects two theoretical strands: the notions of "linked lives" and "lives in context". The concept of interdependence, which emphasizes the dynamic interplay between being embedded in a meso context of interconnected family ties and living in a macro context of policy arrangements will be elaborated. Using harmonized data on laws, entitlements, and social services in North America and Europe, I will reveal how and to what degree institutional arrangements support individual autonomy in families (between genders and between generations) and/or shape interdependence. Laws explicating that A's rights or duties are based on family member B's age or status duration are examples of legal interdependence. The absence of publicly provided alternatives to family care and financial support is a form of interdependence by default. The United States serves as a case in point: it is an individualistic society that nevertheless creates high levels of generational interdependence, restricting the autonomy of individual family members. An example from research on grandparenting will serve to illustrate the ways in which national institutional contexts shape generational interdependence and by extension, inequality.

#### **PSYCHOLOGICAL CONSEQUENCES OF MOTHERS' FAVORITISM AND DISFAVORITISM TOWARD ADULT CHILDREN**

J. Suito<sup>1</sup>, M. Gilligan<sup>2</sup>, S. Peng<sup>1</sup>, K. Pillemer<sup>3</sup>, 1. *Purdue University, West Lafayette, Indiana*, 2. *Iowa State, Ames, Iowa*, 3. *Cornell University, Ithaca, New York*

Recent research has documented that most older mothers differentiate among their adult children, particularly regarding emotional closeness and preferences for caregiving and confiding. Such differentiation has been found to have negative consequences on adult children's relational and psychological well-being. In the present paper, we use data collected from approximately 800 adult children from the Within-Family Differences Study to compare the effects of being favored and disfavored on psychological well-being. In particular, we compare the effects of perceptions of mothers' differentiation regarding emotional closeness, pride, conflict, and disappointment. Preliminary analyses indicate that perceptions of being the children with whom mothers have the greatest conflict or in whom mothers are most disappointed have substantially greater negative effects on well-being than do perceptions of being positively favored. Findings are discussed in the context of theories of the relative effects of positive and negative relationship domains.

#### **ADULT CHILDREN'S PROBLEMS AND MOTHERS' WELL-BEING: DOES PARENTAL FAVORITISM MATTER**

K. Pillemer<sup>1</sup>, J.J. Suito<sup>2</sup>, M. Gilligan<sup>3</sup>, C. Riffin<sup>1</sup>, 1. *Cornell University, Ithaca, NY*, 2. *Purdue University, West Lafayette, Indiana*, 3. *Iowa State University, Ames, Iowa*

Research has demonstrated the detrimental effects of adult children's problems on parents' well-being, finding that that stressful events, illness, and off-time transitions in adult children's lives are important predictors of parental depression and other negative mental health outcomes. This presentation seeks to expand knowledge about this issue by exploring whether parental favoritism affects the impact of children's problems on parents' well-being. We test two competing hypotheses. First, it is possible that favoritism will not affect this relationship, due to life-long patterns of attachment to and investment in all children. Second, alternatively we hypothesized that parental distress would be increased when problems occur to a child who is favored by the parent. Using data from a large-scale survey of mothers and their adult children, support was found for the first hypothesis; the effects of children's problems did not differ depending on whether the adult child was favored by the parent.

#### **SESSION 120 (SYMPOSIUM)**

#### **MULTI-STUDY ANALYSIS OF HEALTH BEHAVIORS AS MEDIATORS OF THE PERSONALITY-MORTALITY ASSOCIATION**

**Chair:** D. Mroczek, *Psychology, Northwestern University, Evanston, Illinois*

Certain personality traits, especially conscientiousness and neuroticism, predict mortality. Recent investigations utilizing single studies have tested the role of mechanisms, particularly health behaviors, connecting traits to mortality. In the first multi-study analysis of these mechanisms, we used 16 of the IALSA studies that contain personality, health behavior, and mortality information to test whether the specific health behaviors of smoking, heavy drinking and waist circumference (as a proxy for poor eating and lack of exercise) mediate the effect of personality traits on mortality. We employed survival analysis within a structural equation modeling framework to perform a mediation model. Separate and integrated results from this 16-study coordinated analysis point to smoking as the strongest mediator of the conscientiousness-mortality and neuroticism-mortality relationships. Discussion will focus on the benefits and drawbacks of Integrated Data Analysis (IDA)

and coordinated analysis in testing substantively important research questions.

### **MULTI-STUDY COMPARISON OF THE INDEPENDENT AND INTERACTIVE COGNITIVE IMPACTS OF HYPERTENSION AND DIABETES MELLITUS**

A. Kelly<sup>1</sup>, M. Calamia<sup>2</sup>, G. Muniz Terrera<sup>3</sup>, L. Hoffman<sup>4</sup>, A.M. Piccinin<sup>1</sup>, S.M. Hofer<sup>1,5</sup>, 1. *Psychology, University of Victoria, Victoria, British Columbia, Canada*, 2. *University of Iowa, Iowa City, Iowa*, 3. *MRC Unit for Lifelong Health and Ageing, London, United Kingdom*, 4. *The University of Nebraska–Lincoln, Lincoln, Nebraska*, 5. *Oregon Health & Science University, Portland, Oregon*

Hypertension (HTN) and diabetes mellitus (DM) are two of the most prevalent health conditions in the older adult population and both place diagnosed individuals at increased risk for earlier or more dramatic decline in several cognitive domains. Though HTN and DM often co-occur, their impacts on long-term cognitive functioning are typically considered independently. To the best of our knowledge, Hassing et al. (2004) is the only study to have compared impacts of HTN alone, DM alone and comorbid HTN and DM on cognitive level and rate of change in older adults. Here, we extend that approach to three independent longitudinal studies, using multilevel modeling to examine changes in cognitive scores across study occasions for participants diagnosed with comorbid HTN and DM relative to HTN-only and DM-only groups. Considering both conditions together is a critical next step to further our understanding of the roles that they may play in age-related cognitive decline.

### **IDENTIFYING DISTINCT PATTERNS OF CHANGE IN COGNITION: ASSOCIATIONS WITH GENDER, EDUCATION AND PHYSICAL ACTIVITY USING GROWTH MIXTURE MODELS**

M. Lindwall<sup>2,1</sup>, G. Muniz<sup>3</sup>, A. Robitaille<sup>4</sup>, 1. *Department of Psychology, University of Gothenburg, Gothenburg, Sweden*, 2. *Department of Food and Nutrition, and Sport Science, University of Gothenburg, Gothenburg, Sweden*, 3. *MRC Unit for Lifelong Health and Ageing, London, United Kingdom*, 4. *Department of Psychology, University of Victoria, Victoria, British Columbia, Canada*

The aim of the present study was to identify distinct patterns of trajectories in cognitive change across 7 years using growth mixture models (GMM) and to examine if gender, education and physical activity (PA) could predict class membership in terms of cognitive trajectories across time, when controlling for age. Participants were 9,449 older adults (Mage =62.88, SD =8.54), included in the Survey of Health, Ageing and Retirement in Europe (SHARE) database, who completed measures of cognition (fluency) at three occasions across seven years. Mplus was used to analyze the GMM. Results provided strongest evidence for a four-class model. Education and PA, but not gender, predicted class membership.

### **EDUCATIONAL INEQUALITIES IN HEALTH BEHAVIORS AT MIDLIFE: IS THERE A ROLE FOR EARLY-LIFE COGNITION?**

S. Clouston<sup>1</sup>, M. Richards<sup>4,5</sup>, D. Cadar<sup>4,5</sup>, S.M. Hofer<sup>2,3</sup>, 1. *Preventive Medicine, Stony Brook University, Stony Brook, New York*, 2. *University of Victoria, Victoria, British Columbia, Canada*, 3. *Oregon Health and Sciences University, Portland, Oregon*, 4. *University College London, London, United Kingdom*, 5. *MRC Unit for Lifelong Health and Aging, London, United Kingdom*

Education is a fundamental cause of social inequalities in health, and has a strong impact on health behaviors. Recent studies have highlighted early-life cognition as commonly predicting both education and later life health. A mechanism through which educational attainment and childhood cognition plausibly impacts health is through differences in uptake, adherence, and modification of behaviors. Using a counterfac-

tual framework, we examine the role of early-life cognition and education on smoking, drinking, and physical activity at midlife integrating results from the Wisconsin Longitudinal Study, the National Survey of Health and Development, and the National Childhood Development Study. Adolescent cognition was associated with education, but not with health behaviors after adjusting for education. Education was robustly associated with the likelihood of smoking and physical inactivity but not drinking. Our results suggest that education is fundamental to the distribution of poor health behaviors.

### **IMPLICATIONS OF INCREASES IN INTELLIGENCE ACROSS BIRTH COHORTS FOR LONGITUDINAL RESEARCH ON AGING: ADJUSTING FOR THE “FLYNN EFFECT” IN ESTIMATES OF AGE-RELATED DIFFERENCES AND CHANGES**

S.M. Hofer<sup>1,2</sup>, S. Clouston<sup>3</sup>, 1. *Psychology, University of Victoria, Victoria, British Columbia, Canada*, 2. *Oregon Health & Science University, Portland, Oregon*, 3. *Stony Brook University, Stony Brook, New York*

Flynn (1984, 1987) provided evidence for a steady increase in intelligence scores (3 IQ points or one-fifth of a standard deviation per decade) across birth cohorts in the U.S. and many European countries. While there is no clear consensus as to the primary cause of these increases, potential causes include schooling, test sophistication, nutrition, stimulating environments, fertility patterns, and infectious diseases. We evaluate the hypothesis that increases in cognitive tests scores across birth cohorts are largely explanatory of between-person age differences (Lee, et al., 2008). Understanding the role of birth cohort in explaining age differences in cognitive functioning is essential for replication and comparative research on aging. We discuss methodological issues related to cohort-based adjustment of test scores and utilize longitudinal studies comprised of multiple cohorts with varying historical contexts and degrees of age/cohort heterogeneity.

### **INTEGRATIVE ANALYSIS OF LONGITUDINAL STUDIES OF AGING (IALSA): REPRODUCIBLE RESEARCH ON LIFESPAN CHANGES IN COGNITION, PERSONALITY, AND HEALTH USING A COORDINATED ANALYSIS APPROACH**

S.M. Hofer<sup>1,2</sup>, A.M. Piccinin<sup>1</sup>, D.J. Deeg<sup>3</sup>, 1. *Psychology, University of Victoria, Victoria, British Columbia, Canada*, 2. *Oregon Health & Science University, Portland, Oregon*, 3. *Free University Amsterdam, Amsterdam, Netherlands*

Research findings and conclusions often differ across independent longitudinal studies addressing the same topic. Differences in measurements, sample composition (e.g., age, cohort, country/culture), and statistical models (e.g., change/time function, covariate set, centering, treatment of incomplete data) can affect the reproducibility of results. The central aim of the Integrative Analysis of Longitudinal Studies of Aging (IALSA) research network (NIH/NIA R01AG026453, P01AG043362) is to optimize opportunities for conceptual replication and cross-validation of results across heterogeneous sources of longitudinal data by evaluating comparable conceptual and statistical models at the construct-level. This symposium presents new results from five analysis projects that make use of this coordinated analysis approach. Mroczek and colleagues present multi-study results on the link between personality and mortality, with an evaluation of the role of health behaviors as mediators of this association. Kelly and colleagues present results of a multiple-study replication of the impact of hypertension and diabetes mellitus on cognitive impairment and decline, with particular attention to the interaction of these two health conditions. Lindwall and colleagues present evidence for distinct patterns of change using growth mixture models and evaluate the association of educational attainment and physical activity with these patterns. Clouston et al. evaluate the role of cognitive ability early in life in understanding how educational attain-

ment and health behaviors influence health outcomes later in life. Hofer and colleagues evaluate the impact of cohort-related secular increases in intelligence over this last century (i.e., Flynn Effect) on cross-sectional age differences and longitudinal age-changes in several studies differing in birth cohort, age distribution, and country. In each of these presentations, we discuss methodological issues and approaches for reproducible research across international longitudinal studies of aging.

## SESSION 125 (SYMPOSIUM)

### NARRATIVES OF HEALING: MAKING CONNECTIONS THROUGH STORIES

**Chair:** P.A. Saunders, *Neurology, GUMC, Washington, DC, District of Columbia*

**Co-Chair:** K. De Medeiros, *Miami University, Oxford, Ohio*

Recent research in narrative medicine and narrative gerontology has focused on the ways in which narrative can be used interpretively and therapeutically. People live life through a narrative lens. When a person witnesses a car accident, quickly the mind turns toward who and how to tell that story. The way human beings view life experience is reflected in how they tell about them and how these stories influence the way they are remembered and retold. The study of narrative ranges across many fields including sociolinguistics in which the specific linguistic features of stories are examined; to sociology which focuses on the topics and contexts of how and where stories are told; to the field of social work where narratives are used in interventions (narrative therapy), educating social work students, reflections on the field, and in empirical research. This symposium brings together multiple perspectives on narratives as data and as frameworks for research and practice. These papers illustrate how reflective writing can help create better health care providers (Saunders), how dementia caregivers tell stories of loved ones in moments of lucidity (Schrauf), the narratives of older women about their difficult adult children (Smith), the use of narrative in the diagnosis of dementia (Karlavish), and the therapeutic function of listening (de Medeiros). After attending this session, participants will be able to articulate some fundamental concepts used in the narrative analysis, and apply these concepts to how narratives can be interpreted and/or used therapeutically.

### A STUDY OF NARRATIVE MEDICINE AS METHOD FOR TRAINING BETTER HEALERS

P.A. Saunders, *Neurology, GUMC, Washington, DC, District of Columbia*

Narrative Medicine provides insight into the human condition. In particular, self-reflective writing nurtures skills of observation and empathy — essential in care of the aging. This paper examines 30 student essays illustrating self-reflection. These essays were collected in a Narrative Medicine course over three years. The Institutional Review Board has reviewed this study. Methods of analysis include content analysis. Results show that students write about personal and professional issues using a standard essay format. The essays include positive and negative experiences as well global explanatory statements to indicate different stances towards the future. Teaching narrative medicine reveals that students can learn and share with fellow students in a supportive environment. Writing during a semester provides an opportunity to create a practice in self-reflection. These findings have implications for how training health professionals with narrative competence is a model for humane and effective care of older adults.

### “WHAT’S A TYPICAL DAY?” USING NARRATIVE TO DIAGNOSE AND TREAT OLDER ADULTS WITH COGNITIVE IMPAIRMENT.”

J. Karlavish, *University of Pennsylvania, Philadelphia, Pennsylvania*

The diagnosis and treatment of older adults with cognitive complaints must be grounded in measurement — of cognition, function,

mood — and the ascendancy of the electronic medical record (EMR) has propelled this metric approach into clinical practice. Clinicians zip through a check boxes that record a patient’s and family member’s answers to questions from valuable scales such as the activities of daily living. The EMR has also enabled a “templated note,” meaning much of the text is pre-specified. The clinician simply modifies it to fit the particular patient. The result is a thorough accounting of information that, while legible, is often unreadable and uninformative. What’s missing is a synthesis. The presenter will describe a method of asking each “what is a typical day?” and then using this ecologically valid and nonthreatening question to create a narrative that assesses the quality of informants, patient function, cognition, and quality of life.

### DOING LUCIDITY: THE MOMENTARY RETURN OF CONVERSATIONAL AND COGNITIVE COMPETENCE IN DEMENTIA

R. Schrauf, *Pennsylvania State University, State College, Pennsylvania*

Caregiver anecdote, Alzheimers’ websites, and popular books on the disease speak of fleeting moments when a person suffering from deep forgetfulness and often pervasive disorientation will suddenly exhibit complete coherence and clear connection with the present moment. Interestingly, caregivers’ accounts of these moments of clarity are about a return to conversational competence—or meaningful talk. Further, when caregivers and family members tell these stories, they often ‘perform’ that talk in reported speech. In this presentation, I examine family members stories of this phenomenon, paying particular attention to the discursive and narrative devices that they use, not simply to relate, but to “do lucidity” in talk. Based on this evidence, I argue that the function of telling such narratives is to reach for healing—as a matter of re-enacting meaning in relationships and identities wounded by gradual and progressive loss.

### GRIEF IN THE CONTEST OF A STRUCTURED AUTOBIOGRAPHICAL WRITING GROUP: A CASE STUDY

K. de Medeiros, *Sociology and Gerontology, Miami University, Oxford, Ohio*

Although the use of writing in therapeutic settings is not new, the focus of many writing programs for older adults is on the stories themselves, not the potential benefits that writing may have for the participant. The purpose of the current paper is to present a case study, drawn from a larger randomized control study on the effectiveness of writing to improve autobiographical memory in older adults. During the course of the 8-week workshop, one participant’s terminally ill husband died. Rather than dropping out of the group, she focused her writing on the loss she was experiencing. Writing then became a way for her to both share her feelings and to gain support from the other group members. Content analysis of the transcripts and pieces written during the group was used. Results point to the collaborative way that writing and sharing one’s stories with others can support healing in later life.

### “I NEVER REALLY HAD ANYONE TO ASK ME ‘HOW DID I FEEL ABOUT BEING A MOTHER’”: NARRATIVE INTERVIEWS WITH LOW INCOME OLDER WOMEN ABOUT THEIR DIFFICULT ADULT CHILDREN

J.R. Smith, *Graduate School of Social Service, Fordham University, New York, New York*

This study of poor women’s subjective experiences of mothering across the life-course uses narrative analysis (Reissman, 2008) to examine intergenerational ambivalence (Pillemer & Luscher, 2004). Fifteen women, that self-identified as having “difficult” adult children, were seen 3x to tell their story of early and current parenting dilemmas. An unexpected finding was the interviewee’s appraisal of participation in the study as “therapeutic”. The presentation addresses the value of active listening and life review (Haight, 2003), here focused on moth-



ering. The non-judgmental interviewer, and a semi-structured series of questions that inquired about the ups and downs of parenting served a latent therapeutic function, while being a research study. The study provides new information about the lived experience of older low-income and minority women as mothers.

## SESSION 130 (SYMPOSIUM)

### COMMUNITIES THAT 'CARE': AN ENVIRONMENTAL GERONTOLOGY PERSPECTIVE

**Chair:** M. Kaup, *ATID, Kansas State University, Manhattan, Kansas*  
**Co-Chair:** J. Norstrand, *Boston College, Chestnut Hill, Massachusetts*

**Discussant:** K. Diaz Moore, *University of Kansas, Lawrence, Kansas*

This symposium presents research on emerging as well as active models of care and community. Presentations will demonstrate how environmental variables within these communities were studied through both qualitative and quantitative research strategies and highlight how these attributes play a significant role in meeting the needs of diverse aging populations. The first presentation will share the results of a two year study that assesses a grassroots membership-based initiative designed to help older adults to age in place through coordinated care as well as social engagement and peer support. The second presentation focuses on communities designed around co-housing models. Results from this study will be discussed as they relate to the co-housing model that fosters an environment of mutual support, and the author will compare these tendencies for support against other settings where older adults live. A final presentation will examine characteristics of community associated with well-being among older adults geographically disconnected from family. Results will address those community characteristics and the important role they play in addressing the unique needs of vulnerable subgroups. At the conclusion of this symposium, participants will be able to identify how different community models may provide valuable care provisions for older adults, and, how future advancements in planning and design may need to consider the social aspects of support in relationship to the physical environment when considering the overall wellbeing of those aging in place.

### CARE AND COMMUNITY: HOW MUCH MUTUAL PEER SUPPORT OCCURS IN ELDER COHOUSING COMMUNITIES?

A.P. Glass, *University of Georgia, Athens, Georgia*

For a variety of reasons, not all elders have family to provide care for them. Investigating what older adults can do to help each other is critical but often overlooked. Mutual support was explored as part of a larger mixed-methods study of three senior cohousing communities (N=54; age range = 58-91). Variations and commonalities existed across the sites. Overall, a large majority (80%) agreed that more mutual support occurs in cohousing than in other settings, and that the residents in their communities depend on each other for support (83%) and look out for each other (94%). At two sites, some respondents had no expectation of providing hands-on care, but others (88% of the total) were willing to provide it to at least some of their neighbors. A mutual support model and case studies of how care was actually provided will also be shared, as well as implications for the future.

### CHARACTERISTICS OF COMMUNITY ASSOCIATED WITH OLDER ADULTS' WELL-BEING

N.J. Webster<sup>1</sup>, T.C. Antonucci<sup>1</sup>, K.J. Ajrouch<sup>2</sup>, *1. University of Michigan, Ann Arbor, Michigan, 2. Eastern Michigan University, Ypsilanti, Michigan*

Research has documented fewer older adults live in close geographic proximity to adult children, suggesting communities will play a greater role in meeting the needs of our aging population. We examine charac-

teristics of community associated with well-being among older adults geographically disconnected from family. Data were collected in 2010-2011 from a nationally representative sample of adults aged 70+ from the monthly Surveys of Consumers (N=294). Greater satisfaction with public transportation and climate were associated with less worry about independence. Also, the effects of community characteristics were moderated by age and marital status. Among the oldest-old, greater satisfaction with neighborhood safety was associated with better life satisfaction, whereas among the young-old there was no association; and among those not married, greater convenience of stores was associated with less loneliness, whereas among those married there was no association. Results document the community's important role and highlight unique needs of vulnerable subgroups.

### THE "VILLAGE" MODEL: CREATING CARING COMMUNITIES?

A.E. Scharlach, C. Graham, *Social Welfare, University of California, Berkeley, California*

The "Village" model has achieved national prominence as a grassroots, consumer-driven, membership-based initiative for helping older adults to age in place, through a combination of care coordination, volunteer-based service provision, referral to preferred providers, and social engagement. Of particular interest is an emphasis on peer support and community involvement. This session presents findings from a two-year study of California Villages, which examined the impact of Village membership on social functioning. Participants included 420 Village members, 282 of whom completed retrospective assessments of Village membership and 138 of whom completed assessments before and after their first 12 months of Village membership. Findings indicated increased sense of community but limited gains in social functioning and varying levels of mutual support, with gains most likely among members with the highest levels of program participation. These findings suggest the need to clarify further the Village model and its ability to promote mutually-supportive social networks.

## SESSION 135 (SYMPOSIUM)

### LIFE AFTER 85: WHAT DOES IT HOLD AND COULD IT BE IMPROVED?

**Chair:** C. Jagger, *Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, United Kingdom*

**Co-Chair:** L. Robinson, *Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, United Kingdom*

Despite numbers of the very old growing faster than any other section of our populations, they are often thought to be hard to recruit to and retain in studies. There is therefore a paucity of information on their health and functioning, particularly cognitive function, and especially as they age further. This symposium focuses on trajectories of cognitive function and disability in the Newcastle 85+ Study (n=852) from age 85 to age 90+, and how these are affected by level of education and the potentially modifiable risk factors of diet and body composition. The first presentation investigates patterns of age-related change in memory and attention, unique measures in this age group, in individuals with normal or impaired global cognitive functioning at baseline. Whether health and demographic factors affect rate of decline was also tested. The second presentation describes dietary patterns in this cohort and shows that one, high in fruit and vegetable intake and low in saturated fats, was associated with lower cognitive decline. The third presentation compares the trajectories of disability between men and women and finds a unique group of men who maintained very low levels of disability over five years. Previous studies exploring the predictive ability of body composition on mortality and disability have been limited due to small size, and a single measure of body composition (BMI); the final presentation addresses these issues by reporting new data on the impact

of waist circumference (as well as BMI) on mortality and disability-free life expectancy.

#### **LONGITUDINAL CHANGES IN COGNITIVE FUNCTION IN NORMAL AND IMPAIRED GROUPS**

B.C. Stephan<sup>1</sup>, G. Muniz Terrera<sup>2</sup>, K. Davies<sup>3</sup>, J. Collerton<sup>3</sup>, C. Jagger<sup>3</sup>, 1. *Institute of Health and Society, Newcastle University, Newcastle upon Tyne, United Kingdom*, 2. *University College London, London, United Kingdom*, 3. *Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, United Kingdom*

Ageing is associated with changes in cognition in some, but not all domains. In young-old samples impaired baseline cognitive function has also been associated with differential rates of decline. Whether similar patterns occur in the very-old is not known. Using the Mini Mental State Examination (MMSE) individuals were classified into not-impaired (MMSE $\geq$ 26; N=599), mildly-impaired (MMSE 25-22; N=135) and severely-impaired (MMSE $\leq$ 21; N=105) groups. We compared rates of change over 5-years in the Cognitive Drug Research (CDR) memory, reaction time (RT) and attention tasks and examined potential risk factors (health and lifestyle) associated with them. Memory, RT and attention did not change significantly over time in any group. In the not-impaired group education was associated with better attention (B=0.44, SE=0.15; p<0.005). There were sex differences in attention in the not-impaired (B=2.27, SE=0.68; p<0.005) and mildly-impaired (B=5.38, SE=2.23, p<0.05) groups. Smoking and diabetes also influenced cognitive performance.

#### **FOOD FOR THOUGHT: DIETARY PATTERNS AND THEIR EFFECTS ON COGNITIVE DECLINE IN THE NEWCASTLE 85+ STUDY**

A. Granic<sup>1</sup>, K. Davies<sup>1</sup>, A. Adamson<sup>2</sup>, J.C. Mathers<sup>1,2</sup>, T. Kirkwood<sup>1</sup>, M. Siervo<sup>2</sup>, C. Jagger<sup>1</sup>, 1. *Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, United Kingdom*, 2. *Human Nutrition Research Centre, Newcastle University, Newcastle upon Tyne, United Kingdom*

Diet as a modifiable lifestyle factor and its role in cognitive aging in very old adults is under-researched. We investigated dietary patterns (DP) in 735 participants in the Newcastle 85+ Study in relation to global and attention-specific cognitive functioning over 3 years. Using two-step clustering and 32 food groups established through 24-hr multipass recall, we derived four distinct DP. Compared with DP1 ('High Potato & Meat Diet'), participants in DP3 ('Low Saturated Fat, High Fruit & Vegetable Diet') had a 59% (p=0.009) and 51% (p=0.05) reduced risk of cognitive impairment (scoring  $\leq$ 25 MMSE points), and cognitive decline ( $\geq$ 3 MMSE-point loss), respectively at 3-year follow-up after adjustment for confounders. Mixed models revealed a protective effect of DP3 on focused attention ( $\beta$  [SE]= -0.018 [0.008], p=0.03) after adjustment for sociodemographic and other lifestyle factors. Diets high in fruits and vegetables but low in saturated fats may delay cognitive decline in the very old.

#### **TRAJECTORIES OF DISABILITY IN THE VERY OLD: THE EFFECT OF EARLY, MID AND LATE LIFE SOCIOECONOMIC STATUS**

A. Kingston<sup>1</sup>, L. Robinson<sup>2</sup>, T. Kirkwood<sup>1</sup>, J. Collerton<sup>1</sup>, K. Davies<sup>1</sup>, C. Jagger<sup>1</sup>, 1. *Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, United Kingdom*, 2. *Institute of Health and Society, Newcastle University, Newcastle upon Tyne, United Kingdom*

Little is known on whether socioeconomic factors earlier in the life course still impact on disability progression in very late life. We used mortality adjusted group-based trajectory modelling and assessed the impact of early, mid and late-life socioeconomic status (education, occupational class and deprivation). We found four distinct gender

specific trajectories. A consistently non-disabled group was found only in men, containing 9.0% of male participants. A profoundly disabled group was evident in women only (12.7%). Men in the consistently non-disabled group were more likely to live in affluent areas (OR: 2.34, 95%CI: 1.35-4.10), to have high education (OR: 1.72 (1.12-2.63)) or be from a professional occupation (OR: 4.34 (1.12-16.7)). A similar pattern was found for women. After adjusting for disease burden, education was still prognostic of trajectory group association. Even at age 85 and over, education remains an important determinant of health maintenance.

#### **ANTHROPOMETRIC MEASURES OF ADIPOSITY AS PREDICTORS OF DISABILITY-FREE LIFE EXPECTANCY AND ALL-CAUSE MORTALITY IN THE VERY OLD**

M. Siervo, A. Kingston, T. Kirkwood, J. Mathers, J. Collerton, K. Davies, C. Jagger, *Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom*

Excess adiposity is associated with lower mortality in older subjects – a phenomenon termed as the “Obesity Paradox” but it is uncertain whether whole-body (measured by Body Mass Index (BMI)) and segmental adiposity (assessed by Waist and Hip Circumferences (WC, HC)) are associated with reduced disability risk. We used multistate modelling to test the association of adiposity indexes with transitional shifts in health status (to and from disability and to death) over a 5-year follow-up period. High BMI and WC were both associated with less disability (BMI, HR: 0.36 (0.14-0.91); WC, HR: 0.53 (0.35-0.81)). A smaller HC was linked to an increased mortality risk (HR: 1.40 (1.03-1.89)) whereas a large HC was associated with a greater risk of disability (HR: 1.42 (1.03-1.95)). Excess adiposity was associated with beneficial health effects in the very old though the putative role of small HC as a risk factor for terminal decline warrants further investigations.

#### **SESSION 140 (SYMPOSIUM)**

##### **THE EFFECTIVENESS OF PASTORAL CARE SMALL GROUP WORK WITH PEOPLE WHO HAVE DEMENTIA**

**Chair:** E.B. MacKinlay, *Centre for Ageing & Pastoral Studies, Charles Sturt University, Canberra, Australian Capital Territory, Australia*

Butler et al 2004 reported that the only psychiatric or social factor associated with poor survival in dementia was depression. This paper reports the findings of a small group pastoral care program from a larger mixed methods study, to trial different modalities for lowering depression, through 18 weeks of weekly facilitated sessions to reduce levels of depression among residents with dementia. 25 began and 22 completed the study. Sessions addressed themes of gratitude and blessings, images of God, peace and forgiveness, hope and expectation, joy and happiness, and strength and faith. It measured depression (GDS short form), Morale Scale (PGC) and dementia (ACE-R) measured program through pre, mid and end tests with three month follow-up and initial spiritual assessment. Analysis, comparing testing sessions 1 with 3 (GDS) found significant in lowering depression (p<.05). The paper addresses findings and identifies ways of working effectively with these people.

##### **SPIRIT ALIVE: AN INNOVATIVE APPROACH TO PASTORAL CARE FOR INDIVIDUALS WITH DEMENTIA**

K.O. Carney, S. Brooks Cope, E. Buss, *Phoebe Ministries, Allentown, Pennsylvania*

Spirit Alive represents an innovative approach to providing spiritual support for individuals with mid to late stage dementia. The model incorporates best practices in dementia care into an interactive small group faith service that is intended to provide the participants with a renewed sense of connection to God and one another. Based upon an individualized assessment of interest, personal history and cognitive level, participants are actively involved in a variety of sensory, cognitive, artistic and social activities that are employed to convey

great spiritual truths through familiar stories from various religious traditions. In this presentation, the Spirit Alive model and the various best practices that inform it will be discussed. Preliminary findings based on four Spirit Alive groups that have been operating for the last year will be shared, including data related to participant engagement, clinical benefits of group participation and observed spiritual benefits will be discussed.

#### **SPIRITUAL CARE AND FAMILY CAREGIVING: A PERSON CENTERED APPROACH TO LIVING WITH DEMENTIA**

B.T. Mast, *Psychological & Brain Sciences, University of Louisville, Louisville, Kentucky*

Person centered approaches to dementia seek to tailor care efforts to a deeper understanding of the person and their unique identity. For older adults connected with communities of faith, this understanding is partially rooted in their story of faith, their beliefs, values and faith practices. This study investigated the ways in which family caregivers draw upon these aspects of the person in providing care and the ways in which church communities might partner in this care process. Interviews with family caregivers revealed common themes that converge with empirical research on memory functioning and living optimally with dementia, including (1) drawing upon reminiscence and spared autobiographical memory, (2) utilizing procedural memory and faith practices, and (3) addressing a desire to remain connected and valued by their faith community. These findings are discussed within a person-centered framework along with guidelines for faith communities seeking to care for individuals and caregiving families.

#### **THE PLACE OF SPIRITUALITY IN A DEMENTIA-FRIENDLY COMMUNITY**

S.H. McFadden, *1. Psychology, University of Wisconsin Oshkosh, Oshkosh, Wisconsin, 2. Fox Valley Memory Project, Appleton, Wisconsin*

The international effort to encourage creation of dementia-friendly communities has given little attention to meeting spiritual needs of persons with the diagnosis and their care partners. This paper presents a case study of how the Fox Valley Memory Project—a multi-dimensional effort to create a dementia-friendly community in northeast Wisconsin—addresses spiritual issues through research on the spirituality and religiousness of memory café participants, outreach to clergy groups and congregations, training programs for congregational volunteers in long-term care, and a monthly spiritual support group initiated by memory café participants. This community case study includes research findings as well as descriptions of programmatic efforts to ensure that the spiritual needs and resilience of individuals, along with various forms of support from congregations, are included in the vision of a dementia-friendly community.

#### **FORGETFUL BUT NOT FORGOTTEN: SPIRITUAL CARE FOR PEOPLE WITH DEMENTIA**

B.T. Mast<sup>1</sup>, M. Downs<sup>2</sup>, *1. Psychological & Brain Sciences, University of Louisville, Louisville, Kentucky, 2. Bradford Dementia Group, Bradford, United Kingdom*

Although a majority of older people describe themselves as either religious, spiritual or both, this aspect of gerontological research has received relatively little attention compared to other social and psychological aspects of aging. This is perhaps even more noticeable in relation to the spiritual care and faith practices of older adults with dementia. The four presentations in this symposium highlight research addressing spiritual care for people with dementia across a variety of contexts and settings, including specialty memory care units, dementia-friendly communities, pastoral small groups, and family caregiving. These presentations share a common focus on resilience, community support, and addressing spiritual needs using person centered approaches that are tailored to people with dementia and grounded in best practice concepts.

## **SESSION 145 (SYMPOSIUM)**

### **STIMULATING ACTIVE ENGAGEMENT IN PHYSICAL AND FUNCTIONAL ACTIVITY IN INSTITUTIONALIZED OLDER ADULTS: CONNECTING INTERNATIONAL EVIDENCE**

**Chair:** S. Metzeltin, *CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands*  
**Co-Chair:** G. Zijlstra, *CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands*  
**Discussant:** C.A. Estabrooks, *University of Alberta, Edmonton Alberta, Alberta, Canada*

Institutionalized older adults are insufficiently active in daily life despite their underlying physical capability to be more engaged. Hospitalized older adults spend approximately 83% of their time in bed and nursing homes residents spend on average less than 1 minute a day engaged in moderate physical activity. Acute and long-term care staff is often focused on completion of care tasks and of prevention of injuries from falls and behavioral and psychological symptoms of dementia. This task based and safety approach to care delivery inadvertently results in fewer opportunities for older adults to be actively involved in physical and functional activities. Deconditioning and functional decline are common consequences of this inactivity and residents, families, and even healthcare professionals accept this as a consequence of aging and institutionalization. However, there is a substantial opportunity to prevent deconditioning and functional decline by stimulating active engagement in activities of daily life. These activities need to match the physical capabilities and preferences of older adults as well as the care situation, setting and culture. This symposium consists of five presentations from the Netherlands and the US. The focus of this symposium is on various approaches to stimulate and support institutionalized older adults to engage in physical or functional activities. Furthermore, barriers in encouraging active participation in these activities will be addressed. Our Canadian discussant Carole Estabrooks will reflect critically on the individual presentations and will facilitate a discussion on-site.

### **FUNCTION FOCUSED CARE IN NURSING HOME SETTINGS IN THE UNITED STATES: OVERCOMING CHALLENGES AND MAKING IT HAPPEN**

E. Galik<sup>1</sup>, B. Resnick<sup>1</sup>, I.A. Pretzer-Aboff<sup>2</sup>, *1. School of Nursing, University of Maryland, Baltimore, Maryland, 2. University of Delaware, Newark, Delaware*

Function focused care (FFC) is a philosophy of care in which care is provided with (i.e., doing hand over hand bathing, walking individuals or helping them to self-propel a wheelchair) rather than for (e.g., bathing or dressing individuals, pushing them in wheelchairs) older adults. Challenges to implementing FFC across nursing homes in the United States include symptoms such as resident fear, pain, cognitive impairment and anxiety, lack of understanding in the benefits of FFC, minimal administrative support for FFC, and policies and environments that create barriers to physical activity. This session will summarize themes (facilitators, barriers and benefits of FFC) from qualitative studies with nursing staff. The Social Ecological model and Diffusion of Innovation theory provide the theoretical framework for strategies to overcome challenges and sustain FFC, particularly among residents with dementia. We will also address use of facility based champions to integrate FFC in real world settings.

## A FAMILY-CENTERED INTERVENTION TO PROMOTE FUNCTIONAL RECOVERY IN HOSPITALIZED OLDER ADULTS

M. Boltz<sup>1</sup>, B. Resnick<sup>2</sup>, T. Chippendale<sup>1</sup>, J. Galvin<sup>1</sup>, *1. New York University, New York, New York, 2. University of Maryland, Baltimore, Maryland*

Hospital-acquired deconditioning is common in older adults and is associated with increased risk for readmissions, unabated delirium, and post-acute functional decline. We examined the feasibility and utility of the Fam-FFC (Family-centered Function-focused Care) intervention that actively engages family caregivers (FCG) and medical patients in a plan for functional recovery. As compared to the control group, the number of 30-day hospital readmissions was lower ( $X^2 = 2.3$ ,  $p = .01$ ); the return to baseline function was higher ( $X^2 = 9.7$ ,  $p = .002$ ); delirium severity ( $F = 20.8$ ,  $p < .001$ ) and duration ( $X^2 = 4.5$ ,  $p = .04$ ), and ADL performance ( $F = 3.3$ ,  $p = .03$ ) improved. FCG demonstrated significant increases in preparation ( $F = 4.4$ ,  $p = .012$ ) and less anxiety ( $F = 9.4$ ,  $p < .0001$ ) from admission to two months post-discharge. Fam-FFC is feasible and has the potential to improve outcomes for hospitalized older adults and FCG

## STIMULATING PHYSICAL ACTIVITY AMONG NURSING HOME RESIDENTS: USE OF AN EXERCISE GARDEN

M.H. Bleijlevens<sup>1,2</sup>, S. Braun<sup>3,1</sup>, M. Kleynen<sup>3,4</sup>, *1. Health Services Research, Maastricht University/CAPHRI, Maastricht, Netherlands, 2. Centre of Expertise Geriatric Rehabilitation and Chronic Somatic Care, Seagram Zorgcentra, Heerlen, Netherlands, 3. Research Centre Autonomy and Participation of People with a Chronic Illness, Faculty of Health, Zuyd University of Applied Sciences, Heerlen, Netherlands, 4. Adelante, Centre of Expertise in Rehabilitation, Hoensbroek, Netherlands*

Exercise gardens are considered best practice for encouraging nursing home residents to become more physically active. An exercise garden is an outdoor facility comprising a supportive, elder friendly physical environment. The equipment present is selected to ensure high levels of accessibility, ease of use and enjoyment. However, information to which extent such a garden is used in practice is lacking. In an exploratory study, behavioral mapping was used to assess the actual use of an exercise garden among 99 psychogeriatric nursing home residents. Results show that 63% of the residents visited the garden at least once a week. In 40% of the cases, residents visited the garden without supervision. If a supervisor was present, this mainly were physical or recreational therapists. Family and nursing staff were very little involved. In conclusion, the garden is used. However, the existing potential to engage residents in physical activity can be better utilized.

## MIBBO: A METHOD TO IDENTIFY MEANINGFUL PHYSICAL ACTIVITIES FOR NURSING HOME RESIDENTS

M. Kleynen<sup>1,2</sup>, S. Braun<sup>4,3,1</sup>, E. van Rossum<sup>1,3</sup>, A. Beurskens<sup>1,5</sup>, *1. Research Centre Autonomy and Participation of people with a chronic illness, Zuyd University of Applied Sciences, Heerlen, Netherlands, 2. Adelante Rehabilitation Centre, Hoensbroek, Netherlands, 3. Maastricht University / school CAPHRI / Department of Health Services Research, Maastricht, Netherlands, 4. Research Centre Technology in Care, Zuyd University of Applied Sciences, Heerlen, Netherlands, 5. Maastricht University / school CAPHRI / Department of Family Practice, Maastricht, Netherlands*

Inactivity is highly prevalent among nursing home residents. Hence, it is very important to offer meaningful physical activities, matching with the preferences of residents. Therefore, a method to investigate meaningful activities has been developed ('MIBBO'). The approach includes a photo interview: residents sort photos of activities with a physical component (e.g. gardening, preparing a meal) into 'yes, I like to do' versus 'no, I'm not interested'. Residents then choose their top 5 of activities and how or when they would like to perform them. Based

on the results a plan is made to embed the preferred activities in daily life. In several pilot studies including 138 residents: 1) the MIBBO was assessed as feasible; 2) test-retest revealed 81% agreement of chosen activities; 3) it was shown that the implementation of the tailored activity plan is possible but complex and needs support of the entire multidisciplinary team.

## BARRIERS TO DELIVERING EVIDENCE BASED CARE RELATED TO FUNCTIONAL STATUS OF NURSING HOME RESIDENTS

N. Kuk<sup>1</sup>, G. Zijlstra<sup>1</sup>, G. Bours<sup>1,2</sup>, J.P. Hamers<sup>1</sup>, G.I. Kempen<sup>1</sup>, *1. Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands, 2. Zuyd University of Applied Sciences, Heerlen, Netherlands*

It is important to encourage nursing home residents to perform (instrumental) activities of daily living (IADL) independently as much as possible. We developed and initially tested a questionnaire for 1) nurses' use of evidence based care (EBC) related to functional status of residents, and 2) perceived barriers to this care. Based on 14 interviews, 3 focus group interviews with residents and staff members of nursing homes, a literature study and expert consultation a questionnaire was developed. Main topics were: degree of support during (I)ADL, and related barriers. The questionnaire was completed by 37 nurses. Results indicate that IADL was less encouraged by nurses compared to ADL. The 3 most frequently mentioned barriers were residents' fear to walk (86.5%), attention seeking through care (73.0%), and residents' unwillingness to perform activities (64.9%). This indicates that according to nurses the main barriers to EBC related to functional status are on resident level.

## SESSION 150 (SYMPOSIUM)

### SUCCESSFUL AGING: LESSONS FROM LONGITUDINAL STUDIES

**Chair:** R. Pruchno, *Institute for Successful Aging, Rowan University School of Osteopathic Medicine, Stratford, New Jersey*

**Discussant:** L. Poon, *University of Georgia, Athens, Georgia*

Over the past several decades, the quest to understand successful aging has yielded an exponential growth in the number of publications defining the construct and empirical studies examining its predictors. Although it is generally agreed that aging is a process that evolves over time, understanding the fluidity of successful aging has been hindered by an almost exclusive reliance on cross-sectional designs. Fraught with concerns about causal attributions and survivor effects the discussion sections of these studies have stressed the need for longitudinal designs. Although a number of recent longitudinal studies have examined health, well-being, and life satisfaction, few longitudinal studies of successful aging exist. Using data collected from longitudinal studies that have sought to understand successful aging, presenters will examine whether the meaning of successful aging changes over time, what variables predict successful aging at different points in the life course, and strategies for promoting successful aging. The data sets informing the symposium include the Honolulu Heart Program/Honolulu Asia Aging Study, the Georgia Centenarian Study, ORANJ BOWL, and The Manitoba Follow-Up Study.

## EFFECTS OF EARLY INFLUENCES AND MIDLIFE CHARACTERISTICS ON SUCCESSFUL AGING: LONGITUDINAL FINDINGS

R. Pruchno<sup>1</sup>, M. Wilson-Genderson<sup>2</sup>, 1. *Institute for Successful Aging, Rowan University School of Osteopathic Medicine, Stratford, New Jersey*, 2. *Virginia Commonwealth University, Richmond, Virginia*

Previous research revealed that successful aging includes both objective and subjective dimensions. This longitudinal analysis examines how early life influences and midlife characteristics predict stability and change in successful aging over a four-year period. Data from 3,379 people living in New Jersey who completed baseline telephone interviews between 2006 and 2008 and follow-up mail surveys in 2011 were analyzed. Latent profile analysis identified people who aged successfully according to both objective and subjective criteria, neither criteria, and one, but not the other criteria. Multinomial logistic regressions analyses focused on the 2,614 people who were successful according to both objective and subjective criteria at baseline. Findings reveal that characteristics identifiable early in life (gender, race, education, never marrying, incarceration) as well as midlife status (currently married, working), health behaviors (smoking, drinking, BMI, exercise), and social support distinguished people who continued to age successfully four years later from those who did not.

## THE DYNAMIC PROCESS OF SUCCESSFUL AGING OF OLD MEN: THE MANITOBA FOLLOW-UP STUDY

R.B. Tate, A.U. Swift, *Manitoba Follow-up Study, University of Manitoba, Winnipeg, Manitoba, Canada*

A cohort of 3,983 young male aircrew recruits from the Royal Canadian Air Force has been followed with routine medical examinations and regular contact since 1948. Over the past two decades, fueled by a growing interest to understand the roles of physical, mental and social functioning on attaining and sustaining a healthy and successful passage through later life, the research focus was expanded from cardiovascular epidemiology to explore the concept of successful aging. Since 1996, an extensive questionnaire has been administered 14 times. This new longitudinal component includes >10,000 lay definitions of successful aging. Thematic analysis supports our understanding of successful aging as a dynamic process through which definition and attainment may change with aging and circumstance. On July 1, 2013, 429 original cohort members were alive at a mean age of 92 years. We continue to contact these men three times a year with surveys and medical updates.

## SUCCESSFUL AGING AMONG SEXAGENARIANS, OCTOGENARIANS, AND CENTENARIANS – DOES SUCCESS CONTINUE OVER TIME?

P. Martin<sup>1</sup>, J. Cho<sup>2</sup>, M. Johnson<sup>3</sup>, L. Poon<sup>3</sup>, 1. *Iowa State University, Ames, Iowa*, 2. *Texas A&M, College Station, Texas*, 3. *University of Georgia, Ames, Georgia*

Survivorship into late life can be considered a success, but whether the quality of life meets expectations of success, and whether success changes over time is less clear. This presentation highlights several markers of success and their stability and change over time. Two hundred and one older adults (sexagenarians, octogenarians, and centenarians) were evaluated on four “classic” dimensions (i.e., disease, cognition, functional capacity, and social engagement) and three “alternative” measures (i.e., perceived health, happiness, and perceived economic status) of successful aging. Autoregressive models were computed to evaluate the stabilities and cross-lagged effects of successful aging markers. Stabilities ranged from .32 for social engagement to .81 for functional capacity. Functional capacity at time 1 was a consistent predictor of other successful aging markers, and perceived economic status at time 1 significantly predicted mood at time 2. The results suggest a differential view of successful aging markers embedded in a longitudinal framework.

## GENETIC AND LIFESTYLE PREDICTORS OF SUCCESSFUL AGING TO EXCEPTIONAL OLD AGE: THE HAWAII LIFESPAN STUDY

B. Willcox<sup>1</sup>, R. Chen<sup>1</sup>, K. Masaki<sup>1</sup>, Q. He<sup>1</sup>, J.S. Grove<sup>1</sup>, D.C. Willcox<sup>1,2</sup>, L. Poon<sup>3</sup>, T. Donlon<sup>1</sup>, 1. *Kuakini Medical Center/University of Hawaii, Honolulu, Hawaii*, 2. *Okinawa International University, Ginowan, Japan*, 3. *University of Georgia, Athens, Georgia*

Objective: Identify genetic and modifiable factors that predict successful aging to nonagenarian and centenarian ages. Methods: A total of 5820 Japanese-American middle aged men (mean age, 54 [range, 45-68] years) free of morbidity and functional impairments, were followed in a prospective cohort study, for up to 49 years. Using logistic regression, we assessed risk factors predicting three outcomes at ages 90, 95, and 100 years: death, unhealthy aging, (survival with chronic disease and/or disability), successful aging (survival free of chronic disease and disability). Results: Predictors of successful aging included biological (genotype, BMI, blood pressure, blood sugar) health habits (smoking, alcohol, physical activity), and socio-demographic factors (education, marriage). Cumulative multivariable risk factor modeling demonstrated that probability of successful aging varied multi-fold between those with and without protective genotypes and/or modifiable risk factors. Conclusion: While genetics are important, the probability for successful aging until very old age also appears highly modifiable. Supported by NIA grants 2R01AG027060 and 1R01AG038707.

## SESSION 155 (PAPER)

### PSYCHOSOCIAL, BEHAVIORAL, AND COGNITIVE INTERVENTIONS

#### EXAMINING THE EFFECTS OF A PERSON-CENTERED SITUATION-SPECIFIC MUSIC INTERVENTION

E.S. Ihara<sup>1</sup>, C. Clark<sup>2</sup>, C.J. Tompkins<sup>1</sup>, H.C. Matto<sup>1</sup>, 1. *George Mason University, Fairfax, Virginia*, 2. *Insight Memory Care Center, Fairfax, Virginia*

Creative therapy interventions that are kinesthetic-sensory based, such as music and movement techniques, have been shown to be effective for older adult populations, particularly when personalized, participatory, and socially interactive (Sakamoto, Ando & Tsutou, 2013). Such interventions may actually rewire the striatal-accumbens-cortical pathways in the brain, leading to a reduction in anxiety and depression (Lambert, 2010). Music has been used successfully in various settings (medical, institutional, and adult day care) to decrease agitation, anxiety, medication use, stress and distress, and increase pain control, wellness, and overall sense of control (Chlan et al., 2013; Hartling et al., 2013; Jennings & Vance, 2002; Stuckey & Nobel, 2010). This presentation will discuss the effects of a person-centered, situation-specific music intervention on behavioral functioning among older adults attending Insight Memory Care Center’s adult day program. Of the 70 total participants in the program, 25 are currently involved in the Music and Memory Program intervention. Preliminary review of the facility’s client tracking data that used 30 minute time-interval behavioral rating forms showed clinically significant improvement in several behavioral domains from pre-post iPod use, including decreases in anxiety, agitation and confusion, and increases in motivation to engage in activities. The results of this intervention during a high-stress time (4-6 pm) in the facility when many participants experience behavioral difficulties with the transition back to their primary residence will be presented. Study findings of the music intervention on micro-level transitional stressors may have important translational implications for further study of this intervention’s effects on macro-level transitioning events.

## PILOT TESTING THE USE OF A TECHNOLOGY TOOL IN MEMORY CARE

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Compared to older adults without dementia, people with dementia are much more likely to reside in institutional settings rather than the community. Just as their community-dwelling counterparts, persons living in memory care units (MCU) and assisted living facilities are in need of stimulating activities. Information and communication technology has the potential to facilitate activities for people with dementia. We present an evaluation of a commercially available technology tool designed for older adults with dementia. We conducted a six-month mixed-methods study in two settings within a single facility: a MCU and a memory fitness group for people demonstrating early signs of dementia. We involved four groups: residents of a MCU, family members of residents, staff that interacted with residents, and participants of the memory fitness group. We gathered qualitative data through repeated interviews with staff, family members and memory fitness participants and handwritten notes from weekly sessions with residents of the MCU. Quantitative data included standardized instruments to assess cognition, mood, and quality of life along with an instrument to evaluate resource use. Through this study, we gained a comprehensive view of perceptions towards this technology tool as well as the impact it had on staff and residents. In this study, we present case studies discussing the impact of the technology tool on participants assessed through the use of the standardized instruments along with key insights gained from interviews. This work will inform future use and evaluation studies.

## DESIGN AND IMPLEMENTATION OF THE INTERGENERATIONAL ART THROUGH THE AGES ACTIVITY INTERVENTION

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Art Through the Ages (ATTA; Art-Through-the-Ages.org) is an intergenerational activity program designed to provide older adult volunteers with creative/intellectual, cognitive, and social activity hypothesized to promote cognitive and physical health in later life, as well as fulfill older adults' desires to make generative contributions that promote the well-being of others. ATTA engages older adults to provide elementary-school age children with standards-based visual arts instruction and guide children in hands-on artistic creation. ATTA fosters intergenerational connections through interactions between older adult volunteers and young children and the sharing of the work and lives of master artists of both the past and present. This presentation will provide an overview of the ATTA program and highlight program elements designed to promote health and well-being in ATTA participants. The findings from a pilot implementation and feasibility study of the ATTA intervention with a cohort of 22 older adults (ages 63-90, M=72) in one public elementary school over the 2013-2014 school year will also be shared. This will include an overview of pre- to post-participation changes in psychological and social well-being, behavior and activity engagement, and performance-based cognitive and physical functioning. We will also review findings from novel experience sampling assessments of daily cognitive-emotional states, activity, and cognitive function, assessed with wireless computer devices in the field at multiple weeklong phases across the volunteer year. Best practices for ATTA program recruitment and implementation will be shared, as well as pre- to post-participation data which supports ATTA as a health and well-being promotion tool.

## EARLY STAGE MEMORY LOSS PROGRAMS: RESULTS OF A RANDOMIZED CLINICAL TRIAL COMPARING SINGLE SESSION TO MULTI-SESSION SUPPORT GROUPS

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Individuals diagnosed with early stage dementia and their family care partners need education and psychosocial services appropriate for their unique situation. Support groups for dementia caregivers have been a mainstay of non-medical services for family caregivers, and many agencies are extending the support group model to also provide services to diagnosed individuals. This presentation describes results of a randomized controlled trial comparing a single-session, half-day educational seminar to an 8-session weekly support group program. Both conditions were conducted by the local Alzheimer's Association chapter; outcomes assessments and data analysis were done by research investigators who were blinded to treatment condition. Primary outcomes were quality of life (QOL-AD) and depression (Geriatric Depression Scale-GDS). One hundred forty-three persons with early stage dementia and 105 care partners were randomized in blocks to the half-day seminar (n=79) or 8-session groups (n=64). At baseline, mean age of participants was 76 years, and mean MMSE score was 22. Fifty-six percent of participants attended with a spouse, 13% with an adult children, 6% with another relative or friend, and 27% attended without a care partner. On the intent-to-treat pre-post analysis, participants in both conditions reported non-significant improvement on QOL and decreased depression on the GDS. There were no differences in outcomes between conditions, and no differences for those who attended with or without a care partner. No changes in care partner outcomes were found for either condition. Additional research is needed to identify and evaluate other alternatives for providing support services to early stage dyads.

## IMPROVEMENT OF COGNITIVE FUNCTIONS OF AD PATIENTS BY A NEW COGNITIVE INTERVENTION METHOD

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The purpose of this study was to examine the beneficial effects on cognitive function by a cognitive intervention program designed for dementia care called Learning Therapy in Japan and SAIDO Learning in the United States (hereinafter "SAIDO Learning," as appropriate). SAIDO Learning is a working memory training program that uses systematized basic problems in arithmetic and language, as well as writing. Twenty-three nursing home residents with dementia were assigned as an intervention group, and another twenty-four people with dementia at another nursing home were assigned as a control group. Both nursing homes were operated by the same organization, and residents of both nursing homes received essentially the same nursing care. Thirteen and six subjects of the intervention and control groups, respectively, were clinically diagnosed as Alzheimer's Disease (AD). After the six-month intervention, the AD subjects of the intervention group showed statistically significant improvement in cognitive function, as measured by the MMSE compared with the control subjects. In addition, post hoc analysis revealed that the FAB scores of the intervention group tended to improve after six month intervention. We also observed the restoration of mental status and mood severity only in the intervention group. Our results indicate cognitive intervention through SAIDO Learning is effective and useful for dementia care.

## MINORITY AGING II

**RESIDENTIAL SEGREGATION AND HYPERTENSION PREVALENCE IN BLACK AND WHITE OLDER ADULTS**

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Few studies have examined segregation's role on race differences in hypertension among community-dwelling older adults. It is possible racial differences in hypertension result from differences in exposure to adverse conditions. We examined associations among non-Hispanic blacks and whites aged 50 and over in the National Health and Nutrition Examination Survey 1999-2004. Hypertension was defined as systolic blood pressure (BP)  $\geq$  140 mm Hg, diastolic BP  $\geq$  90 mm Hg, or self-reported antihypertensive medication use. Our segregation measure reflects combinations of individual race (black/white), neighborhood racial composition (black/white/other/integrated), and individual and neighborhood poverty level (poor/nonpoor). Using logistic regression and adjusting for health-related factors, African-Americans living in: black (OR = 2.54, 95% CI 1.61-4.00), white (OR = 2.56, 95% CI 1.24-5.31), and integrated neighborhoods (OR = 3.23, 95% CI 1.72-6.03) had greater odds of hypertension than whites living in white neighborhoods. Additionally, poor whites in poor neighborhoods (OR = 1.74, 95% CI 1.09-2.76), nonpoor African-Americans in nonpoor (OR = 3.03, 95% CI 1.79-5.12) and poor neighborhoods (OR = 4.08, 95% CI 2.16-7.70), and poor African-Americans in nonpoor (OR = 4.35, 95% CI 2.17-8.73) and poor neighborhoods (OR = 2.75, 95% CI 1.74-4.36) had greater odds of hypertension than nonpoor whites living in nonpoor neighborhoods. In this national sample, individual and neighborhood poverty impacts whites while African-Americans have greater odds of hypertension regardless of neighborhood. Public health interventions targeting hypertension should consider neighborhoods, as their environmental aspects can impact the odds of developing hypertension. Effective neighborhood interventions may differ for African-Americans and Whites.

**A MIXED-METHODS STUDY ON SOCIAL CAPITAL AND HEALTH IN ELDERLY ASIAN AND AFRICAN-AMERICAN INDIVIDUALS**

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Background: Persisting health disparities among minority/immigrant older adult populations demand attention. This study documents the health status of elderly Asian- and African-Americans (65+); identifies and compares health-related risk factors; and explores potential benefits that networking and community participation behaviors might bring to minority elders' overall health. Method: This study adopted a mixed-methods design. Quantitative data was from the California Health Interview Survey 2009 for elderly Asians (n=1075) and African-Americans (n=566), and descriptive and regression analyses were conducted to document health status, and identify and compare risk factors. Based on the results of quantitative data analyses, semi-structured interviews (n=17) were conducted. Along with health status and risk factors, interviews recorded experiences being an older minority/immigrant and perceptions of social connections and community involvement. Qualitative data were analyzed using constant comparison. Results: Quantitative results suggest that U.S.-born Asians enjoy better health than African-Americans, followed by immigrant Asians. While delayed use of healthcare is more prominent among African-Americans, the effect of delayed healthcare on health status is strongest in immigrant Asians. Qualitative data reveal: 1) Asian and African-American

seniors maintain engaging relationships with others and these social connections assist them in maintaining and/or improving their overall health; and 2) the possession and utilization of social capital are influenced by acculturation and gender. Implications: Findings suggest that older Asian immigrants may have experienced double disadvantages. As social capital has a role on the health of older minority/immigrant adults, we call for different policy and practice responses to address health concerns of Asian- and African-Americans.

**THE ONGOING SIGNIFICANCE OF ETHNICITY: JAPANESE AMERICAN OLDER ADULTS FROM HAWAII IN SOUTHERN CALIFORNIA**

A. Choi, *Department of Interdisciplinary Studies, California State University Dominguez Hills, Carson, California*

This paper examines the experiences of a cohort of Japanese Americans who migrated to Los Angeles from Hawaii in the aftermath of WW II. In particular, this study examines how Japanese Americans from Hawaii crafted a unique Japanese American Hawaiian identity that not only spoke to their experiences as transpacific migrants, but also to the volatile racial landscape of postwar Los Angeles. In-depth interviews were conducted with twenty Japanese American Hawaiian older adults who receive services at a congregate meal site that served the Japanese American community in Gardena, CA—a suburb of Los Angeles. Data were transcribed and independently coded to identify key patterns and themes. It was discovered that as these individuals aged into retirement, many of these older adults identified as Japanese American Hawaiian—an identity that is very different from Japanese Americans from the mainland. This identity is rooted in a complicated historical matrix that includes not sharing the experience of being incarcerated in internment camps during World War II like Japanese Americans from the mainland, their experiences as Asian Americans in postwar Los Angeles, and their deep ties to Hawaii. Recognizing this difference is crucial in understanding the health behavior and social networks of Japanese American Hawaiian older adults which allows for the provision of culturally appropriate services which leads to a better quality of life for these older adults. Importantly, this study reveals that understanding the saliency of ethnic identity for minority adults is essential for the delivery of culturally competent services.

**NEIGHBORHOOD SOCIAL CAPITAL, PLACE ATTACHMENT AND MINORITY ELDERLY HEALTH: RESULTS FROM THE CALIFORNIA HEALTH INTERVIEW SURVEY 2011-2012**

Y. Du<sup>1</sup>, Q. Xu<sup>2</sup>, *I. Center for Aging, Tulane University, New Orleans, Louisiana, 2. School of Social Work, Tulane University, New Orleans, Louisiana*

Background: Health disparities exist among elderly populations. Social ties and trust embedded within the neighborhood, and place attachment can contribute to health outcomes. This study examines and compares the relationships of neighborhood social capital, place attachment and elderly health across different race/ethnic and immigrant groups. Methods: Adopting data from the California Health Interview Survey 2011-2012, seven groups of elderly aged 65+ (N=13,875) were included in the study: foreign-born and U.S.-born White, Asians and Latinos, and U.S.-born blacks. Bivariate analyzes were used to test differences of place attachment, perceived neighborhood trust, and neighborhood engagement across seven groups. Linear regression models were tested to examine the role of minority/immigrant status, perceived neighborhood trust, neighborhood engagement, and place attachment on self-reported general health after controlling demographics. Results: The study found that, except U.S.-born Asian, all minority/immigrant groups reported significant lower level of neighborhood trust than White; U.S.-born older adults had significant higher level of neighborhood engagement than their foreign-born counterparts; and U.S.-born Asian reported significant higher place attachment than all other groups.

Regression results indicated that black, foreign-born Asian and Latino (regardless foreign-born or not) older adults reported poorer health than their U.S.-born White counterparts; place attachment ( $\beta=0.0001$ ), perceived neighborhood trust ( $\beta=0.1168$ ), and neighborhood engagement ( $\beta=0.1311$ ) all contributed to elderly health. Implications: Minority and immigration status might exert double disadvantages to elderly health. Policy and practice may also focus on neighborhood programs that promote social ties and community engagement, which would help counteract negative effects associated with minority/immigrant status on elderly health.

## HEALTH AND TRAJECTORIES OF LIVING ARRANGEMENTS IN OLD AGE: RACIAL/ETHNIC DIFFERENCES

B. Kim, J. Liang, *The University of Michigan, Ann Arbor, Michigan*

This study analyzed the effects of various physical and mental health problems on the trajectories of living arrangements among older Americans, and evaluated if these associations differed across racial and ethnic groups. The data came from seven waves of the Health and Retirement Study (1998-2010). The sample was restricted to community-dwelling older adults over 60 years with at least one living child at the baseline, and was examined over for a 12-year period (N=10,914; Obs.= 68,156). Living arrangements were categorized into four types: co-, proximate, distant, and other residence. Three health conditions including functional limitations, chronic conditions, and depressive symptoms were examined. Multilevel models of longitudinal data were used for the analyses. Older Americans were more likely to move near to one of their children over time, but they did not usually move into the same household with their children. Caucasian elders were more likely to live in proximate residence than other racial and ethnic groups, and various health problems decreased the probability of them living in distant residence. Hispanic elders were more likely to live with their children, and their living arrangements were relatively stable and not significantly influenced by health status. While physical health problems increased the probabilities of co- or proximate residence among African American elders, depressive symptoms increased the probability of distant residence. The longitudinal study reflects the changes in opportunities, constraints, needs, and preferences over individuals' life courses, which influence living arrangements in old age. The results identified which elderly groups lacked informal support.

## SESSION 165 (SYMPOSIUM)

### GENOMIC BIOMARKERS OF AGING

**Chair:** J.M. Murabito, *Medicine, Section of General Internal Medicine, Boston University School of Medicine, Framingham, Massachusetts*

**Co-Chair:** D. Melzer, *University of Exeter, Exeter, United Kingdom*

**Discussant:** L. Ferrucci, *National Institute on Aging, Bethesda, Maryland*

In this symposium we will highlight the use of powerful new genomic technologies in well-characterized population-based cohort studies. A genome-wide investigation of differences in gene expression and epigenetic changes (such as DNA methylation) with age has the potential to provide key insights into biologic mechanisms of aging and age-related disease. The first report of differences in gene expression with chronologic age from the InCHIANTI Study identified genes involved in inflammation or immune function and further developed a model based on the top transcripts that was able to identify young vs. older individuals (Harries 2011). DNA methylation based biomarkers of aging have been developed that correlate with chronologic age across a wide variety of tissues (Horvath 2013). DNA methylation based biomarkers may reflect accelerated aging and ultimately prove useful in predicting longevity. Dr. Andrew Johnson will present a large human discovery and replication study of transcriptome-wide alteration in gene

expression with age (n~20,000). This work identified > 1000 genes, many novel. Dr. David Melzer will discuss gene expression transcripts that account for the association between interleukin 6 and age in humans using a mediation analysis. Dr. Brian Chen will present a DNA methylation age predictor in relation to human survival. Age-associated differences in gene expression do not necessarily translate to a role for the gene in determining longevity. Therefore, investigation of the impact of genes with the most significant difference in expression with age in humans on lifespan in *C. elegans* is underway. Dr. George Suthphin will present these results.

## AGE AND BLOOD GENE EXPRESSION STUDIES IN ~20,000 HUMANS REVEAL NEW AGING GENES

M.J. Peters<sup>2</sup>, R. Joehanes<sup>1,4</sup>, L. Pilling<sup>5</sup>, J.M. Murabito<sup>3,4</sup>, D. Levy<sup>1,4</sup>, L. Ferrucci<sup>6</sup>, A.D. Johnson<sup>1,4</sup>, 1. *National Heart, Lung and Blood Institute, Bethesda, Maryland*, 2. *Department of Internal Medicine, Erasmus Medical Centre Rotterdam, Rotterdam, Netherlands*, 3. *General Internal Medicine Section, Boston University, Boston, Massachusetts*, 4. *The Framingham Heart Study, Framingham, Massachusetts*, 5. *Epidemiology and Public Health, University of Exeter Medical School, Exeter, United Kingdom*, 6. *Clinical Research Branch, National Institute on Aging, Baltimore, Maryland*

Specific molecular determinants of aging are poorly understood, few human longevity genes have been discovered, and no effective human anti-aging therapies are known. We report a high-powered meta-analysis of blood transcriptome-wide association studies (TWAS) in 7,257 European ancestry individuals with replication in 8,009 additional individuals within the CHARGE Consortium. We identified and replicated 1,267 genes that are robustly differentially expressed with age. Diverse aging mechanisms are reflected among enriched genes including immunosenescence, DNA repair and replication, and transcriptional and translational dysregulation. Additional experiments support tissue and ancestry generalization (n=4,250 samples) of many replicated genes, potential mediation by methylation (n=3,007), and associations with telomere length (n=2,285) and human longevity genes (from GWAS in 9,793 individuals). Our results suggest novel and known genes and pathways and provide a basis for further basic and translational research into aging and age-associated disease.

## INFLAMMATION IN AGING: RESULTS FROM TRANSCRIPTOME-WIDE ANALYSIS IN TWO HUMAN COHORTS

D. Melzer<sup>1</sup>, R. Joehanes<sup>2,4</sup>, L. Pilling<sup>1</sup>, D. Levy<sup>2</sup>, P. Munson<sup>2,4</sup>, L. Ferrucci<sup>3</sup>, 1. *Epidemiology and Public Health, University of Exeter, Exeter, United Kingdom*, 2. *National Heart Lung and Blood Institute's and Boston University's Framingham Heart Study, Framingham, Massachusetts*, 3. *Clinical Research Branch, National Institute on Aging, Baltimore, Maryland*, 4. *Mathematical and Statistical Computing Laboratory, Center for Information Technology, Bethesda, Maryland*

Chronically elevated circulating inflammatory markers are common in older persons. We aimed to identify peripheral gene transcripts expression levels that statistically account for the association between serum Interleukin 6 concentrations and age. Blood derived RNA was from the Framingham Heart Study (FHS, n=2422, ages 40-92 yrs), and InCHIANTI study (n=694, ages 30-104 yrs). In FHS, 102 genes (0.6% of 17,324 expressed, >4000 associated with older mean age or IL6 separately) mediated the age-IL6 association, with 29 genes mediating  $\geq 5\%$ . Of these 29, 25 were testable in InCHIANTI; 7 (28%) replicated. The largest effect gene mediated 19% (CI 8.9 to 34.1%) and replicated by PCR in InCHIANTI (n=194, 35.6% mediated, p=0.01). IL6 expression was not a mediator in either cohort. These results suggest that pro-inflammatory cytokines in age-related inflammation may derive largely outside blood. Further work is needed to distinguish pro-inflammatory age-related mediators from age correlated expression changes in blood.



## DNA METHYLATION AGE PREDICTS ALL-CAUSE MORTALITY IN THE FRAMINGHAM HEART STUDY

B.H. Chen<sup>1,2</sup>, S. Horvath<sup>3</sup>, J.M. Murabito<sup>5,2</sup>, D.P. Kiel<sup>6,7,2</sup>, K. Lunetta<sup>4,2</sup>, D. Levy<sup>1,2</sup>, 1. *National Heart, Lung, and Blood Institute, Framingham, Massachusetts*, 2. *Framingham Heart Study, Framingham, Massachusetts*, 3. *UCLA, Los Angeles, California*, 4. *Boston University, Boston, Massachusetts*, 5. *Boston University School of Medicine, Boston, Massachusetts*, 6. *Hebrew SeniorLife, Boston, Massachusetts*, 7. *Harvard Medical School, Cambridge, Massachusetts*

A growing body of research describing age-related changes in DNA methylation (DNAm) has motivated the use of DNAm to identify a “molecular clock.” Horvath (2013) developed an age predictor using penalized regression from DNAm in multiple human tissues from donors across a wide age range. We examined whether Horvath’s predictor also predicts risk for age-related phenotypes, such as mortality. We measured DNAm using the Illumina Infinium HumanMethylation450K BeadChip in whole blood samples from 2,153 Framingham Heart Study participants (mean age=65.8 years, range=40.7-92.8; 60.3% women). We hypothesized that the difference in years between predicted age and actual age (i.e., delta age) captures age acceleration and consequent risk of mortality. We found that each 5-year increment in the delta age was associated with a 15% increased mortality risk (HR=1.15, p=0.047). This finding suggests that DNAm-based delta age may contribute in part to the biological basis of aging.

## A MULTI-ORGANISM APPROACH TO IDENTIFY NOVEL AGING FACTORS

G.L. Sutphin<sup>1</sup>, S. Bean<sup>1</sup>, M.J. Peters<sup>2</sup>, J. van Meurs<sup>2</sup>, J.M. Murabito<sup>3,4</sup>, A.D. Johnson<sup>3,5</sup>, R. Korstanje<sup>1</sup>, 1. *The Jackson Laboratory, Bar Harbor, Maine*, 2. *Rotterdam Study, Erasmus University Medical Center, Rotterdam, Netherlands*, 3. *Framingham Heart Study, Framingham, Massachusetts*, 4. *Boston University, Boston, Massachusetts*, 5. *National Heart, Lung and Blood Institute, NIH, Bethesda, Maryland*

We have developed a multi-organism approach to identify novel aging factors by using worms and mice to narrow sets of candidate aging genes identified in genome-wide human studies. We recently completed two *C. elegans* longevity screens, one examining genes identified in both human and mouse longevity GWA studies and the other examining genes found to have differential expression with age in humans by the CHARGE Consortium. We are now conducting follow up studies in both worms and mice on genes for which reduced expression increases longevity in *C. elegans*. Here we present results from both screens and our ongoing mechanistic analysis of selected gene, which includes characterization of the impact of each gene on worm healthspan, identification of interactions between each gene and known worm aging pathways, and aging studies using knockout mice for two genes, the Rab family GTPase, Rab27a, and the Golgi reassembly stacking protein, Gorasp2.

## SESSION 170 (SYMPOSIUM)

### THE INTERRELATED TRAJECTORIES OF FUNCTION AND MORTALITY

**Chair:** M. Odden, *Oregon State University, Corvallis, Oregon*  
**Co-Chair:** E.S. Strotmeyer, *University of Pittsburgh, Pittsburgh, Pennsylvania*

**Discussant:** H. Whitson, *Duke University, Durham, North Carolina*

Functional status and mortality are both critical metrics of the aging process. Yet, the complex relationships between demographics characteristics and chronic conditions with the interrelated trajectories of function and mortality are not fully understood. We explore multifaceted contributors to function and mortality, from the basic epidemiology to the impact on healthcare utilization and costs, in the Cardiovascular

Health Study (CHS). CHS is a community-based cohort of 5,888 black and white adults aged >65 years (58% women; 16% black; mean age 72.8 ± 5.6) enrolled in 1989-99 with 10 years of annual examinations, and continuing surveillance for events and functional status. First, we describe incident disability and mortality rates across age, race, and sex to understand the interrelated nature of these demographic trends. Second, we examine a novel multisystem physiologic impairment score and gait speed decline, which is associated with higher mortality risk. Third, we show that functional limitation modifies the association of blood pressure to cardiovascular outcomes and death. Fourth, we explore how changes in multiple aspects of functional status may differentially influence inpatient and outpatient healthcare utilization and costs. Overall, these topics illustrate the importance of trajectories in physical and cognitive function above and beyond their association with mortality. We demonstrate that trajectories to functional decline and mortality are influenced by disease characteristics at earlier time points in older age. The discussant will integrate the topics and indicate future directions to further characterize the interrelated trends in function and mortality, with the goal of improving population health.

### AGE, RACE AND GENDER FACTORS IN INCIDENT DISABILITY

M.E. Jacob<sup>1</sup>, M. Odden<sup>2</sup>, R. Boudreau<sup>1</sup>, A. Arnold<sup>3</sup>, A.B. Newman<sup>1</sup>, 1. *Epidemiology, University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *Oregon State University, Corvallis, Oregon*, 3. *University of Washington, Seattle, Washington*

We assessed disability incidence rates; understanding these by age, sex and race is important for targeting prevention. Disability was defined in 4 ways: 1) self-report of inability in any of 6 ADLs, 2) difficulty in any ADL, 3) difficulty in any of 6 IADLs, and 4) mobility limitation (difficulty walking half a mile or climbing 10 steps). Incident disability and mortality rates were calculated for age, gender and race groups over 6 years. The incidence of ADL inability, ADL difficulty, IADL difficulty and mobility limitation were 1.0(0.8-1.1), 8.5(8.1-8.9), 12(11.4-12.5) and 11.2(10.6-11.7) per 100 person-years. Women, older age-groups (per 5 years) and Blacks had higher rates in all four domains. Despite 33.8% higher incident ADL difficulty (9.5 versus 7.1 per 100 person-years) and 24.1% higher ADL inability, women had 44% lower mortality rate compared with men. Our results indicate that higher disability rates in women occur in concert with lower mortality rates.

### MULTISYSTEM PHYSIOLOGIC IMPAIRMENTS AND CHANGES IN GAIT SPEED IN OLDER ADULTS

A.L. Rosso<sup>1</sup>, J. Sanders<sup>1</sup>, C. Rosano<sup>1</sup>, R. Boudreau<sup>1</sup>, S.B. Kritchevsky<sup>2</sup>, C. Hirsch<sup>3</sup>, M. Carlson<sup>4</sup>, A.B. Newman<sup>1</sup>, 1. *Epidemiology, University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *Wake Forest, Winston-Salem, North Carolina*, 3. *UC Davis, Davis, California*, 4. *Johns Hopkins, Baltimore, Maryland*

Impairments across multiple physiologic systems may increase risk of slowed gait in older individuals. Cardiovascular Health Study data assessed associations of baseline physiologic index (PI; measuring vasculature, brain, kidneys, lungs, and glucose metabolism; range 0-10 with 0-2 points/system and lower score indicating higher function) with annual gait speed (m/s) over six years. Mixed effects models calculated mean gait speed differences (md; 95% confidence intervals) by PI quartile. Higher PI was associated with slower gait speed at baseline (p<0.001). Those with PI of 5-6 or 7-10 had significantly slower gait speed and faster gait speed decline after adjustment for age, demographics, and health characteristics compared to those with 0-2 (e.g. 7-10: md=-0.062 m/s; 95% CI:-0.089,-0.036). PI explained a larger proportion of the age-gait speed association than chronic disease count (23% vs 8% attenuation). Impairments accumulated over multiple physiologic systems may make older adults more vulnerable to slow gait speed.

## DISABILITY MODIFIES THE ASSOCIATION OF DIASTOLIC BLOOD PRESSURE WITH CARDIOVASCULAR EVENTS

C. Peralta<sup>1</sup>, R. Katz<sup>2</sup>, A.B. Newman<sup>3</sup>, B. Psaty<sup>2</sup>, M. Odden<sup>4</sup>, 1. *University of California, San Francisco, San Francisco, California*, 2. *University of Washington, Seattle, Washington*, 3. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 4. *Oregon State University, Corvallis, Oregon*

Mixed findings exist regarding the role diastolic blood pressure (DBP) in cardiovascular (CV) risk in elders. We hypothesized that poor health status, assessed by limitations in activities of daily living (ADL), could identify elders at greater risk for harms associated with low DBP. Adjudicated incident CV events (N=778) and deaths (N=1,289) were collected over 9 years. Among persons with ADL limitation (N=415), higher DBP was associated with a reduction in CV events; hazard ratio = 0.49 (95% confidence interval: 0.25-0.94) and 0.65 (0.44-0.96) for DBP >80 and 80-66, respectively, vs.  $\leq$  65 mmHg, after adjustment for demographic, physiologic variables, and medication use. There was no association between DBP and CV events in persons without ADL limitation (N=1,946). Those with ADL limitation had the lowest risk of mortality at DBP 80-66 mmHg. Low DBP among those with ADL limitation is associated with higher CV risk and death.

## TRAJECTORIES IN PHYSICAL AND MENTAL FUNCTION ARE ASSOCIATED WITH HEALTHCARE UTILIZATION AND COST

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Multidimensional patterns in aging and their association with healthcare costs remains unknown. We examined changes (CHS visit 5-11; N=3032) in physical and mental function measures (self-reported health, activities of daily living (ADL), hand grip strength, time to walk 15 feet, cognition (3MSE), depression (CES-D)) and their association with healthcare utilization and Medicare costs. There were no subgroups with distinct trajectories of change over follow-up for these measures, except for the 3MSE score for which a sub-group had rapid declines vs. remaining cohort. 3MSE score changes were moderately correlated with changes in ADLs and hand grip strength. The faster of two trajectories of 3MSE score decline (n=247) was associated with more inpatient (1.78 visits; 95%CI 1.32-2.41) and outpatient (19.7; 95%CI 1.02-378) visits and higher healthcare costs (\$18,805; 95%CI \$10,492-\$27,119) vs. the remaining cohort. In conclusion, rapid cognitive decline in older age is independently associated with increased healthcare utilization and higher costs.

## SESSION 175 (SYMPOSIUM)

### HIGHLIGHTING THE NEW GENERATION OF GERIATRIC NURSING RESEARCH SCHOLARS

**Chair:** T. Cortes, *New York University, College of Nursing, New York, New York*

**Discussant:** M.J. Hammer, *New York University, College of Nursing, New York, New York*

Since 1996, the Hartford Institute for Geriatric Nursing, NYU College of Nursing, has set a national agenda for improving the quality of care of older adults by promoting the significant role that nurses play in the care of older adults. The Hartford Institute has sought to initiate, sustain and expand activities in the four areas of Education, Practice, Research, and Policy. In Research, the Hartford Institute's primary objective is to foster innovative clinical geriatric nursing research and to recognize the contribution of geriatric nurse researchers. The annual, week-long Hartford Institute Geriatric Nursing Research Scholars Pro-

gram is an intensive mentoring workshop for early-career geriatric nurse researchers. In this symposium, the Hartford Institute highlights the work of these emerging scholars in geriatric nursing research, which describes how health-promotion interventions can positively impact outcomes and how increased knowledge of patient and provider perspectives can impact care. Presenters will: demonstrate how activities that promote positive emotions can reduce the risk of cognitive-decline over time; describe how health-promotion interventions aimed at nutrition and physical activity can significantly improve participants' blood pressure, heart rate, gait speed, physical activity self-efficacy, and successful aging; discuss the perspectives of older adults who experience new-onset urinary incontinence; and discuss primary care NPs' internal barriers, competencies, and educational needs in older adult depression care.

### POSITIVE EMOTIONS AND COGNITION AMONG COMMUNITY DWELLING OLDER ADULTS

K. Strout, *University of New England, Westbrook College of Health Professions, Department of Nursing, Portland, Maine*

Broaden and Build theory of positive emotions suggest that when people cultivate positive emotion, they demonstrate psychological growth over time, facilitating their ability to build personal physiologic resources that function as a reserve to manage physical health threats. The theory posits that positive emotions may undo the effect of negative emotions. This research examines the relationship between mood and activities that promote positive emotions and their effects on cognitive decline among aging adults. This population-based longitudinal predictive correlational study examined 873 community dwelling adults age >60 for three years. Adults demonstrating negative emotions (persistent anger with self or others  $p < 0.001$ ; unrealistic fears  $p < 0.001$ ; repetitive anxious complaints/concerns  $p < 0.001$ ; and withdrawal from activities of interest  $p < 0.001$ ) had significantly more risk of cognitive decline over time compared to adults who demonstrated positive emotions. Adults with negative emotions who participated in more activities that promote positive emotions reduced their risk for cognitive-decline over time.

### EAT BETTER, MOVE MORE FOR HEALTH PROMOTION AND SUCCESSFUL AGING

M. Troutman-Jordan, T. O, *University of North Carolina at Charlotte, School of Nursing, Charlotte, North Carolina*

**Background:** Growing numbers of older adults and increasing life expectancies reinforce the need for health promotion interventions in this population. One such intervention may be Eat Better, Move More, a physical activity and nutrition program. EBMM may improve cardiovascular health, physical activity participation, and nutrition habits, ultimately promoting successful aging. **Methods:** Community-dwelling individuals (N= 66) over age 60 were recruited using posters and community agency contacts. After randomization to intervention or control groups, participants completed the Nutrition and Health Questionnaire, Physical Activity. Questionnaire, and Successful Aging Inventory. Twelve weekly EBMM sessions comprised of mini-talks on nutrition and physical activity, and walking groups were provided. After the 12 weeks, follow-up data were collected and delayed intervention control participants were offered EBMM sessions. **Results:** EBMM significantly improved treatment participants' blood pressure, heart rate, gait speed, physical activity self-efficacy, and successful aging.

### REGAINING CONTROL: HOW OLDER ADULTS WITH NEW-ONSET URINARY INCONTINENCE ADDRESS THEIR MAIN CONCERN

A. Dowling-Castronovo, *Wagner College, The Evelyn L. Spiro School of Nursing, Staten Island, New York*

**Rational:** No literature was identified that addressed the perspectives of older adults who experience new-onset UI. **Methodology:** After Insti-

tutional Review Board approval, Grounded Theory methodology was followed (Glaser, 1978; 1992; 1998; 2002; Glaser & Strauss, 1967). Data collected from 170 hours of 61 field visits between December 2009 to May 2012, interviews with 14 participants, and their medical records were analyzed. Theoretical Findings: Triggered by biological damage, the substantive theory of Regaining Control describes and explains a complex, iterative and overlapping three-phase process of how participants worked to resolve, or attempted to resolve, a much broader concern of loss of control than loss of bladder control. The three phases - Transferring Control, Exercising “Wobbly” Control, and Adjusting to Degree of Control Regained – were influenced by: biological recuperation, understandings of hospitals, and provisional controllers. Conclusion: Regaining Control contributes to the literature about UI, control, and patient-centered care.

### **NURSE PRACTITIONER BARRIERS, COMPETENCIES AND EDUCATIONAL NEEDS IN OLDER ADULT DEPRESSION CARE**

L.M. Novosel, *University of Pittsburgh, School of Nursing, Pittsburgh, Pennsylvania*

Background: Depression in older adults is a chronic, disabling and costly disorder. Nurse practitioners (NPs) are projected to be at the forefront of primary care delivery yet little is known of their readiness and abilities to provide depression care to our rapidly growing, vulnerable aging society. Methodology: Primary care NPs (N =311) completed a self-report survey. Results: The majority were experienced FNPs who “frequently to always” functioned as sole provider of depression care for their older adult patients. NPs realized a responsibility to recognize, diagnose and manage depression yet only 50% felt confident in diagnosing and 40% with management. Few reported skills in depression prevention. Confidence correlated across various methods of educational preparation ( $p < .001$ ). NPs across specialties, including those trained as gerontological NPs, reported limited classroom and clinical training experience in older adult depression. Implications: The findings have significant implications for NP educational programs and clinical practice.

## **SESSION 180 (SYMPOSIUM)**

### **POLICY SERIES: ELDER JUSTICE: STILL ON THE CONGRESSIONAL TO DO LIST**

**Chair:** R. Blancato, *Matz, Blancato & Associates, Washington, District of Columbia*

The Elder Justice Act was passed in 2010 and is due for reauthorization this year. The President’s Fiscal Year 2015 budget proposal called combating the rising scourge of adult abuse, neglect, and exploitation in America one of the Administration for Community Living’s top priorities. The budget requested \$25 million for a new Elder Justice initiative to initiate the development of a national Adult Protective Services data system, including grants to states to test and develop infrastructure, and provide funding for key research, which is essential to the development of evidence-based interventions to prevent, identify and report, and respond to elder abuse. This session will explore elder justice legislation and funding, as well as the work of the federal Elder Justice Coordinating Council.

## **SESSION 185 (SYMPOSIUM)**

### **ABUSE, NEGLECT, AND EXPLOITATION OF ELDERLY PEOPLE INTEREST GROUP-SPONSORED SYMPOSIUM: POLYVICTIMIZATION IN LATER LIFE**

**Chair:** P.B. Teaster, *Virginia Tech, Blacksburg, Virginia*

**Discussant:** G. Anetzberger, *Cleveland State University, Cleveland, Ohio*

Polyvictimization in later life, a phenomenon of elder abuse, can easily be conceived of as “wicked.” Polyvictimization occurs when a person aged 60 or older is harmed through multiple co-occurring or sequential types of elder abuse by one or more perpetrators, or when an older adult experiences one form of abuse perpetrated by multiple others with whom the older adult has a personal, professional, or care recipient relationship in which there is a societal expectation of trust. Polyvictimization of older adults can be regarded as a wicked problem because (1) the solution depends on how the problem is framed and vice-versa (i.e., the problem definition depends on the solution), (2) stakeholders have radically different world views and different frames for understanding the problem, (3) constraints that the problem are subject to and resources needed to solve it change over time, and (4) the problem is never solved definitively. This symposium explores the polyvictimization of older adults as a wicked problem, including an examination of its proposed definition and framework. Also explored are characteristics of and impacts on victims and characteristics of perpetrators. Understanding how to identify, interpret and intervene in cases of polyvictimization requires new ways of thinking about the problem, particularly in a person-centered way. The symposium concludes with a summary discussion of polyvictimization on later life: how the conceptualization of this wicked problem will influence its development in research, practice, and policy.

### **ESTABLISHING DEFINITIONS AND A THEORETICAL FRAMEWORK FOR POLYVICTIMIZATION IN LATER LIFE**

P.B. Teaster, *Virginia Tech, Blacksburg, Virginia*

This presentation provides an introduction to what is currently is known about polyvictimization in later life. It involves an exploration of various dimensions of polyvictimization, including its settings and its context. Major findings drawing from the child abuse and IPV literature are summarized, with examples from scholarly and practice literature used to illustrate the effects of polyvictimization. Also presented is the concept of polyvictimization as a phenomenon of elder abuse. The presentation will include with an explanation and definition of polyvictimization in later life as well as the utility of the Socio-Ecological Model for conceptualizing intervention efforts and prevention of the problem.

### **HOW OLDER ADULTS ARE AFFECTED BY POLYVICTIMIZATION**

H. Ramsey-Klawnsnik, *Klawnsnik and Klawnsnik and Associate, Canton, Michigan*

This presentation focuses on the micro and meso levels of the Socio-Ecological Model to discuss polyvictimization of older adults and its effects on older victims. Not only will characteristics of the victims be presented (micro level) but also included is information concerning the complex relationships between victims and their poly perpetrators (meso level). Considered along with the relationship of the victim and poly perpetrator is the setting of the abuse (e.g., community or facility), as well as cascading abuse. The presentation concludes with an examination of the impact of polyvictimization on the older adult victims.

## DILEMMA OF SERIAL KILLERS AND ELDERLY VICTIMS

M. Patel, *Criminology and Forensic Science, Dr. Hari Singh Gour University Sagar, Sagar, Madhya Pradesh, India*

The study was carried out to know the noteworthy cases concerning the serial killers of elderly that occurred across the globe. Main objective of the study to know the different circumstances behind killing of elderly and became victims of killers. The INTERNET (E-Media) was the main source of data and the method of content analysis was used. Total 42 cases of elderly serial killings have been found reported between the years 1960-2010. Result shows that highest number (38.09%) of cases was found in United States of America. The study also reveals that the victims were physically frail; mostly living alone and except some cases killing was committed inside the door. Most of the female killers were sexually abused in their childhood. Serial killing was largely based on psychological gratification. The main motive behind the killing was revenge, profit, terror, sexual gain.

## INSIGHTS INTO PERPETRATORS OF ELDER POLYVICTIMIZATION

K.A. Roberto, *Virginia Tech, Blacksburg, Virginia*

Drawing on the research and practice literature, this presentation uses the Socio-Ecological Model as a framework to guide the discussion of perpetrators of polyvictimization in late life. Personal characteristics of perpetrators (microsystem), including age, gender, personality attributes, substance abuse and other mental health issues, and motives for abusive behaviors, will be described. Next, the relationship dynamics between perpetrators and their elderly victims (mesosystem) within the context of both the family (spouses/partners, kin) and community (non-family members, facility staff, facility residents) will be discussed. The presentation concludes by addressing the potential consequences for perpetrators of elder polyvictimization, which are influenced by not only their relationships with their victims, but also by the local community response to elder abuse (exosystem), and the broad values, norms, and policies of the greater society (macrosystem).

## SESSION 190 (SYMPOSIUM)

### LESSENING THE GAP IN ELDER SERVICES: TRAINING AND RETAINING OLDER WORKERS

**Chair:** P. Cummins, *Sociology & Gerontology, Miami University, Oxford, Ohio, Scripps Gerontology Center, Oxford, Ohio*

**Discussant:** S.S. Butler, *University of Maine, Orono, Maine*

Occupations that support the long-term care system, especially those related to home and community based care, are projected to experience substantial growth over the coming decade. Over that period, the number of workers aged 55 and over employed in direct care occupations is projected to grow by 70%. These trends reinforce the need to identify strategies to retain older workers employed in direct care occupations and facilitate education and training that will lead to employment. Training must consider the needs and learning styles of older workers while responding to employers' requirements. Presentations address different aspects of older worker involvement in elder services and related training, experience, and accommodations. Straker will present results from a qualitative research project that identified strategies utilized by home health agencies to retain long-term employees and job modifications necessary to accommodate changing physical abilities. Cummins, Kunkel, and Boehle will describe a qualitative research project that identified specific ways in which Senior Community Services Employment Program (SCSEP) participants can support the long-term care ombudsman program in transitioning individuals from long-term care facilities to home and community based settings. Harootyan will discuss pilot projects and sponsored research focusing on the demand/supply of workers in rapidly growing occupations – direct caregiver and community interpreter. Presenters will identify specific direct care occupations suitable for older workers along with required training,

experience, and accommodations that will lead to positive outcomes for both employers and employees. Butler will discuss the relevance and importance of training and retaining older workers in elder service occupations.

### LEVERAGING RESOURCES BETWEEN THE SENIOR COMMUNITY SERVICE EMPLOYMENT PROGRAM AND THE LONG-TERM CARE OMBUDSMAN PROGRAM

P. Cummins<sup>1,2</sup>, S. Kunkel<sup>2,1</sup>, S.G. Boehle<sup>1</sup>, *1. Sociology & Gerontology, Miami University, Oxford, Ohio, 2. Scripps Gerontology Center, Oxford, Ohio*

Several years ago, Ohio implemented the HOME Choice Program, which facilitates the movement of individuals from long-term care facilities to home and community based settings. Transitions Coordinators (TCs) are responsible for identifying candidates for the program, finding appropriate housing, setting up the household, assisting in the actual move, and making contacts following the move. The Long-term care ombudsman program (LTCOP) is one of several organizations in Ohio that acts as a TC. This research sought to determine the role Senior Community Service Employment Program (SCSEP) participants might play in supporting the LTCOP in the HOME Choice Program and was accomplished through interviews with LTCOP staff and SCSEP program operators. Findings suggest that with appropriate training, SCSEP program participants can play a role in supporting TCs and at the same time, gain valuable customer service experience. Specific components of recommended training will be discussed.

### LONG-TERM WORKERS IN LONG-TERM CARE: ORGANIZATIONAL PERSPECTIVES ON WORKER HIRING AND RETENTION

J. Straker, *Scripps Gerontology Center, Oxford, Ohio*

A recent study of high-performing home care agencies and nursing homes in Ohio found that a central focus of these organizations was on retaining staff for the long term and also making appropriate new hires. Qualitative interviews with 135 staff members at 11 nursing homes and 10 home care agencies regarding management practices related to their direct care workforce. Interviews were transcribed and coded using the constant comparative method in Atlas.ti. Seven overarching themes emerged as important across all organizations. Two themes: appreciate and support your staff, and choose good staff and develop them, are particularly relevant for hiring and retention of older workers in aging services jobs. This presentation will include managerial perspectives on staff retention for the long-term, desirable employee characteristics, and job modifications to accommodate changing physical abilities of older employees. Practical tips for keeping staff engaged and attached to these organizations will also be provided.

### TRAINING OLDER ADULTS FOR JOBS IN DIRECT CARE AND COMMUNITY INTERPRETING: IT...WORKS

B. Harootyan, *Research, Senior Service America, Inc., Silver Spring, Maryland*

Senior Service America, Inc. (SSAI) conducted pilot projects and sponsored external research focusing on demand/supply of older workers in rapidly growing occupations – direct caregiver (DC) and community interpreter (CI). Paraprofessional DC and CI jobs will increase 45-48% during 2012-2022. SSAI's projects focused on low-income older workers (LIOWs). Results: Between 13% and 32% of surveyed LIOWs (n=251) would work in one of five different DC occupations (basis: willingness to do all listed tasks per job). Research on providers indicated strong likelihood – even desirability – of hiring older workers, especially those with appropriate training/experience. Another project showed that low-income Hispanic elders can readily be recruited for CI training, which involved both classroom and experiential learning over a 13-week period. Results: A high training success rate was followed by a 50% employment rate immediately after 'certification.' Follow-up

interviews will ascertain additional employment success since the project's completion. Training models and community linkages are also discussed.

## SESSION 195 (SYMPOSIUM)

### DEPRESSION AMONG CHINESE OLDER ADULTS: INTERGENERATIONAL PERSPECTIVE BASED ON NATIONAL STUDIES

**Chair:** V. Lou, *The University of Hong Kong, Hong Kong, Hong Kong, Hong Kong*

**Discussant:** I. Chi, *The University of Hong Kong, Hong Kong, Hong Kong, Hong Kong*

Depression is the second most common mental illness among older adults worldwide. In Chinese culture, mental disorders still has a strong stigma that is regarded as a "family issue". This symposium will examine risk and protecting factors for depression among Chinese older adults from an intergenerational perspective based on two most recent national studies, namely China Health and Retirement Longitudinal Study (CHARLS) and the 2012 China General Social Survey Aging Pilot Study. Focusing on living arrangement of older adults in China, Liu and colleagues found that non-traditional living (e.g., not living with children's family) was associated with a higher risk of depression. The second paper by Chen and colleagues found that a strong relationship between the parents and non-coresident children provided added emotional benefits, and had a moderating effect in the presence of a strained relationship between parents and the coresident child. The third paper by Wu and colleagues found that in rural China, older people who received financial, instrumental and emotional intergenerational supports from their children were less likely to have depression. The fourth paper by Lou and colleagues found that emotional support from children were associated with lower risk of depression among elderly women but not men. However, financial support from children was associated with lower risk of depression among elderly men and women. Dr. Chi, our discussant, will discuss the implications of these results on a family-focused policy direction in mental health care regarding help-seeking, treatment, and rehabilitation.

### CO-RESIDENCE WITH CHILDREN AND DEPRESSION IN CHINESE OLDER ADULTS

J. Liu<sup>1</sup>, L. Li<sup>1</sup>, Z. Zhang<sup>2</sup>, 1. *University of Michigan, Ann Arbor, Michigan*, 2. *Michigan State University, East Lansing, Michigan*

Living with children was used to be considered as the best option for older adults in the societies embedded in the filial culture. Recent studies have indicated that the benefits of co-residing with children may vary by the characteristics of co-resident children, health status of elders and rural/urban residence in China. This study used the data from 2011 CHARLS to examine the associations among gender and marital status of co-resident children, health status and depression in urban and rural adults age 60 and older. The regression results show that living with unmarried child(ren) was related to higher level of depression in both rural and urban elders, and living with married son(s) was particularly associated with higher level of depression in rural elders. The associations of characteristics of co-resident children and elderly depression were significantly lessened by ADL and/or IADL difficulties in rural and urban older adults.

### LOOKING WITHIN AND BEYOND CO-RESIDENCY: PARENT-CHILD RELATIONS AND THE PSYCHOLOGICAL WELL-BEING OF CHINESE OLDER ADULTS

F. Chen, L. Bao, *University of Maryland, College Park, Maryland*

The relationship between intergenerational coresidence and psychological well-being of older adults has been extensively examined. In this paper, we move beyond the parent-coresident child dyad and argue that a proper understanding of the emotional health implications

of intergenerational ties entails a close examination of the dynamics within the household, and the larger family network. Method: Data from the 2012 China General Social Survey Aging Pilot Study provides us with a unique opportunity to explore parents' relationship with multiple children. Findings: We find that living with an adult child is generally beneficial to an older adult's psychological well-being (CESD, happiness, and life satisfaction), but the magnitude of the effects depends on the strength of the parent-child relationship. In addition, strong relationships between the parents and non-coresident children provides added emotional benefits, and has a moderating effect in the presence of a strained relationship between parents and the coresident child.

### THE ROLES OF FAMILY SUPPORT IN DEPRESSIVE SYMPTOMS: EVIDENCE FROM CHINA

Y. Zhang, B. Wu, F. Sloan, *Economics, Duke University, Durham, North Carolina*

Depression is a major issue in China. Family support has been shown to be related to depressive symptoms. However, the underlying mechanisms through which family support affects depressive symptoms are unclear. Using data from the China Health and Retirement Longitudinal Study (CHARLS), we conducted cross-sectional analysis on a large sample (N=15,289) to investigate the role of intergenerational transfers. Measures of such transfers were: living with child; frequent visits from child; frequent visits to parents, and money transfers to child. The study hypotheses were that (1) such transfers reduce depressive symptoms, (2) living with parents confers no benefit, and (3) taking care of parents worsens depressive symptoms of the child. The hypotheses were confirmed for rural but not urban residents, probably because rural but not urban areas retain a traditional family structure. Our results indicate that intergenerational time and money transfers and reduced burden of parental caregiving improve mental health.

### COUPLES WITH ONLY ONE SPOUSE HAVING DEPRESSIVE SYMPTOMS: PREVALENCE AND THE ROLE OF INTERGENERATIONAL SUPPORT AMONG CHINESE OLDER ADULTS

V. Lou<sup>1,2</sup>, Y. Chen<sup>2</sup>, M. Lau<sup>2</sup>, T.Y. Lum<sup>1,2</sup>, 1. *Department of Social Work & Social Administration, The University of Hong Kong, Hong Kong, Hong Kong, Hong Kong*, 2. *Sau Po Centre on Aging, The University of Hong Kong, Hong Kong, Hong Kong*

Objective: There are limited studies on the prevalence and correlated factors of depressive symptoms occurring only in one spouse of a married couple. We utilized a national representative sample in China to examine prevalence of depressive symptoms and its associated risks among Chinese older couples. Method: A subsample with 1,418 dyads of spouses was selected from China Health and Retirement Longitudinal Study (CHARLES) 2011. Multi-nominal logistic regressions were performed to test risk factors. Findings: The prevalence of depressive symptoms occurring only in wives (around 32%) was over 2 times than that occurring only in husbands (around 12%). Financial support was significantly associated with depressive symptoms occurring in married couples with either husband or wife showed depressive symptoms; emotional support was significantly associated with those with wife showed depressive symptoms. Conclusion: The findings lent support to the sociological proposition that social roles lead to the gender difference in depressive symptoms.

## SESSION 200 (SYMPOSIUM)

### CARE AND THE FOURTH AGE

**Chair:** C. Gilleard, *UCL, London, United Kingdom*

The aging of our aging societies raises many issues, not least the feared crisis in care – with too many frail older people needing help and too few people available to adequately meet that need. The aim of the symposium is to explore how the concept of care - as a practice

and as a narrative – both shapes and is shaped by our understanding of ‘deep’, ‘real’ or ‘extreme’ old age. While the rhetoric of successful aging offers the prospect of an agentic third age for many in later life, the fourth age acts as its shadow, threatening to put an end to a later life of opportunity, to be replaced by a life ‘in care’. The speakers in the proposed symposium will address (i) care and the moral identity of the fourth age (Paul Higgs, UCL, London); (ii) financing long term care and the fourth age (Debbie Price, Institute of Gerontology, KCL); (iii) frailty gender and the fourth age (Susan Pickard, University of Liverpool/ Virginia Polytechnic Institute) and (iv) the fourth age and the care ethic in long term care (Dale Dannefer + co-author, Case Western Reserve University).

#### **CARE AND THE MORAL IDENTITY OF THE FOURTH AGE**

P. Higgs, *Faculty of BrainSciences, University College London, London, United Kingdom*

This paper will outline how the ‘moral imperative of care’ constitutes one of the key axes of the social imaginary of the fourth age. An important part of discussions about the nature of the 4th age is that it is of necessity associated with relations of dependency whether these are physical in nature, or related to cognitive difficulties. Consequently the practices of care come to dominate the discourses of the fourth age through the attribution of a moral imperative which we describe as its moral identity. However this need for care possesses considerable ambiguity because of differences in power and the nature of abjection. Proposed solutions to this dilemma in terms of an ethic of care have been proposed but have limitations. We will discuss how the altruistic emotion of pity needs to be understood alongside ideas of compassion.

#### **FINANCING LONG TERM CARE AND THE SOCIAL IMAGINARY OF THE FOURTH AGE**

D. Price<sup>1</sup>, D. Bisdee<sup>1</sup>, T. Daly<sup>1</sup>, L. Livsey<sup>1</sup>, P. Higgs<sup>2</sup>, *1. Institute of Gerontology, King’s College London, London, United Kingdom, 2. University College London, London, United Kingdom*

The emergence of a culture of a ‘third age’ that rejects narratives of decay and dependency means that the ‘fourth age’ has become a powerful social imaginary of abjection and loss of hope (Gilleard and Higgs 2011). In this paper we draw on interview data with 45 older couples to show that this new cultural space has constructed significant barriers to older couples’ financial planning for long term care. While people easily contemplate active ageing, successful ageing and death, they are unable to construct any positive meaning for a period between, seeing expenditure as wasted and death as preferable. Cultural narratives of the third and fourth age have made it difficult for people to contemplate planning for long-term care, irrespective of how much it might be in their or the nation’s interest.

#### **GENDER, CLASS AND IDENTITY IN THE FOURTH AGE: EMBODIED REPRESENTATIONS OF ‘FRAIL’ OLDER WOMEN**

S. Pickard, *1. School of Sociology, Social Policy and Criminology, University of Liverpool, Liverpool, United Kingdom, 2. Virginia Tech, Blacksburg, Virginia*

‘Respectable’ gendered embodiment has historically been associated with the middle classes. As Skeggs and others have shown, in the 18th and 19th centuries ‘femininity’ was constructed as a middle class attribute in direct contradistinction to working class female embodiment. In such representations, ‘frailty’ was a distinction, associated with passive, refined dependence. Tropes of personhood in late modernity have, of course, changed radically as have processes of social stratification with an emphasis on cultural attributes converging on practices of the self. I will aim to demonstrate in this session that (i) the category of ‘frailty’ in old age, overwhelmingly concentrated among poor working class women, now serves as a symbolic marker pathologising working class

female embodiment in terms of a failure of care of the self and (ii) that this failure is constitutive of the fourth age. I will demonstrate this with reference to clinical discourses and emerging technologies of frailty.

#### **“DOUBLE DISABILITY IN THE FOURTH AGE: HUMAN NEEDS, CULTURE CHANGE AND SOCIAL REALITY.”**

R. Shura<sup>2</sup>, D. Dannefer<sup>1</sup>, R.A. Siders<sup>1</sup>, *1. Department of Sociology, Case Western Reserve University, Cleveland, Ohio, 2. Hiram College, Hiram, Ohio*

Self-determination theory contends that three fundamental psychological needs are integral to human experience: competence, autonomy and relatedness. These needs are unaltered by age (just as are physical needs like respiration). Nevertheless, disengagement and related ideologies often assume that such needs are less salient in the Fourth Age, and age-unfriendly institutional arrangements and ageist cultural narratives pervasively reflect such assumptions, creating an added set of disabilities for Fourth Age citizens – a “double disability”. As an example, helplessness, boredom and loneliness – the “three plagues” of nursing home life identified by culture change advocates – correspond precisely to the three universal needs. In response, culture change efforts have spawned a range of innovative habitats and community design (including “Edenized” and ecologically diverse communities; aging in place; “GreenHouse”/“SmallHouse” designs). Yet few such efforts systematically address the three plagues/needs. We demonstrate the relevance of participatory methodologies as well as theoretical grounding in addressing Fourth-Age quality-of-life.

#### **SESSION 205 (PAPER)**

#### **PROMOTING HEALTHY BEHAVIORS AND OUTCOMES**

#### **THE LONG-TERM EFFECTS OF THE TIMING OF A CHILD’S MENTAL ILLNESS ON THE WELL-BEING OF AGING PARENTS**

E. Namkung<sup>1</sup>, J. Greenberg<sup>1,2</sup>, J. Song<sup>2</sup>, M.R. Mailick<sup>2,1</sup>, *1. University of Wisconsin-Madison, Madison, Wisconsin, 2. Waisman Center, Madison, Wisconsin*

Although considerable research has examined the toll of caring for an adult child with serious mental illness on aging parents’ health and well-being, few studies have examined whether these effects depend on the age of onset of the child’s mental illness. This study extends the prior research by investigating the long-term effects of the timing of the child’s mental illness in the parent’s life course on their health and well-being in old age. Using the most recent wave of the Wisconsin Longitudinal Study (2011), 330 parents of adult children with serious mental illness were analyzed (213 bipolar, 61 schizophrenia, 56 depression). Propensity Score Matching was used to construct a matched comparison group of parents who do not have children with disabilities (N=971). Overall, Results from multiple regression analysis indicate that parents of adult children with mental illness reported poorer physical health, higher levels of anxiety, and poorer cognition than the parents in the comparison group. In addition, parents whose child had a late-onset mental illness were more vulnerable on multiple dimensions of physical and mental health than parents whose children were diagnosed at earlier life stage. Findings suggest that the long-term effects of a child’s mental illness on aging parents’ health and well-being partly depends on the timing of the child’s mental illness in the parent’s life course. Parents whose child had a late-onset mental illness may be particularly vulnerable and in need of additional supports to help them cope with the challenges of caregiving.

## PROSPECTS AND CHALLENGES FOR HEALTHY AGING PROGRAMS IN MULTICULTURAL, SUBSIDIZED, SENIOR HOUSING

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Increasing numbers of seniors in subsidized housing are aging in place and experience greater risk for chronic illness and disability due to advancing age and lower incomes, necessitating implementation of multifaceted programs for maintaining wellness. The opportunities and challenges of implementing multidisciplinary wellness programs at a subsidized senior housing facility (n=163) are presented. Assessments and healthy aging educational interventions were conducted with residents in their preferred language: Chinese, English, Farsi, Korean, and Russian. Needs assessment results led to developing the following interventions: blood pressure monitoring (Nursing), recreational activities (Recreation Therapy), home safety and strategies for better sleep workshops (Occupational Therapy), Matter of Balance classes (Kinesiology), and nutrition education (Nutrition). The SF-36v2® Health Survey was administered to residents to evaluate its utility as a standardized assessment tool for the facility (Social Work). Sixteen graduate/undergraduate students, supervised by faculty, delivered the programs in addition to 15-20 interpreters/translators; 118 senior residents (72%) participated in one or more programs. Impact and lessons learned: 1) Opportunities for providing diverse activities to maintain resident wellness; 2) Students learned culturally-sensitive practice skills when interacting with older adults in subsidized housing; became aware of different interventions provided by various professions. Challenges included: scheduling of events to address resident needs/preferences and student availability; finding translators/ interpreters and having enough time to have materials translated; multiple IRB applications; project coordination; advertising programs; encouraging and reminding residents to attend programs. Strategies for next steps in the evolution of this partnership based on a collaborative examination of data will be presented.

## THE DISSEMINATION AND IMPLEMENTATION OF THE CHRONIC DISEASE SELF-MANAGEMENT PROGRAM AMONG RURAL-RESIDING ADULTS

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**Introduction:** Rural residents traditionally face gaps in accessing health care services due to limited availability of providers and associated resources. Using data from the Chronic Disease Self-Management Program (CDSMP), an evidenced-based program (EBP) shown to improve older adults' health and well-being, this study aimed to identify CDSMP delivery to rural communities and compare characteristics between rural and urban CDSMP participants. **Methods:** We analyzed the first 100,000 CDSMP participants enrolled in the nationwide 2010-2012 AoA Evidence-Based Disease Prevention Initiative. We used logistic regression and independent group t-test. **Results:** Approximately 24% of CDSMP participants lived in rural areas. Overall, 43% of participants were minorities, which was higher in urban (48%) versus rural (26%) areas. Average age was 64 and 66 years for rural and urban areas, respectively. The average number of chronic conditions was similar across rural and urban areas (2.6 for rural, 2.4 for urban). Successful completion of CDSMP (attending 4+ of 6 sessions) was similar across rural/urban areas (78% for rural; 77% for urban). Black participants (OR=1.25) and those living in rural areas (OR=1.08) had higher likelihoods of successfully completing CDSMP in adjusted analysis. Participants residing in a primary care health professional shortage areas (OR=0.93) and males (OR=0.93) had lower likelihoods of successfully completing CDSMP in adjusted analyses. **Discussion:**

Rural participants may be more vulnerable than urban participants in terms of age and chronic illness. Understanding rural reach of CDSMP allows for a benchmark for assessing improvements in future work seeking to bridge gaps in linking rural residents to EBP.

## DISCHARGE OUTCOMES OF POST-ACUTE HOME HEALTH PATIENTS

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The use of home health services among post-acute care patients has increased dramatically. Despite the magnitude of home health utilization, there is little current research on the outcomes of patients using formal home health services. In this analysis, we examined discharge location and rehospitalization among home health patients. Our sample included Medicare fee-for-service patients discharged from an acute hospital to home health with corresponding Outcome and Assessment Information Set (OASIS) admission and discharge assessments in 2011. We used logistic regression models to analyze patient characteristics associated with being discharged home and being rehospitalized. We found that individuals who were living alone, had a pressure ulcer at admission, and who had heart failure, chronic obstructive pulmonary disease, or cancer were significantly less likely to be discharged home and significantly more likely to be rehospitalized. Individuals who did not have caregivers to provide activities of daily living or instrumental activities of daily living assistance were less likely to be discharged home. These results suggest that individuals who do not have access to informal caregivers and who have certain high risk conditions at admission are less likely to have a successful home health episode ending in discharge home without a rehospitalization.

## DO HOSPITALISTS REDUCE PNEUMONIA READMISSION RATES: A LONGITUDINAL ANALYSIS OF U.S. ACUTE CARE HOSPITALS

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Hospitalists constitute a relatively new and fast growing group of hospital-based physicians. Hospitalists may provide better coordination and continuity of care, which may result in lower readmissions. Prior studies examining the relationship between the use of hospitalists and hospital readmissions have been limited to specific hospitals or geographic scope. Our longitudinal (2008-2010) study explores the relationship between hospitals' use of hospitalists and pneumonia readmission using a national sample of U.S. acute care hospitals (N= 3,294). Data from the AHA Annual Survey, the Area Health Resource File (AHRF), and CMS' Hospital Compare files was used for this study. A panel design with facility and year fixed effects regression was conducted for this analysis, controlling for organizational and market factors. Our results indicate that an increase in the use of hospitalists, staffing intensity (high proportion of FTE hospitalists), and contracted hospitalists were associated with lower pneumonia readmissions. Our study validates prior studies that showed that hospitalists are able to reduce pneumonia readmissions. Additionally, our study shows that an adequate staffing level of hospitalists is critical to achieve the desired outcome. Finally, given the costs associated with employing hospitalists, our study suggests that the use of contracted hospitalists may be a cost-effective staffing strategy to reduce pneumonia readmissions. With the implementation of value-based purchasing, providers are seeking strategies to reduce costs while achieving higher quality of care. The use of hospitalists may be a potential staffing strategy to achieve these goals.

## DEMENTIA AND DELIRIUM

## CLINICAL DEMENTIA RATING SCALE PREDICTION OF DEMENTIA DIAGNOSIS: SUBJECT VERSUS INFORMANT REPORTS

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The Clinical Dementia Rating Scale (CDR) is the preeminent measure of everyday functioning used for dementia diagnosis. Standard administration uses combined CDR total scores (subject and informant) to estimate everyday functioning, but it is not always possible to obtain both the subject and informant CDRs. We investigated whether the subject and informant reports are equally effective in predicting dementia diagnosis and which scores provided the earliest prediction. Cox Proportional Hazard models tested CDR total scores (combined, subject, informant) as predictors of dementia risk in Baltimore Longitudinal Study of Aging participants. Sample 1 tested prediction of dementia from 1-6 years before diagnosis (combined n=419, dementia cases=91; subject n=387, dementia cases=82; informant n=342, dementia cases=60). Sample 2 tested prediction of dementia 3-6 years before diagnosis (combined n=399, dementia cases=91; subject n=369, dementia cases=64; informant n=336, dementia cases=54). Adjusting for sex, education and ApoE genotype, combined, subject and informant CDR total scores were each significant predictors of dementia up to one year before diagnosis (CDR-combined HR=3.40, 95% CI=1.45-7.93; CDR-subject HR=2.46, 95% CI=1.01-5.99; CDR-informant HR=4.33, 95% CI=1.52-12.35). Informant (HR=4.08, 95% CI=1.35-12.34) but not subject (HR=1.64, 95% CI=0.59-4.59) CDR predicted dementia risk 3-6 years before diagnosis. Subject and informant CDRs are each significant predictors of dementia when administered close in time to dementia diagnosis. Earlier in the dementia prodrome, the informant CDR is the stronger predictor of dementia. Our results highlight the importance of informant information in early stages of cognitive impairment.

## THE USE AND UTILITY OF SPECIFIC NONPHARMACOLOGICAL INTERVENTIONS FOR BEHAVIORAL SYMPTOMS IN DEMENTIA

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This study compares different non-pharmacological interventions for persons with behavioral symptoms and dementia on frequency of use and perceived efficacy in terms of change in behavior and interest. Participants were 89 nursing home residents from 6 Maryland nursing homes with a mean age of 85.9 years. Research assistants presented interventions tailored to the participants' needs and preferences in a pre-intervention trial phase and in an intervention phase. The impact of each intervention on behavioral symptoms and on the person's interest was rated immediately after the intervention by a research assistant. The most utilized interventions in both trial and treatment phases were the social intervention of one-on-one interaction, simulated social interventions such as a lifelike doll and respite video, the theme intervention of magazine, and the sensory stimulation intervention of music. In contrast, the least utilized interventions in both phases were sewing, fabric book, and flower arrangement. Interventions with the highest impact on behavioral symptoms included one-on one social interaction, hand massage, music, video, care, and folding towels. Other high impact interventions included walking, going outside, flower arranging, food or drink, sewing, group activity, book presentation ball toss, coloring or painting, walking, and family video. The results provide initial

directions for choosing specific interventions for persons with dementia and also demonstrate a methodology for increasing knowledge through ongoing monitoring of practice. This study was supported by National Institutes of Health grant AG010172 and by the Minerva-Stiftung Foundation Grant number 31583295000.

## CHANGE IN QUALITY OF LIFE OF PEOPLE WITH DEMENTIA WHO ARE RECENTLY ADMITTED TO LONG-TERM CARE FACILITIES

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Aims: To evaluate the course of quality of life (QoL) of people with dementia (PwD) who are recently admitted to long-term care facilities, and to assess which factors are associated with their QoL. Background: The period after admission to a long-term care facility involves many challenges for PwD. It is currently unknown what happens with QoL following admission and how QoL could be influenced. Design: Observational, longitudinal survey. Methods: Data on 343 PwD who have been recently admitted to long-term care facilities across eight European countries were collected. QoL was assessed by PwD and their caregivers using the QoL-AD. Independent variables included cognitive status, comorbidities, independence in activities of daily living, depressive symptoms, and neuropsychiatric symptoms. Results: Mean QoL did not change after admission. However, on an individual level, three groups were identified, namely people whose quality of life: 1) decreased (self-report: 25%, proxy report: 26%), 2) stayed the same (44% and 49%), and increased (31% and 26%). Better cognitive abilities were associated with a decrease in self-reported quality of life. A decline in caregiver-reported quality of life was associated with greater dependency and more depressive symptoms at baseline. Furthermore, an increased dependency and an increase of depressive symptoms between baseline and follow-up were associated with a decreased caregiver-reported QoL. Conclusion: QoL of PwD does not necessarily decrease after admission to long-term care facilities. Instead, some PwD experienced an increased QoL. In order to improve PwD's QoL, cognitive functioning, functional rehabilitation and treatment of depressive symptoms should receive special attention.

## INFLUENCES ON DEMENTIA KNOWLEDGE, ATTITUDES, AND CONCERNS: A SURVEY OF WISCONSIN RESIDENTS

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A key component in Wisconsin Department of Health Services' plan for creating "dementia-capable Wisconsin" is raising community awareness and understanding of dementia. This study examined the effects of age, gender, education, and knowing someone with dementia on Wisconsin residents' knowledge about dementia, comfort with people who have dementia, and concerns about receiving a dementia diagnosis. We surveyed 336 Wisconsin residents, ages 18-96 (mean age = 50.4, SD = 21.03). Age was negatively correlated with fear of dementia ( $r = -.167, p < .01$ ) and of losing personal memories ( $r = -.323, p < .01$ ). On a 14-item true/false test, the average score was 10.9 correct. Standard multiple regression showed that dementia exposure and level of education significantly predicted dementia knowledge,  $R^2 = .120$ ,  $R^2 \text{ adj} = .114$ ,  $F(2,293) = 19.91, p < .001$ . Education was significantly correlated with comfort with persons with dementia,  $r = .114, p = .04$ . People with more knowledge were more concerned about developing dementia ( $r = .193, p = .000$ ), as were people who know someone with dementia ( $r = .157, p = .004$ ). Independent t-tests showed women were significantly more knowledgeable than men, more concerned they might be diagnosed with dementia, more likely to say they know someone with dementia, more concerned about having to care for someone with dementia, and more likely to have made lifestyle changes



to attempt to prevent dementia. One quarter of the sample had made changes; the most commonly cited were better diet, more exercise, and mental stimulation.

### **EDUCATING CAREGIVERS TO IMPROVE SLEEP IN PERSONS WITH DEMENTIA: A FIVE WEEK COMMUNITY-BASED PROGRAM**

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**Introduction:** Sleep problems among persons with dementia (PWD) can be dangerous for patients and stressful for caregivers. Non-pharmacological strategies including the research-based intervention “Nighttime Insomnia Treatment and Education in Alzheimer’s Disease (NITE-AD)” has shown promise for improving sleep among PWD and reducing caregiver stress and burden. Applying community-based participatory research principals, we modified NITE-AD for delivery in group settings. In Phase 1, we validated program materials through two facilitated feedback sessions. In Phase 2, we implemented the group curriculum with caregivers of PWD. **Methods:** Phase 1: Feedback sessions with older adults (n=24) were 1½ hours and centered on validation of recruitment strategies, evaluation tools, and curriculum appropriateness and applicability. Phase 2: we recruited caregivers of PWD to a five-week group program which reviewed the impact of light, exercise and sleep hygiene on reducing sleep disturbances among PWD. The curriculum incorporated ongoing reinforcement and goal setting. **Results:** Phase 1: Participant (n=24) feedback resulted in program revisions including recruitment flyer wording, inclusion and exclusion criteria, reduction of monitoring tools and program script edits. Phase 2: Seven caregiver-PWD dyads completed the program. Results suggest improvement in caregiver depression and PWD sleep problems. Caregivers reported that the program provided them support and valuable strategies that they will continue to apply. **Conclusion:** Engagement of older adults in program design is critical for program development. Educating caregivers in a group setting about non-pharmacological strategies for managing sleep with PWD may reduce caregiver burden and improve sleep among PWD. The need for further study is demonstrated.

### **CREATING EFFECTIVE ONLINE SELF-MANAGEMENT FOR OLDER TYPE 2 DIABETICS WITH MEMORY IMPAIRMENT**

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Older adults with Type 2 diabetes (Diabetes Mellitus – DM) who also have memory impairment (MCI or early stage dementia) are both challenged and at risk when attempting to live independently. The ability to effectively monitor blood glucose levels, exercise regimens, diet and exercise regimens often is severely constrained by the combination of DM and the presence of mild cognitive impairment (MCI) or early stage dementia. We describe an exploratory study funded by NIDDK in which Certified Diabetic Educators (CDEs) were linked with 40 older adult with DM and memory impairment using iPads and the internet. CDEs present personalized education sessions to participants, and 18 of the participants also receive a cognitive intervention (spaced retrieval) designed to train the effective use of strategies to enhance medication compliance and reach other goals. Blood glucose and cholesterol measures were assessed at baseline and at 2-, 4-, and 6-months post intervention. HbA1c levels initially declined from baseline after treatment but returned to baseline levels after 6 months, indicating a need to provide continuing follow-up and support after initial treatment for both groups. For LDL cholesterol, a significant interaction effect was found for the Group x Time interaction. LDL levels increase from baseline after treatment for the control group, but showed decline after baseline in the SR group. No main effects were significant. Again, results show

the need for follow-up and support after initial treatment, as well as the need to see if the effects produced by SR can be replicated and sustained with follow-up.

### **UNDER-RECOGNITION AND MISCLASSIFICATION OF DELIRIUM BY EMERGENCY PHYSICIANS**

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**Background:** Delirium is common in geriatric patients in the Emergency Department (ED). Accurately diagnosing delirium is important for medical decision making. Misclassification of symptoms associated with delirium may lead to inappropriate treatment and increased mortality. Misclassification includes incorrectly diagnosing delirium (false positive) as well as under-recognition of delirium (false negative). **Objectives:** To study ED physician recognition of delirium by comparing documentation of delirium or keywords associated with delirium (e.g., confusion, acute mental status change) in the ED record with a gold-standard, interviewer-based, delirium assessment. **Methods:** This ongoing, observational study is enrolling patients ≥70 years old who present to a tertiary-care ED. Delirium is assessed by trained interviewers using the Confusion Assessment Method (CAM). Charts are abstracted for the term delirium or delirium keywords. **Results:** The 47 patients enrolled to date have a mean age of 82 and 44% are men. Thirteen (28%) patients screened positive for delirium by the CAM. ‘Delirium’ was documented in only one chart of CAM positive cases (sensitivity=8%; specificity= 97%). Agreement between chart documentation and the CAM was higher when delirium keywords were included (sensitivity= 69%; specificity = 97%). While only 10% of charts with a keyword were CAM negative, 31% of CAM positive cases had no mention of delirium or keywords. **Conclusions:** Our preliminary results demonstrate that delirium is infrequently documented in the charts of delirious patients and that at times ED physicians misclassify symptoms associated with delirium. Under-recognition and misclassification of delirium may impact medical decision making, patient safety, and clinical outcomes.

### **THE IMPACT OF CAREGIVERS’ SINGING ON EXPRESSIONS OF EMOTION AND COMMUNICATION DURING MORNING CARE SITUATIONS IN PERSONS WITH DEMENTIA**

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The number of persons with dementia (PWD) is increasing rapidly worldwide. Emotions and communication difficulties are common and non-pharmacological interventions should be considered. The inclusion criteria were diagnosed with severe dementia, living at nursing homes and a Mini-Mental State Examination (MMSE) score > 12. Music Therapeutic Caregiving (MTC), when a caregiver sings for or together with the PWD was conducted during morning care. Baseline and intervention sessions were videotaped during eight weeks. The PWDs’ expressions of resistant behavior were significantly reduced under the intervention situation. A significant (P=.000) reduction was observed for the unsociable nonverbal variable Does not respond to question. MTC significantly (P=.01) increased the mean score for the sociable nonverbal variable – Calm –Relaxed. For sociable verbal communication, significant differences were observed for the variables Use coherent commu-

nication ( $P=.012$ ), Use relevant communication ( $P=.009$ ), Responds to questions ( $P=.000$ ), Humming ( $P=.004$ ) and Singing ( $P=.000$ ).

### WORK ACTIVITIES AND PERCEIVED COMPETENCIES RELATED TO DEMENTIA AMONG HOME CARE PROVIDERS

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Home care bridges significant service gaps for individuals with dementia in rural communities. This study, aimed at identifying dementia learning needs of home care staff, included 70 Continuing Care Aides (CCAs) and Nurse/Case Managers (CMs), who completed a mail questionnaire. Given a list of 20 work activities related to individuals with dementia, respondents indicated the frequency of performing these activities (1=never, 5=very often); perceived competence (1=novice, 5=expert); and educational interest (yes/no). Analyses included descriptive statistics and chi-square tests. The survey response rate was 67%. The average age of respondents was 45 years; 97% were women. The CCAs' three most frequent work activities were assisting patients with personal care, assisting with daily living activities, and assessing fall risk. The Nurses/CMs' three most frequent activities were assessing fall risk, recognizing changes in cognitive function, and discussing safety issues with patients/families. CCAs were significantly more likely than Nurses/CMs to perceive their competence as "not applicable/novice/beginner" with regard to evaluating cognitive status (89% CCAs vs. 40% Nurses/CMs) and functional ability (77% vs. 44%); discussing anticipated changes (77% vs. 46%), legal issues (97% vs. 51%), communication (63% vs. 31%) and behavioural management strategies (71% vs. 43%) with families; and managing drug treatment (74% vs. 37%), pain (83% vs. 34%), and co-morbidities (80% vs. 43%). The three most desired education topics were similar for CCAs and Nurse/Case Managers: recognizing dementia subtypes (66%/77%), detecting early symptoms (57%/57%), and discussing anticipated disease progression with patients/families (40%/54%). Results have implications for developing targeted educational programming for home care providers.

### AGITATION IN DEMENTIA IS ASSOCIATED WITH WORSE CAREGIVER HEALTH OVER TIME: THE CACHE COUNTY STUDY

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Background Providing care to persons with dementia has been associated with increased stress, burden and depression. In a population-based sample of dementia caregiver and care-recipient dyads, we examined the association between severity of dementia symptoms and caregiver health over time. Methods Three hundred-six persons with dementia (71% Alzheimer's type, 56% female) and their caregivers were visited semiannually for a maximum of 9.5 years. Severity of cognitive, functional and neuropsychiatric symptoms (NPS) was assessed using the Mini-Mental State Exam, Clinical Dementia Rating, and 12-domain Neuropsychiatric Inventory (NPI), respectively. NPS symptom subtype was examined by NPS cluster scores: affective, psychotic, agitation/aggression and apathy. Caregiver health was measured by number of non-psychotropic medications and number of health conditions. Results At baseline, mean (SD) number of caregiver medications and health conditions were 2.5 (2.4) and 1.6 (1.4), respectively. In multivariable linear mixed effects models controlling for patient and caregiver age

and other factors, number of caregiver medications increased over time ( $\beta=.19$ ,  $se=.04$ ), whereas number of health conditions remained relatively stable. Agitation was associated with a higher number of health conditions ( $\beta=.03$ ,  $se=.01$ ) and medications ( $\beta=.08$ ,  $se=.03$ ) in the caregiver, although overtime, higher agitation scores were associated with decreasing number of caregiver medications ( $\beta=-.03$ ,  $se=.01$ ). Cognitive or functional impairment in the person with dementia was not associated with caregiver health outcomes. Conclusions Agitation in persons with dementia is associated with worse health outcomes among their caregivers. Treatment strategies for this behavior are needed to benefit both care-recipients and their caregivers.

### IMPACT OF A COGNITIVE DECLINE ON OLDER ADULTS' SOCIAL PARTICIPATION IN KOREA

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Using longitudinal data from the Korean Longitudinal Study of Aging (KLoSA), this study examined: (1) the effects of a cognitive decline on older adults' social participation, including religious activities, leisure and sports activities, and social activities; and (2) the extent to which these effects differ by gender. Analyses are based on data from the 2006 (Time 1; T1) and 2010 (Time 2; T2) waves of KLoSA. The level of cognitive functioning was assessed with the Korean version of the Mini-Mental Status Exam (MMSE-K). A participant with an MMSE score of 24 or above was considered as having a normal cognitive functioning (Group 1), a score of 18-23 as having a mild cognitive impairment (Group 2), and a score of 17 or less as having serious cognitive problems (Group 3). We included in the analytic sample only those who showed normal cognitive functioning at T1, and examined how transitioning from Group 1 at T1 to either Group 2 or 3 at T2 influenced older adults' social participation at T2, controlling for social participation at T1. Results showed that both groups showed lower levels of social participation, compared to those who maintained normal cognitive functioning. Gender difference was significant only among those who experienced a severe decline in cognitive functioning (from Group 1 to Group 3). Women were more negatively affected by a cognitive decline than men. The findings underscore the need for social services that could help older adults maintain their social integration in spite of their cognitive impairments.

### DEMENTIA AND MORTALITY IN OLDER ADULTS: A TWIN STUDY

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Previous studies have found increased mortality in older adults with dementia. However, this is yet to be investigated in a genetically informative sample. Using a population-based sample of twins in the Study of Dementia in Swedish Twins (HARMONY), the present study examined the association between dementia and mortality in the entire sample as well as within twin pairs discordant for dementia status. Cox proportional hazards regression analysis revealed that individuals with dementia had more than doubled risk of death, compared with individuals with normal cognition (HR = 2.62, 95% CI [2.34-2.93]). As hypothesized, comparisons within dementia discordant pairs also showed significantly greater risk of death for those with dementia, indicating that genetic and early environmental influences did not account for the increased risk of death in dementia. Indeed, median survival time since the demented twin's age of onset was 9.8 years for twins with dementia and 15.1 years for their cognitively normal co-twins. The present study is the first to look at survival of dementia patients using the co-twin design. Information about an estimated impact of dementia on patient's lifespan may be useful to families, clinicians, and policy makers in making decisions for dementia care.

## A TYPOLOGY OF SUBJECTIVE KNOWLEDGE AND CERTAINTY ABOUT ALZHEIMER'S DISEASE – RESULTS OF AN ONLINE-SURVEY

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Retrospective surveys of patients with Alzheimer's Disease (AD) show that the delayed diagnosis of AD is often caused by the caregiver's lack of knowledge and difficulties to differentiate between normal aging and a progressive pathological process. Knowledge about AD has been focused by several studies but "certainty of knowledge" was widely ignored. Purpose of this study is to analyze knowledge/certainty about early symptoms of AD in a population of healthy individuals. N=375 persons (78.1% female; age: M=50.14; SD=15.31) participated in our online survey. Beside other items 9 common symptoms of AD and 7 non-AD symptoms were presented. To assess their subjective knowledge, the participants were asked, if the presented symptoms are distinctive for AD. Additionally we asked how certain they were in their response. As dependent variables the number of correct answers ("knowledge-score": M=11.34; SD 2.52) as well as the number of certain and correct answers ("certainty-score": M= 9.13.; SD= 3.92) were calculated. A median-split in both variables resulted in four prototypes of knowledge and certainty: "Mastered Knowledge" (n=95), "Uncertain Knowledge" (n=79), "Hazardous Knowledge" (n=82), "Residual Knowledge" (n=119). First results show an influence of the source of knowledge. Participants in the "mastered knowledge" type are more likely to have occupational contact with AD patients (Chisquare= 21.793; p<.001) while participants who gained their knowledge primarily from family and friends more often belong to the "residual knowledge" type (Chisquare= 21.908; p<.001). Further investigation is necessary to analyze if these types of knowledge have an influence on the delayed diagnosis of AD.

## REASONS WHITE AND AFRICAN AMERICAN ALZHEIMER'S DISEASE CAREGIVERS DECIDE TO PROVIDE CARE AT HOME OR IN A NURSING HOME

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A qualitative study was conducted to determine reasons White (W) and African American (AA) caregivers of individuals with Alzheimer's disease (AD), eligible for nursing home placement, decide to care for their loved one at home or in a nursing home. Cases (W=227, AA=153) were identified as caregivers of a nursing home residents and controls (W=132, AA=177) were identified as caregivers of individuals staying in the community. Participants' comments were independently reviewed and analyzed. A thematic analysis was performed using QSR NVIVO7. For the W and AA case caregivers, the two most frequently reported themes were: health problems (W=145, AA=69) and behavior problems (W=70, AA=49) of the individual with AD, with W and AA cases identifying different health and behavior problems as being the most troublesome. The third most frequently reported theme for W cases was the patients worsening condition (n=38), whereas AA cases reported feelings of being overwhelmed (n=28). W and AA control caregivers most frequently reported the following theme: caregiver preference to care for their loved on at home (W=42, AA=57). The second and third most frequently reported themes for W controls were: patient's preference to be cared for at home (n=22) and belief of better care at home (n=20), whereas AA controls reported belief of better care at home (n=31) and not ready for nursing home placement (n=29). These results highlight differences in the decision making process for W and AA caregivers suggesting the importance of tailoring services and ongoing support for these specific groups.

## PROACTIVE DEMENTIA CARE: A THREE YEAR PILOT STUDY EXAMINING EARLY PSYCHOSOCIAL INTERVENTIONS WITH INDIVIDUALS WITH DEMENTIA AND THEIR CAREGIVERS

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Background: Psychosocial interventions addressing caregiver burden in moderate-to-severe neurocognitive disorders have been extensively studied and use an array of validated outcome measures. Technological advances in imaging and biomarker technology allow for earlier diagnosis, and psychosocial interventions and related outcomes measures have not kept pace. Current knowledge gaps include research on psychosocial interventions for: 1) Early stages of the disease; and 2) The caregiver-care recipient dyads. This paper reports findings from a pilot study addressing these gaps. Methods: This study examined the effects of Proactive Dementia Care (PDC), an intervention for individuals with early-stage neurocognitive disorders, conducted over a 3-year period at the Cognitive Disorders Clinic at the University of Utah. Eighty dyads (an individual diagnosed with a progressive dementia and a designated caregiver) were enrolled. Study subjects were randomized into either the PDC (treatment) arm or the Standard Dementia Specialist Care (SDSC) treatment-as-usual arm. The PDC intervention allows clinicians to partner with care dyads at the time of diagnosis to develop a comprehensive set of planning steps and to support families in proactively completing these steps. Results: Data was gathered at 4 time-points for this study, baseline (n=80), 4 (n=58), 12 (n=54), and 18 (n=54) months. Analyses were run to determine the differences between the intervention and the treatment as usual group. This poster will provide a detailed report on the findings from the project. Details regarding additional pilot data will be presented as well.

## SPIRALING EFFECTS OF MILD COGNITIVE IMPAIRMENT ON SPOUSAL INTERACTIONS

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Stress spillover in spousal relationships is a significant risk factor for poor caregiver outcomes and may affect the quality of care provision. We used the stress process model framework situated within a daily diary paradigm to examine the spillover of daily primary stressors (memory and behavioral problems and symptoms) associated with mild cognitive impairment (MCI) on spousal interactions and the spiraling effects of these for both partners. Seven daily telephone interviews were conducted with 30 spousal care partners of persons with MCI. Spouses reported primary stressors related to the memory and behavior problems exhibited by their partner, secondary stressors such as work-related problems, and occurrences of pleasant and unpleasant marital interactions. Lagged multilevel models revealed that symptoms of mild cognitive impairment were associated with unpleasant interactions with the spouse on the same day (b=.20, p<.01) and predicted unpleasant spousal interactions on the next day (b=.11, p<.01). Consecutively, unpleasant spousal interactions predicted the next day's MCI symptoms and behavior problems (b=.31, p<0.05). Greater escalation of behavioral problems was associated with steeper declines in marital interactions regardless of care partner's overall marital satisfaction. Social support facilitated, and role strain impeded spousal interactions. Results underscore the importance of examining the reciprocal effects of memory-related symptoms and marital interactions for both care partners and care-recipients. Avenues for research and interventions to address communication strategies, strengthen support networks, and reduce role strain in spouses caring for a person with chronic illnesses such as memory loss are discussed.

## **PRESYMPTOMATIC ALZHEIMER'S DISEASE: FACTORS ASSOCIATED WITH PROSPECTIVE INTEREST IN BIOMARKER TESTING**

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Biomarker tests to detect presymptomatic Alzheimer's disease (AD) will likely soon be available. This study aims to examine whether consumers will be interested in testing, and which sociodemographic characteristics, personality types, coping styles, and other individual factors may impact individuals' likelihood to pursue such testing. In an online survey, participants (N = 662) completed personality and coping inventories and answered questions about AD experiences and perceptions. Additional data was gathered about testing pros and cons, reactions to hypothetically positive test results, prospective interest versus test uptake, acceptable test accuracy, and the importance of pre- and post-test counseling. Quantitative analysis revealed significant prospective interest (66 percent) in presymptomatic AD testing with over 90 percent of respondents believing that pre- and post-test counseling is important. Leading reasons for testing included a family history of AD and desire to plan accordingly. Leading reasons against testing included a lack of treatment options and emotional concerns. The most salient impacts of a hypothetical positive test result included proactive coping, information seeking, preparation, health behavior change, and increased emotional distress. Significant differences for prospective test interest were found for gender ( $p = .013$ ), religion ( $p = .015$ ), perceptions ( $p < .001$ ) and worry ( $p = .005$ ) about developing AD, lifetime AD risk estimates ( $p < .001$ ), knowing someone with AD ( $p = .017$ ), health insurance ( $p < .001$ ), and test uptake ( $p < .001$ ). Additionally, several testing pros, cons, and hypothetical impacts yielded significant differences based on prospective test interest. Results will help tailor guidelines for pre- and post-test counseling protocols and should be considered in the complicated ethical implications that accompany presymptomatic AD testing.

## **ARE HUMOR STYLES OF PEOPLE WITH DEMENTIA LINKED TO GREATER PURPOSE IN LIFE?**

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In light of the losses people with dementia experience, the ability to reframe situations may enhance their sense of purpose in life. People with dementia often report using humor as a method of reframing difficult situations. Qualitative studies often note the importance of humor in dementia, but its specific benefits are less clear. The goal of this study was to use quantitative methods to determine the relationship between humor styles (adaptive vs. maladaptive) and purpose in life. Questionnaires were administered to people with mild-to-moderate dementia to measure humor styles and purpose in life. The quality of their social relationships was also assessed as a covariate. Adaptive humor styles were associated with greater purpose in life ( $\beta = .42$ ,  $p < .01$ ;  $R^2 = .19$ ,  $p = .002$ ) whereas maladaptive humor styles were not. The quality of social relationships accounted for a significant proportion of variance in purpose in life ( $\beta = .29$ ,  $p < .05$ ;  $R^2 = .07$ ,  $p = .02$ ), independent of the variance accounted for by humor styles. People with dementia who engage in adaptive humor and have positive social relationships may be more likely to experience a stronger sense of purpose in life. Results are discussed in the context of implications for interventions for people with dementia as well as community-level activity programming.

## **EXAMINING THE RELATIONSHIP BETWEEN LEADERSHIP AND SUSTAINABILITY OF A DEMENTIA TRAINING PROGRAM IN LONG-TERM CARE**

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Within health care there is an assumption that once staff receives training they will automatically implement those skills in their daily practice. Unfortunately, simple dissemination of knowledge is not effective

in creating and sustaining behavioural change. To study the role of leadership in sustainability of educational programs in long-term care (LTC) homes we conducted two complementary studies. Study One (retrospective) was conducted in five rural LTC homes in which a dementia specific training program (Gentle Persuasive Approaches [GPA] Program) had previously been implemented. Four focus groups with nursing aides and 14 interviews with managers, Registered Nurses, and GPA Program Coaches were completed. Study Two (prospective) followed the implementation of the GPA program over a 14 month period in two rural LTC homes. Interviews were conducted with 18 staff from all departments within the two homes. A total of eighty-five hours of direct observation and 25 hours of shadowing the staff were conducted. Resident charts, incident reports, and communication logs were reviewed. Behaviours required by leadership to implement and sustain an educational program included modelling the skills that are taught in the program, coaching staff, problem-solving with staff, and ensuring that they are following the resident's care plan. Leadership activities that hinder sustainability of the program include displaying a negative attitude towards the program and resident directed care, not addressing performance issues with staff when they are not utilizing the GPA skills to manage a responsive behaviour, and not helping staff when they are struggling with a resident's behaviour.

## **ETHICAL TENSIONS IN ETHNOGRAPHIC RESEARCH: NAVIGATING A RELATIONAL APPROACH TO CONDUCTING RESEARCH WITH INDIVIDUALS WITH DEMENTIA IN LONG-TERM CARE**

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Conducting ethically sound qualitative research within dementia care environments poses unique ethical and methodological challenges. In part, this is due to the growing number of residents with cognitive impairment and the challenge researchers face to include their perspective. Yet, it is also due to the complexities inherent in communal living environments and the organizational structures that govern the activities of such environments. This paper explores the ethical challenges encountered in two separate ethnographic studies examining the experiences of persons with dementia residing in long-term care settings. Drawing on a theoretical grounding in personhood and relational ethics we will unpack "BIG E" ethical principles such as respect for persons, beneficence and justice as well as "small e" every day situational ethical and moral concerns. Using case examples drawn from our fieldwork, we will describe the process of consent (both initial and ongoing) and assent. We will discuss the tensions that arose from balancing the responsibility to 'do no harm' with the protection of privacy/confidentiality, particularly as it relates to bearing witness to malignant social positioning of people with dementia. Finally, we will reflect upon the issues of representation, relationship and reflexivity and highlight ways researchers might negotiate these situational concerns within the socio-political environment of long-term care settings.

## **CHASING THE WANDERER: AN ILLUSTRATION OF SUCCESSFUL MANAGEMENT OF WANDERING IN THE NURSING HOME**

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Case study: 84 year old Caucasian male with advanced Alzheimer's dementia and history of wandering is admitted to a long term care facility. His medications included Seroquel 350 mg per day, Depakote 500 mg twice per day, to decrease wandering behavior. His speech was unintelligible, and did not follow commands, and constantly walked around his unit. The antipsychotic, followed by Depakote, were discontinued in spite of resistance from nursing staff. He became more alert and interactive, having sporadic moments of intelligible speech, and continued to

walk in the dementia secured unit; a significant improvement from his initial presentation. The resident's quality of life improved significantly. Discussion: Wandering is one of several perplexing neuropsychiatric behaviors of dementia that challenges care providers in LTC facilities, especially when staff and resources are limited. The principal goals of treatment should be safety, and optimal quality of life. There have been various treatment modalities utilized for wandering to include pharmacologic and non-pharmacologic methods. Our modern culture of medicine may influence providers to consider non-pharmacological approaches less acceptable. Despite countless warnings, antipsychotics continue to be misused in treating these behaviors. There is no concrete evidence that demonstrates the efficacy of antipsychotics on wandering. Providers must be courageous enough to discontinue these drugs and alternatively shift toward more effective, quality of life enhancing, non-pharmacological methods of wandering management.

#### **IMPLEMENTATION OF AN INTERDISCIPLINARY DELIRIUM RESOURCE TEAM: PREVENTION, ASSESSMENT, AND MANAGEMENT OUTCOMES**

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Implementation of an interdisciplinary delirium resource team including geriatricians, nurses, educators and psychiatrists provide education on identification and assessment of delirium. The team successfully piloted use of nursing shift assessment notes targeting symptoms of delirium in patients on a general medical ward correlating these with CAM assessments and expert evaluations. Care checklist pocket cards that outlined clinical practice guidelines were developed and piloted for nurses and physicians to aid in prevention, assessment and management of delirium. Education included webinars, formal lectures and informal rounds/discussions with nurses. Pre and post education evaluations were implemented for nurses and physicians. The mean pretest score for nurses was 75% and posttest 90%. A total of 107 veteran and their families were followed over this year long project. Outcomes for these veterans were compared with a baseline sample of 22 delirious veterans. The baseline sample length of stay was 9.2 days, mortality was 32%, and discharge to nursing home was 59%. Discharge to home was 12%. In our 107 study sample acute length of stay was slightly increased at 11 days, including 4 outliers who had LOS over 30 days. With these outliers removed from the analysis since we had no similar outliers in our baseline the LOS of slightly decreased to 9.0 days. We found, a lower mortality rate of 24.5% and lower nursing home placement rate 51%. Readmission rates were 10%, below other sample reports. Urgent care and emergency room visits following discharge were 15% also below commonly reported statistics in studies of delirium.

#### **ADDRESSING ATTRITION: A HINDERING ASPECT OF DEMENTIA CAREGIVING TRIALS**

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Attrition is elevated in dementia caregiving trials due to complexity of the disease and care situations, poor caregiver and patient health and other factors including mortality and nursing home placements. As attrition impacts trial validity, power, time-to-study completion and costs, it is a significant consideration. The few studies on attrition suggest caregiver age, cognition, education, gender, and relationship are implicated. Methods: In this single-blind parallel randomized controlled trial, participants are randomized into high-intensity interventions at home or by telephone. Techniques to lessen attrition include use of attention-control to encourage continued contact, arranging sessions

at convenient times and delivery within homes (intervention), or by phone (attention-control). Results: With 55 of 165 dyads recruited, trial attrition is currently 25% (n=14). Reasons for attrition include: death (n=5), nursing home/hospice admission (n=4), time constraints (n=3), out-of-state move (n=1), and change in caregiver (n=1). Caregivers are predominantly female (95%), with an average age of 71( $\sigma$  13) and low education. Most (75%) are spouses, report health status as 2.4( $\sigma$  1.12) (1= Fair, 2=Good, 3= Very Good), and Veteran health as 1.76 ( $\sigma$  1.1). Discussion: Most (64%) reasons for attrition are beyond investigator control (death, placement). When recruiting dyads at moderate stage dementia, power calculations should account for high attrition rates as part of the trial design.

#### **DEMENTIA AND MENTAL HEALTH CONCERNS IN VHA SPECIALTY GERIATRICS: OBSERVATIONS AND CLINICAL IMPLICATIONS**

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Mirroring global demographic trends, the veteran population is aging, placing a substantial demand on the Veterans Health Administration (VHA) to address the increasing care needs of these individuals. Within VHA, primary care is the hub for care coordination, though there are numerous challenges in assessing complex patients and planning for care in this environment, particularly for conditions such as dementia. VHA Geriatric Evaluation and Management (GEM) clinics provide specialty care designed to address complex age-related concerns, which commonly include dementia, functional limitations, and chronic medical and mental health (MH) conditions. Utilizing data extracted from electronic medical records (EMR), the present study describes demographic characteristics, dementia and MH diagnoses, and outpatient healthcare utilization in a sample of 476 patients (84% Caucasian; 95% male; age: M = 81.4, SD = 5.8) evaluated and treated in VHA GEM clinics across Upstate New York. In addition to cognitive impairment, over 66% of the sample had at least one other MH diagnosis coded during the study period. A substantial proportion were also prescribed dementia medications and other psychotropics. Despite nearly half of the sample having an initial MH consultation (49%), low rates of follow-up were observed. Further, the subset of veterans with a comorbid MH diagnosis evidenced 53% more total healthcare encounters than those without a diagnosis. In light of these findings, MH providers such as psychologists and psychiatrists have the opportunity to play important roles as interdisciplinary collaborators in caring for aging veterans and their families in both specialty geriatrics and primary care.

#### **SESSION 215 (POSTER)**

##### **MINORITY HEALTH I**

#### **HIGH EDUCATIONAL ATTAINMENT MAY DIFFERENTIALLY BENEFIT AFRICAN AMERICAN MEN AND ADDRESS DISPARITIES**

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On average, African Americans have more disability and shorter lives than Whites. Yet these race/ethnic categorizations may mask within-group differences in educational attainment, which is importantly associated with disability and mortality. Little recent research has examined associations of educational attainment with active life expectancy (ALE), a measure of life expectancy and the proportions of life with and without disability, for African Americans. We examined ALE for African Americans and Whites using data from the Panel Study of Income Dynamics, 1992-2009 (ages 55+; n=2,348; 12 survey waves; 29,574 person-years), measuring disability by difficulty in activities of daily living. Multinomial logistic regression and Markov models estimated

monthly probabilities of disability and death for six education levels, adjusting for gender, race, and age. Microsimulation created large populations to identify outcomes. Bootstrapping provided confidence intervals. A random effect accounted for repeated measures. Compared to those with <8 years of education, African American men with at least a college education lived 42.8% more years from age 55 (95% confidence interval 40.3-44.9) and 35.1% fewer years with disability (95% confidence interval 33.7-37.6). Results for African American women: 4.4% (not statistically significant) and 30.2% (23.8-36.5). For White women: 34.3% (25.3-49.0) and 45.9% (40.1-50.9). For White men: 34.0% (32.0-36.5) and 41% (39.3-43.5). Among men with low education, African Americans lived considerably shorter lives from age 55 than Whites: to age 73.2 (72.5-74.0) compared with 78.3 (77.9-78.7). Thus, the greater benefit from high education for African American men suggests that education may help to address health disparities.

#### LESSONS LEARNED ABOUT RECRUITMENT OF OLDER AFRICAN AMERICANS FOR COMMUNITY PARTNERED RESEARCH

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Literature suggests that African Americans are underrepresented in scientific research, yet they are disproportionately affected by financial exploitation (FE). FE is underreported due to shame and fear. Cultural humility is crucial when collaborating with African American communities, particularly when the research focus is FE among older African Americans. Lessons learned from developing the institutional review board application, to the use of the researcher as an instrument, and establishing of networks for recruitment are keys to success. Methods/Participants: Community Based Research principles were used to establish a partnership between a faith based community collaborative and academic researchers. A community need for information to protect older African Americans against FE resulted in a partnership to raise the level of awareness, screen for risks, and assess prevalence in a community with high health disparities and vulnerable older African Americans. Results: Lessons learned: 1) clear delineation of specific activities lead to a successful institutional review board application with an exempt status, 2) shared ethnicity does not guarantee acceptance in the community, 3) demonstrating respect for uniqueness of the culture demonstrates caring, 4) demonstrating a genuine caring attitude builds rapport, 5) follow up and seeking permission builds trust, 6) investing time in the community leads to network building, multiple recruitment and data collection opportunities, and 7) sharing progress and seeking feedback maintains a relationship. Conclusion: Examination of FE within the African American context is needed to eliminate this social problem. Community partnering and cultural humility can lead to successful exploration and information sharing.

#### FINANCIAL STRAIN AND SELF-RATED MENTAL HEALTH AMONG OLDER BLACK AMERICANS

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Objective: Little is known about the association between financial strain and self-rated mental health particularly among older Black Americans. The purpose of this study was to examine the association between financial strain and self-rated mental health among older Black Americans. Methods: Using data from the National Survey of American Life, we examined the association between financial strain and self-rated mental health in African Americans (N=1135) and Caribbean Blacks (N=377) 50 years and older. Financial strain consisted of two questions regarding: difficulty paying bills and worried about income. A binary variable was created (0=no financial strain, 1=finan-

cial strain) and then summed. Higher scores reflect greater financial strain. The mean score for financial strain for older African Americans was .62 (SD=.48) and for Caribbean Blacks was .66 (SD=.47). After adjusting for age, race, gender, education and income, African Americans who reported high levels of financial strain had a higher odds of poor self-rated mental health (odds ratio (OR))=0.37, 95% confidence interval(CI)=0.21-0.64 than African Americans who reported lower levels of financial strain. Among Caribbean Blacks who reported high financial strain had a lower odds of self-rated mental health (OR)=0.24, 95%CI =0.11-0.53 than Caribbean Blacks who reported lower levels of financial strain. Conclusion: These findings suggest that financial strain may be an important predictor of poor self-rated mental health outcomes for older African Americans and Caribbean Blacks. Future research should examine specific forms of financial strain that may contribute to poor mental health in late-life.

#### THE VULNERABILITY OF OLDER ETHNIC IMMIGRANTS WITH LIMITED ENGLISH PROFICIENCY

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Purpose: The number of U.S. residents who have Limited English Proficiency (LEP) has increased substantially, and the health burden of these LEP populations has emerged as a public health concern. The present study explored the health profiles of Korean American older adults, focusing on LEP as a vulnerability factor. The target population is one of the major LEP groups; Korean is the 4th most common language spoken by LEP individuals in the U.S. Methods: Using pooled data from 1,301 Korean Americans (aged ≥ 60) surveyed in Florida, Texas, and New York during 2008–2013, comparative analyses and multivariate model estimations were conducted. Results: More than 70% of the sample of older Korean Americans exhibited LEP. The LEP group presented more adverse health profiles, having a higher proportion of uninsured, more numbers of medical conditions, poorer ratings of health, and more symptoms of depression. In multivariate models, the likelihood of having health insurance was shown to decrease by 49% in the LEP group. Those with LEP were 2.94 times more likely to report poor or fair health and 1.90 times more likely to have probable depression. The variability by geographic location and contextual factors (e.g., family support and social cohesion) was also discussed. Implications: Findings identified LEP not only as a source of health disparity but also an intervening agent to be targeted in health planning and interventions for older ethnic minority populations.

#### MAKING CONNECTIONS: UNDERSTANDING LONG TERM CARE AND SUPPORT NEEDS OF COMMUNITY-DWELLING ASIAN OLDER ADULTS

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Linguistic and cultural barriers among older Asian immigrants result in health disparities and the diverse challenges these older adults experience at the different stages of aging. This poster will present the results of a qualitative study of the perceived needs of Korean and Chinese American older adults to enhance their ability to remain in their preferred community residences. 60 interviews were conducted with Korean and Chinese individuals, including older adult personal care service recipients, their family caregivers, and older individuals not receiving personal care services. Interview data were analyzed via NVivo software using content analysis. The main themes identified through the interviews included: challenges in accessing adequate care, barriers to aging in place, challenges for informal caregivers, and service gaps. Language barriers were identified as the biggest challenge faced by older Asian adults, particularly in communicating with health and long term service providers. Other representative themes include: lack of linguistically appropriate health education programs, barriers

in seeking/utilizing informal support, transportation and shopping challenges, challenges in accessing ethnic food in mainstream service agencies, and lack of adequate culturally responsive community sites for older adult engagement. Implications of these findings for supporting racially and linguistically diverse populations to age in place in community will be discussed.

#### **COMMUNICATION WITH OLDER RURAL AFRICAN AMERICANS ABOUT CANCER SCREENING: HEALTHCARE PROVIDERS PERSPECTIVE**

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Older rural African Americans represent an underserved population. African Americans have the highest incidence and mortality rates related to colorectal cancer in the U.S. compared with other races. Improving health communication between patient and provider may be important in decreasing these disparities. Few studies have identified barriers and/or facilitators to health care providers discussing cancer screening with older rural African American patients. The Agency for Healthcare Research and Quality (AHRQ) 2008 core measures identify provider-patient communication as a very important issue. This study is unique in that it includes health care providers that are practicing in rural communities located the Alabama Black Belt. The area of the state designated as the “black belt” consists of primarily agricultural counties that have the richest soil and the poorest people and is known for its insufficient health care and health disparities. Qualitative interviews were completed with 8 healthcare providers. These health care providers included both physicians and nurse practitioners. We explored both facilitators and barriers of communication among health care providers and older rural African Americans, specifically related to their cancer screening communication. The health care providers rich and informative data resulted in four major themes identified in regards to communication 1) Nodding does not equal understanding 2) Fear is a factor 3) Access and transportation 4) Clergy and family. Cultural knowledge and sensitivity can help decrease communication barriers and increase facilitation of successful communication among older rural African Americans and health care providers.

#### **PUBLICLY AVAILABLE NATIONAL DATA FOR AGING AND HEALTH DISPARITIES RESEARCH: IMPLICATIONS TO GERONTOLOGISTS**

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Purpose of the Study: Objectives of the present study were (1) to document publicly available national data sets for aging and health disparities research and (2) to provide a useful tool to gerontologists for cost-effective research endeavor. Design and Methods: Publicly available national data sets for both general population surveys (n = 5) and aging-specific surveys (n = 4) were examined as follows: Behavioral Risk Factor Surveillance System (BRFSS); Collaborative Psychiatric Epidemiology Surveys (CPES); Established Populations for Epidemiologic Studies of the Elderly (EPESE); Hispanic Established Populations for Epidemiologic Studies of the Elderly (H-EPESE); Health and Retirement Study (HRS); Midlife in the United States (MIDUS); National Health and Nutrition Examination Survey (NHANES); National Health Interview Survey (NHIS); and Medical Expenditure Panel Survey-Household Component (MEPS-HC). Collected information from these national data sets includes measures of age, race/ethnicity, language, immigration status, health status and healthcare use. Results: Each survey has strengths for aging and health disparities research. However, there is no single data set that has comprehensive information on diversity background or specific measures for aging and health disparities research. Additionally, there is little consensus on

how to measure similar health constructs across the existing data sets. Implications: The findings highlight areas for improvement in future data collection for aging and health disparities research. Furthermore, the study will discuss tools that can facilitate future research of gerontology researchers interested in health disparities research or cultural diversity issues.

#### **PAIN INTERFERENCE WITH EVERYDAY ACTIVITIES AMONG OLDER BLACK AND WHITE CANCER PATIENTS: IT'S MORE THAN JUST PAIN SEVERITY**

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Given that adults are living longer with more debilitating chronic illnesses, there is a need to understand the impact pain has on the daily activities of this patient population. The current study aimed to determine the influence select indicators have on pain interference with everyday activities among adults (N=150) 55+ years of age receiving outpatient treatment from a Comprehensive Cancer Center in the southeastern United States. Participants completed self-report questionnaires assessing pain interference, health variables (co-morbidities, pain severity, and number of pain locations), and psychosocial variables (self-efficacy for managing symptoms, positive and negative affect, and communication with physicians). A principal component analysis showed that the pain interference items loaded on two distinct composites, physical interference (e.g., walking, normal work) and psychosocial interference (e.g., mood, enjoyment of life). These composites served as outcomes in two multiple regression models; predictors were demographic, health, and psychosocial variables. The final model for physical interference was significant (R<sup>2</sup>=0.30, p<0.001), but pain severity was the only significant predictor ( $\beta$ =0.36, p<0.01). In the model for psychosocial interference (R<sup>2</sup>=0.51, p<0.001), the following predictors were significant: pain severity ( $\beta$ =0.42, p<0.01), education ( $\beta$ =0.16, p<0.05), self-efficacy for pain ( $\beta$ =-0.17, p<0.05), negative affect ( $\beta$ =0.17, p<0.05), and communication ( $\beta$ =-0.16, p<0.05). Race (being Black) was also marginally significant in this model ( $\beta$ =0.12, p<0.10). These findings emphasize that the experience of pain is multifaceted, and acknowledging such outcomes may provide a means for more individualized treatment to patients diagnosed with chronic and painful medical conditions.

#### **EDUCATION DESEGREGATION AND COGNITIVE DECLINE IN AFRICAN AMERICAN OLDER ADULTS**

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Previous research has shown that education desegregation influences late life cognitive performance in African American elders. Overall, desegregation has been associated with better performance for certain measures of fluid and crystallized abilities. The present study examined the influence of desegregation on cognitive decline across a three-year span in a sample of 426 community-dwelling African American elders (mean age = 68.6; SD = 9.1). Participants were recruited for the Baltimore Study of Black Aging – Patterns of Cognitive Aging (BSBA-PCA) study and were administered measures across six cognitive domains: global cognition, working memory, memory, language, reasoning, and perceptual speed. Composite T-scores were calculated for each domain. Six repeated-measures analyses of covariance (RM-ANCOVAs) were conducted; the between-subjects factor was desegregated versus segregated schooling, and the within-subjects factor was time (time 1 and time 2). These analyses controlled for age, years of education, and sex. Results showed significant between-group effects, indicating that across two time periods, the desegregation group scored significantly better

on reasoning, language, and speed ( $p < .05$ ). In addition, there was a significant within-group effect for global cognition, indicating that for the entire sample, there was significant decline over time. However, there were no significant schooling group-by-time interactions for any of the cognitive scores, suggesting that both groups declined at the same rate across time. These findings show that while there is a level difference in cognitive performance associated with desegregated schooling, desegregation appears to have less influence on the rate of decline for this African American sample.

#### **PREDICTORS OF PROSTATE CANCER SCREENING IN OLDER AFRICAN AMERICAN MEN**

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Older African American men are more likely to be diagnosed with advanced prostate cancer and continue to have a higher mortality rate caused by prostate cancer than other ethnicities. Cancer screening is recommended as an important part of preventive care. This study used the Health Belief Model (Rosenstock et al., 1974) to examine whether older African American men's demographic/health characteristics, perceived barriers (perceived medical discrimination and other discrimination, perceived financial strain), and sense of control were associated with having prostate cancer screening or not. Data were drawn from the 2010 Health and Retirement Study, and 164 older African American men (M age = 56.58) were included. Hierarchical logistic regression was applied to investigate whether sense of control significantly improved predicted log odds of having prostate cancer screening, after controlling for demographic/health characteristics and perceived barriers. Even though a majority (70%) of the sample had had prostate cancer screening, still 30% had not. Higher sense of control (OR = 1.06), having health insurance (public or private, OR = 3.39), and more comorbidities (OR = 1.72) were significant predictors of having prostate cancer screening. Age, education, previous cancer, and perceived barriers did not significantly predict the log odds of having prostate cancer screening. Findings highlight the importance of sense of control as a potential target for psychosocial and behavioral interventions with older African American men to encourage them to participate in preventive care. Findings also reaffirmed the barrier posed by lack of health insurance.

#### **FAMILY MEMBERS OF OLDER AFRICAN AMERICAN WOMEN WITH BREAST CANCER: WITNESS TO A LIFE-ALTERING EVENT**

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Diagnosis of a life-threatening illness, such as cancer, for close family members can be stressful as they may need to help the individual through cancer treatment decisions and the treatment process. Family members may struggle with their potential new roles as "caregivers" and managing concern about and support for the individual diagnosed. However, just as the individual diagnosed must incorporate the cancer experience into their lives, so must the family members. It may be difficult to understand how their feelings may change through the process especially with how experience with cancer has affected their own daily lives and futures. There may be considerable concern about their well-being as well as that of the rest of their families. African American family caregivers may face particular challenges as the combination of age and ethnicity puts older African American women at high risk for poor cancer outcomes. The primary aims of this study were to understand the "cancer experience" of family members of older African American women diagnosed with breast cancer as they provided needed support throughout treatment and beyond. A qualitative phenomenological approach was utilized in this study. In-depth interviews were conducted with 15 family members of older African American women (45 and older) who had been diagnosed with and received treatment for breast cancer. Relationships were: 3 husbands, 4 daughters, 1 daughter-in-law, 3 sisters, 2 nieces, 1 friend and 1 mother-in-law. Interviews were semi-structured, audio-taped, transcribed, and data organized with Atlasti software. Meaning units and themes were extracted from the transcripts illuminating the participants' lived experiences. Respondents described experiences related to the individuals' cancer experiences from initial diagnosis and decisions throughout the duration of treatment. Participants discussed reactions having been witness to this experience in their family. Themes that emerged included: Initial reactions; reactions throughout the experience; family history; caregiving support needed/provided; and concerns/fears for the individual, self, own family. The experiences of these family members revealed the importance of attending to the needs and feelings of family members and provide support that can increase the likelihood of incorporation of cancer diagnoses into their lives in the healthiest manner possible.

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#### **DIABETES, DEPRESSION, RACE/ETHNICITY AND AGING**

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Objective: To determine how age/race/ethnicity influences depression in diabetic versus non-diabetic adults using the 2011-2012 National Health and Nutritional Examination Survey (NHANES). Older compared to younger diabetic NHANES participants were predicted to report lower depressive affect. Both older and younger diabetics were predicted to report greater depression than non-diabetic participants. Race/ethnicity was predicted to have a significant influence on depression for diabetics. Method: NHANES, a population-probability study, surveys a nationally representative sample using interviews, and biometric data (physical exams and lab work). The present study analyzed data from 273 participants who both self-reported a diabetes diagnosis and also met American Diabetes Association biometric criteria of having an HbA1c (glycated hemoglobin level) above 6.5% and 2,933 participants who, in comparison, had no self-reported diabetes diagnosis and had an HbA1c level below 6.0%. Results: A 2-way ANOVA revealed a significant main effect for both age  $F(1, 3,202)=18.96$ ,  $p < .001$  with participants age 65+ reporting less depression than participants ages 20 to 50, and diabetic status  $F(1, 3,205)=37.97$ ,  $p < .001$  with diabetic participants reporting greater depression than non-diabetics. A 3-way ANOVA revealed a significant main effect for race/ethnicity  $F(1, 3,205)=5.90$ ,  $p = .02$ , on depression, as well as a similar age group and diabetic status main effects. Interestingly, besides diabetics having elevated depression compared to non-diabetics, some racial/ethnic depression differences were present. Conclusion: Older adult diabetic individuals appear to be better protected from depression than their younger diabetic counterparts, as well as potential differences among racial/ethnic groups who have diabetes.

#### **DEPRESSION AND CONFIDENCE IN DISEASE MANAGEMENT IN COMMUNITY-DWELLING OLDER ADULTS DIAGNOSED WITH HEART DISEASES: RACIAL/ETHNIC DIFFERENCES**

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Objectives: Confidence in managing heart diseases is crucial to enhance overall health in older adults diagnosed with heart diseases yet it can be impacted by depression, a common comorbid mental health condition found among heart disease patients. This study aims to examine the relations between depression and confidence in disease management in community-dwelling older adults with heart diseases. Methods: Data were drawn from the 2011 California Health Interview Survey (CHIS). 3,705 adults aged 55 and older with a heart disease diagnosis were included in the analysis. Chi-square tests for independence were conducted to examine the association between depression and confidence in control or managing heart disease in four racial/ethnic groups, including Hispanics ( $n=409$ ), non-Hispanic whites ( $n=2,891$ ), African Americans ( $n=153$ ), and Asians ( $n=252$ ). Results: Asians reported the



highest rate of lacking confidence in managing heart disease (53.2%), followed by Hispanics (45.8%), African Americans (44.1%), and whites (36.0%). Chi-square tests revealed significant association between depression and confidence in the overall sample,  $\chi^2(1, n=3,370) = 6.56, p < .001, \phi = .13$ . Follow-up analysis revealed significant racial/ethnic differences, with whites demonstrating the strongest association, followed by African Americans and Hispanics. No significant association was found in Asians. Conclusions: Findings demonstrated strong associations between depression and confidence in disease management. Specifically, significant differences were found among four racial/ethnic groups. More research is needed to clarify the mechanism of such differences. Culturally sensitive psychoeducational interventions targeting older adults with heart diseases are suggested to address depression and enhance confidence in heart disease management.

#### **SLEEP DISORDERED BREATHING (MEASURED BY A SELF-APPLIED MONITOR) AND GLOBAL COGNITION IN OLDER WOMEN**

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**Objectives:** To determine if selected sleep parameters measured by the ApneaLinkTM device are associated with global cognition in older women. **Methods:** An ancillary study to determine the feasibility of self-administering the ApneaLinkTM in Women's Health Initiative Memory Study (WHIMS) extension participants (Mean [SD] age=85.8[3.9]) was conducted in N=40 older women with normal cognitive function who used it for one night. Sleep parameters included measures of apnea, hypopnea, and hypoxia. Selected sleep parameters were chosen to predict the most recent annual measure of global cognition, controlling for age, education, and Body Mass Index (BMI). **Results:** Sleep parameters measuring central apnea: (1) the count of all central apneas in the recording (central apnea count [CAC]), and (2) central apneas per hour/sleep time (central apnea index [CAI]) were independently associated with global cognition (CAC;  $p=.01$ ; CAI;  $p=.07$ ). Women with >10 CAC in the recording or >5 CAI had marginally lower global cognition (CAC;  $F(1, 39)=4.40, p=.04$ , CAI;  $F(1, 39)=3.82, p=.06$ ). A hierarchical linear regression with age entered first ( $p=.02$ ) followed by education (n.s.), BMI ( $p=.02$ ), and CAC ( $p=.01$ ) demonstrated that CAC predicted significant additional variance in global cognition ( $R^2$  change=.12;  $p=.01$ ) and the full model explained 37% of the variance,  $F(1, 36)=6.68, p=.01$ . **Discussion:** Preliminary data shows that central apneas, likely a marker of underlying cardiovascular disease (CVD) or autonomic system dysfunction, are associated with decreased global cognitive function in this cohort of older women. Further research in a larger sample will explore the relationships between sleep apnea, CVD and global cognition.

#### **SESSION 220 (POSTER)**

#### **FAMILY CAREGIVING: DEMENTIA AND CHRONIC PHYSICAL ILLNESS**

#### **DAILY FLUCTUATIONS IN NEGATIVE AFFECT FOR FAMILY CAREGIVERS OF INDIVIDUALS WITH DEMENTIA: EFFECT OF DAILY EXPERIENCES AND ADULT DAY SERVICES**

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The study examined intrinsic fluctuations in daily negative affect and its differential associations with daily stressors, adult day services

(ADS) use, and other caregiving characteristics. Intrinsic fluctuations, which are considered a measure of emotional lability, represent the unexplained within-person daily variability in affect after taking into account other sources of variance. Family caregivers (N = 173) of individuals with dementia (IWD) completed an 8-day diary. Each day they completed measures of stressors, and two measures of affect, depressive symptoms and anger. On some of the days, the IWD attended an ADS program, which lowered stressor exposure on caregivers. We fit multilevel models (MLM) with common within-person variance to show average associations between daily stressors and mean level of daily affect. We then fit MLM with heterogeneous within-person variance to test for differential associations between daily stressors, ADS use and intrinsic fluctuations in daily affect. Lower intrinsic fluctuations in both daily affect measures were associated with more ADS use and fewer daily stressors. Additionally, less intrinsic fluctuations in daily anger were associated with better sleep quality, longer duration of caregiving, and greater IWD's ADL dependency. Less intrinsic fluctuations in daily depressive symptoms were associated with younger age, longer duration of caregiving, and greater IWD's ADL dependency. As shown in this study, intrinsic fluctuations have meaningful associations with daily experiences and an intervention that modifies those experiences. Along with levels of affect, intrinsic fluctuation in affect (i.e., emotional lability) represents an important dimension of emotional well-being.

#### **BABY BOOMER CAREGIVER AND DEMENTIA CAREGIVING: FINDINGS FROM THE NATIONAL STUDY OF CAREGIVING**

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**Background:** Previous studies have well documented the characteristics of baby boomers and other dissimilarities compared with the previous generation but less is known about the experiences of boomer caregivers (CGs) of loved ones with dementia. **Aim:** The purpose of this study was to compare the characteristics of boomer CGs of people with dementia with those of boomer CGs of people without dementia and to ascertain factors associated with depression and self-perceived physical health status in boomer CGs. **Design and setting:** We selected boomer CGs from the first wave of National Study of Caregiving (NSOC) with 650 primary boomer CGs (n= 138 of CGs for people with dementia and n=512 CGs for people without dementia). **Methods:** The Stress Process Model (SPM) was used to examine the effects of resources (the use of paid help and informal support) and stressors (primary: level of CG care activities and interrupted sleep; secondary: strain of caregiving on work, other care, and social activities) on CGs' depression and self-perceived physical health. T-tests and chi-square tests were used to compare SPM domain differences and ordinary least-square multiple regression analysis was used to investigate predictors of CGs' outcomes. **Results:** High blood pressure and arthritis were the most prevalent chronic diseases in both groups. Significant differences between boomer CGs of people with dementia and CG of PWOD were found for reporting help with daily activities, higher levels of caregiving and social-activity conflict, more interrupted sleep and prevalence of depression. Two groups did not differ significantly with respect to self-perceived health status due to caregiving but were significantly different with respect to use of informal support resources and experiencing conflict. **Conclusion:** The current results yield important information about the considerable differences between boomer CGs of people with dementia and without dementia within the caregiving experiences. The findings highlight the need to provide tailored interventions to boomer CGs to help them cope with caregiving stress in order to improve their physical and mental health.

## **BURDEN AMONG MALE ALZHEIMER'S CAREGIVERS: EFFECTS OF DISTINCT COPING STRATEGIES**

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Purpose Approximately 40% of all informal caregivers in the United States are male relatives and friends. Previous research specifies gender as a factor in the severity of caregiving burden. Focusing on the understudied, increasing population of male Alzheimer's disease (AD) caregivers, the purpose of this study was twofold: to identify their likelihood of utilization among three distinct coping strategies (task, emotion, and avoidance focused); and to examine the effects of these distinct coping strategies on their caregiving burden. Method Data were collected from 138 male AD caregivers in southern United States. A concerted effort was conducted to ensure geographically proportional representation of African American caregivers in the sample. A self-report survey instrument contained demographics, a standardized measure of coping strategies, and two standardized measures of caregiving burden. Stepwise regression revealed the effects of each coping strategy on caregiving burden, controlling for demographics. Results Caucasian caregivers represented 61% of the sample, with African Americans at 36%. The sample reported high levels of burden. Task focused coping was the most frequently employed coping strategy. Yet, the regression models indicated no significant effect of task focused coping on the burden measures. In contrast, emotion focused and avoidance focused coping each showed significant, proportional (same direction) effects on both burden measures. Implications Results suggest that use of emotion and avoidance focused coping among male AD caregivers may be maladaptive, i.e., contributing to higher burden. As such, male AD caregivers may benefit from more task focused coping, such as planning and active problem solving.

## **DEMENTIA CAREGIVING: AN EXPLORATORY STUDY OF INFORMAL CAREGIVERS IN KATHMANDU VALLEY, NEPAL**

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Dementia is a rapidly growing problem in all parts of the developing world. Among the 35.6 million people with dementia worldwide, 58% live in low and middle income countries (WHO, 2013). There are no formal arrangements for diagnosis, treatment, care and support for dementia/Alzheimer's caregivers in Nepal. The objective of this study was to explore the perceptions and experiences of informal caregivers of dementia patients in Kathmandu valley, Nepal. A phenomenological study approach was incorporated. Individuals working in the field of dementia were contacted to recruit dementia caregivers. Then, a purposive snowball sampling method was used to recruit the study participants. An interview guide was developed and participants were interviewed. Seven in-depth interviews were conducted in Nepali by the researcher. Field notes were taken immediately after the interviews. Interviews were transcribed and later translated in English. The ethical consideration was approved by the Nepal Health Research Council. Data was analyzed following the steps outlined by Moustakas. Following themes emerged from the study analysis: lack of dementia knowledge; prevalence of dementia stigma; negative, positive, and ambivalent caregiving experiences; and inadequate support from family, relatives, and government. Several problems expressed by the caregivers are analyzed. The health and policy implications of informal caregivers of dementia patients are discussed in the context of an Asian developing country. The study results will offer an insight into the perceptions and experiences of dementia caregivers in Nepal which are important considerations when developing policy to meet the needs of both the dementia caregivers and their patients.

## **LONG-TERM IMPACT OF STROKE ON FAMILY CAREGIVER PSYCHOSOCIAL OUTCOMES**

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Background: The long-term effects of stroke on informal caregiver psychosocial well-being have rarely been studied via longitudinal population-based studies and with an appropriate comparison group. Three-year changes in psychosocial outcomes were examined among family caregivers of an epidemiologically-derived sample of stroke survivors from the REasons for Geographic and Racial Differences in Stroke (REGARDS) study, and demographically matched noncaregivers. Methods: Family caregivers of REGARDS participants who reported a stroke event were enrolled in the Caring for Adults Recovering from the Effects of Stroke (CARES) study and completed telephone interviews assessing demographics, depressive symptoms, and life satisfaction at approximately 9, 18, 27, and 36 months after the stroke. A family member of a stroke-free REGARDS participant was also enrolled as a noncaregiving control for each stroke caregiver and completed similar interviews. Results: Data were analyzed for 110 African American and 125 Caucasian caregivers and the same numbers of matched controls. Multilevel models revealed that caregivers showed poorer well-being at 9 months post-stroke than controls on the Life Satisfaction Index (LSI-Z) and the Center for Epidemiological Studies-Depression Scale (CES-D). Significant differences were sustained for 15 months for life satisfaction and 22 months for depressive symptoms. Effects were similar across caregiver race and gender. Conclusions: Stroke caregiving produces marked distress but indicators of psychosocial well-being become comparable to those of noncaregivers by two years after stroke. Interventions for stroke caregivers should recognize both the strains faced by caregivers and their capacity for resilience over time with stroke recovery and psychological adaptation to stress.

## **RISK APPRAISAL MEASURE AND CHANGE IN POSITIVE ASPECTS OF CAREGIVING: FINDINGS FROM THE REACH II PROJECT**

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Recent research has addressed both negative and positive caregiver experiences even though the stressful nature of caring for family members with dementia has been documented for decades. The purpose of this study was to examine variations in modifiable and amenable risk areas for family members caring for individuals with dementia by comparing two groups of participants on their experiences related to positive aspects of caregiving (PAC). With a sample of 498 participants who completed a multicomponent psychosocial and behavioral training intervention from the multi-site REACH II project, this study compared two groups of participants on their PAC; participants showing no or negative change and participants showing positive change in the PAC after the intervention. Modifiable and amenable risk factors included seven indicators of the Risk Appraisal Measure at baseline (self-care and healthy behaviors, patient problem behaviors, burden, depression, social support, safety-patient impairment, and safety-caregiving behaviors). Analysis of variance (i.e., ANOVA) was conducted to compare the indicators between two groups. Results showed significant differences in burden and safety-caregiving behaviors. Those who showed positive change in the PAC reported lower levels of both burden and safety-caregiving behaviors than their counterparts with no or negative change in the PAC. No significant differences emerged in self-care and healthy behaviors, patient problem behaviors, depression, social

support, and safety-patient impairment between the two groups. Identifying the unique relationships between caregiving risk factors and key intervention outcome measures may contribute to the design and potential efficacy of future caregiving interventions.

### **PREDICTORS OF CARE BURDEN EXPERIENCED BY CAREGIVERS OF DEMENTIA ELDERLY**

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**Background.** Korean culture that dementia elderly should be cared at home by his/her spouse or adult children, is still remaining. In that cultural context, care burden perceived by primary caregiver become worse. The aim of this study was to explore the predictors of care burden of caregivers as the basic knowledge to develop strategy reducing care burden of the primary caregiver. **Methods.** Ninety five caregivers of dementia elderly were recruited for this study. Participants were a family member or significant other who took care of the elderly in most of time. Revised version of Caregiver Burden Inventory, Medical Outcomes Study Social Support Survey, Center for Epidemiologic Studies Depression scale, Neuropsychiatry Inventory questionnaire were administered. **Results.** Twenty four (25.5%) caregivers were male. Mean age of the subjects was 56.43( $\pm$ 12.80) years ranging from 25 to 88 years. Fifty five (69.2%) caregivers received more than high school education. Eight one (86.2%) participants married. The relationships between dementia elderly and the caregiver were spouse 25.5%, daughter/son 42.5%, daughter in law 24.5%, and others such as grandson/granddaughter, relatives, sister/brother, etc. 7.6%. Mean care time was 11.2( $\pm$ 7.5) hours per day. Overall care burden score was 29.60( $\pm$ 7.81). Subjective health score was 3.16( $\pm$ 0.94) and ADL score of dementia elderly was 9.42( $\pm$ 2.91). The change of family relationship score was 15.85( $\pm$ 4.37) and social support score was 60.53( $\pm$ 21.31) and depression score was 22.72 ( $\pm$ 12.70). In addition, seriousness of behavior of dementia elderly was 14.09( $\pm$ 8.90) and the score of suffering from the neuropsychiatric behavior was 17.07( $\pm$ 12.82). In multiple regression analysis, the significant factors influencing care burden of subjects were depression, ADL function, gender of dementia elderly, and change of family relationship score. These four variables explained about 49 percent of variance of care burden. **Conclusion.** To reduce caregivers' burden, these significant variables need to be intervened in personal, social and health policy aspects.

### **INCONGRUENCE IN PERCEPTIONS OF LUNG CANCER PATIENTS' PAIN AND PHYSICAL FUNCTION: THE ROLES OF CONCEALMENT, COMMUNICATION, AND COGNITIVE IMPAIRMENT**

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Most older adults have at least one chronic condition, with almost half living with at least two. In many cases these conditions, or their associated treatment, rely on symptom recognition and effective symptom management to optimize the patient's quality of life. As health care providers often rely on family members (FMs) for information, even when patients (PTs) are alert, incongruent symptom perceptions between patient and family member can create serious problems and clinical challenges. Lung cancer is the leading cause of cancer death in the United States, progresses rapidly, and has a high symptom burden. The median age at diagnosis is 70. The primary goal of the study was to examine PT-FM incongruence in perceptions of PT physical function and pain, and describe variables that predict incongruence. Using multilevel modeling, baseline Level 1 data on 114 family care dyads (mean PT age 69.27 $\pm$ 12.07) revealed that FMs, on average, rated PT functional impairment and pain significantly higher than PTs. Controlling for relationship type, depression, FM role overload, stage of disease, and FM physical function, level 2 models revealed that PT concealment was associated with incongruence for both physical function and pain; the PT's cognitive impairment was associated with incongruence for phys-

ical function; and the FM's communication problems were associated with incongruence for pain. Together, these variables accounted for 46% and 42% of incongruence in physical function and pain, respectively. Discussion will focus on the roles of open communication within care dyads in a life-threatening context.

### **THE RELATIONSHIP BETWEEN POSITIVE AND NEGATIVE AFFECT AMONG FAMILY CAREGIVERS OF RELATIVES WITH DEMENTIA**

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Positive (PA) and negative affect (NA) have been conceptualized as bipolar or independent constructs. This study expounded these paradigms using two models of affect as frameworks to investigate the relationship between PA and NA in a sample of 554 dementia caregivers. Measures of demographics, caregiver stress and affect were collected at 3, 6 and 12 months. The dynamic model of affect (DMA) is a state-level model suggesting that occasion-specific stress influences the relationship between PA and NA. The DMA asserts that under stress PA and NA collapse into a single bipolar dimension as information-processing is simplified. Fredrickson's broaden-and-build theory of positive emotions is a trait-level model asserting that PA broadens cognition, assisting people to build personal resources. Using the DMA to represent state-level relationships between the affects, the hypothesis that PA and NA become inversely correlated as caregivers report higher levels of stress was examined. The broaden-and-build theory was used as a framework to investigate the moderating role of trait-level PA on the relationship between occasion-specific stress and NA. Multi-level modeling analyses indicated support for the DMA. Role overload was the most salient source of caregiver stress in its relationship to NA. It was the only source of stress that altered the relationship between PA and NA. Higher levels of role overload had a higher inverse relationship between the PA and NA; as stress levels increased NA increased, driving PA down. While this state-level relationship was significant, trait-level PA did not influence the relationship between stress and NA.

### **INTIMACY AS A MEDIATOR OF THE RELATIONSHIP BETWEEN CAREGIVER BURDEN AND MARITAL SATISFACTION**

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**Introduction:** Due to increased life expectancy and prevalence of chronic health conditions, a growing number of older individuals face challenges of providing care to their spouses. Spousal caregiving can be a stressful experience associated with negative outcomes such as depression or decline in marital satisfaction. However, understanding of the mechanisms through which caregiver burden has negative effects on marital satisfaction remains limited. **Methods:** The study's hypotheses were tested based on the mediation model using secondary data from the National Social Life, Health, and Aging Project (NSHAP). The NSHAP collected data from a nationally representative sample of 3,005 individuals 57-85 years of age. This study tested intimacy as a potential mediator of the caregiver burden-marital satisfaction link. The study also investigated three possible moderators of the relationship between caregiver burden and marital satisfaction: type of chronic health condition, age, and gender. **Results:** The negative relationship between caregiver burden and marital satisfaction was partially mediated by intimacy. Different types of chronic health conditions differentially impacted the relationship of caregiver burden to marital satisfaction such that the caregivers of individuals with dementia experienced more decline in marital satisfaction than caregivers of individuals with other types of chronic health conditions. **Conclusion:** Identifying factors that influence marital satisfaction among spousal caregivers can help improve understanding of the caregiver experience. The findings could lead to

development of interventions aimed at improving marital satisfaction, which in turn could improve the quality of provided care

### **DEPRESSIVE SYMPTOMS IN CHINESE AMERICAN ELDERLY: THE ROLE OF ACCULTURATION, HEALTH, AND FAMILY SUPPORT**

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**Purposes:** This study aims to identify the influence of acculturation, health, and family support on depressive symptoms in a sample of Chinese American older adults living in the Phoenix Metropolitan area. **Methods:** Data of this study came from a survey of 385 Chinese American adults aged 55 or above (Mage =72.4; SD =8.7) that live in the Metropolitan Phoenix area. Focus group discussions were used to ensure cultural appropriateness of survey questions. Depressive symptoms were assessed by the 12-item Center for Epidemiological Studies Depression (Cronbach's alpha = .79). The survey was conducted in 2013 through face-to-face interviews. **Results:** Three-step hierarchical regression analyses indicate that lower levels of self-rated health, more difficulties of performing instrumental activities of daily living, higher levels of family conflict and lower levels of family intimacy were risk factors of depressive symptoms among Chinese American elders. Acculturation levels of elders were not significantly associated with depressive symptoms after controlling for the effect of health and family support factors. **Discussion:** Participant perceived health status and family support are primary factors that influence depression among Chinese American elders. The effect of acculturation related stress on the emotional well-being of Chinese elders could be minimal when the elders are of better health and have a supportive family environment. Aging service providers should be aware of the close relationship among physical health, family support and depressive symptoms, and provide interventions that would promote health and family harmony that are essential to the emotional well-being of Chinese American elders.

### **RELATIONSHIPS AMONG CAREGIVING STAFF AND RESIDENTS: FAMILY, FRIENDS, FUSSING & FIGHTING**

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Continuing care retirement communities afford residents flexibility in structure of activities, housing environments, and provision of health care for the duration of their lives. As such, residents and staff interactions are intertwined throughout all aspects of life within the community. This study is unique in that detailed information on administrator knowledge and perceptions of the social environment were obtained and analyzed qualitatively. This presentation focuses on administrator descriptions of relationships among residents and staff. Our results show that staff-resident relationships are characterized as intimate, engaging, and "like family", particularly within facilities where staff turnover is low. Resident relationships were described as variable: familial, friends, social cliques, and unique personalities. One facility administrator specifically identified three individual social groupings who were unwilling to engage with members of the other groups. Thus, residents aren't necessarily accepting of the whole community as intimate or familial even though staff-resident relationships were characterized as such. Administrators are aware of, and can categorize, the social groups and cliques as follows: temporality, gender, shared interests, and health status. These findings are consistent with prior research within congregate senior housing on social stigmas associated with residents who have shared histories or disparate health ability. Furthermore, the findings support extant research from quantitative studies on staff and resident perceptions of the social relationships within and amongst others who work and live in senior housing.

### **CONTROL BELIEFS MEDIATE THE RELATIONSHIP BETWEEN QUALITY OF RELATIONSHIP TO PARENT AND SATISFACTION WITH ONE'S OWN AGING**

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Individuals' perception of their own aging has been found to be an important predictor of physiological and psychological outcomes including subjective well-being, health, and mortality. At the same time, little research addresses the question of what influences individuals' perception of their aging. There is some evidence for psychosocial predictors of self-perception of aging, including personal control beliefs, which seem to mediate the association between social and health resource loss and subjective age. Another recent study found that the quality of relationship to the parents influences individuals' aging satisfaction. The current study examined whether control beliefs determine how a poor (i.e., conflicting) relationship to one's parents influences the self-perception of aging. A total sample of 167 individuals aged 18 to 73 years (M=31.6, SD=14.8) filled out surveys assessing their satisfaction with aging (Philadelphia Geriatric Center Morale Scale; Lawton, 1975), the quality of relationship to parent (Quality of Relationships Inventory including the three subscales: Support, Conflict, and Depth; Pierce, 1994), and control beliefs (Jopp, 2006). Results showed that personal control beliefs partially mediated the effect of the conflicting relationship to parent on aging satisfaction. In other words, experiencing a conflicting relationship to one's parents was negatively related to perceived control, which in turn was positively related to aging satisfaction. At the same time, poor relationship quality was directly negatively linked to aging satisfaction. In sum, the findings demonstrate the important role that psychosocial resources (e.g., control beliefs, quality of close relationship) play in how individuals perceive and evaluate their own aging process.

### **EXAMINING THE PAINCQ-33 AS A MEASURE OF PAIN MANAGEMENT PERCEPTION AMONG RESIDENTS WITH CHRONIC PAIN**

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**Problem:** Current instruments do not address resident perceptions in pain management (PM) care; therefore, evaluation of a new instrument is warranted. **Purpose:** To determine the usefulness of the PainCQ-33 as a measure of PM perception. **Aims:** (1) determine face validity of the PainCQ-33; (2) determine reliability of the PainCQ-33 as a measure of sustainability in PM perception; (3) determine if PainCQ-33 scores correlate with a resident's length of stay (LOS); and (4) explore resident opinions about the PainCQ-33. **Previous Findings:** Resident barriers to PM exist including knowledge deficits, attitudes, beliefs, mood, behaviors, and expectations for PM. **Research Design:** A mixed method: (1) a test-retest with approximately 60 residents from a group of nursing homes in Western New York; and (2) focus group discussions with 12 residents. **Procedures:** Participants completed the PainCQ-33 at baseline, and again 14 days later. Additional instruments to measure covariates included: (1) the Faces Pain Scale – Revised for pain ratings; (2) the five-item Geriatric Depression Scale for depression; and (3) a Clinical Data Form (CDF) for tracking pain medication use, LOS, age, and gender. 12 residents who completed the PainCQ-33 survey shared their opinions about the instrument in two focus group discussions. A moderator followed an interview guide consisting of questions derived from comments about the PainCQ-33. **Data Analysis:** Comparison of PM perception with LOS, covariates, and confounders were examined using ANCOVA. Focus group transcripts were analyzed using descriptive content analysis. **Potential Significance:** The PainCQ-33 can assist clinicians in managing barriers to effective PM in nursing homes.

## THE IMPACT OF THE LISTEN INTERVENTION ON LONELINESS AND BIOMARKERS OF CHRONIC ILLNESS

L.A. Theeke, M.J. Smith, J. Mallow, T.L. Barr, E. Barnes, E. Theeke, *Health Restoration, WVU School of Nursing, Morgantown, West Virginia*

This paper presents the results of the first randomized trial of LISTEN (Loneliness Intervention using Story Theory to Enhance Nursing-sensitive Outcomes) a new cognitive behavioral intervention designed to diminish loneliness. The intervention was developed by blending the key concepts of story theory with principles from cognitive behavioral therapy and current state of the science knowledge about loneliness. A sample of 27 (65% female, mean age 75 years) lonely, chronically ill, community dwelling older adults were randomized to LISTEN or attention control groups. Those with dementia or active grief were excluded. LISTEN group participants attended 5 weekly sessions that include focused discussion, thinking activities, writing and homework. Control groups attended 5 weekly health education sessions. Variables collected included loneliness (UCLA Loneliness Scale), depression (GDS), functional ability (Katz ADL), cognition (MMSE), Social Support (MOS Social Support Scale), and Quality of Life (the CASP-12 Quality of Life scale). Diagnoses, medications, and chronic illness control indicators including; fasting glucose, Hgb A1C, B/P, pulse, waist-hip ratio, and BMI were included. The sample was moderately lonely and reported significant functional limitations, pain-related impairments and low energy. Overall quality of life rankings remained high. Loneliness positively correlated with depression, and inversely correlated with quality of life, social support, and social functioning. Participants of the LISTEN groups reported significantly lower loneliness scores (revised UCLA Loneliness Scale) and lower systolic blood pressure for up to 12 weeks post-intervention. Participants rated the LISTEN intervention as feasible and highly acceptable, commenting that they would recommend it as a treatment for loneliness.

## UTILIZATION OF INTERNET-BASED RESOURCES FOR DISEASE SELF-CARE AMONG WOMEN WITH CHRONIC CONDITIONS

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**Purpose:** This study analyzed data collected from middle-aged and older adult women with one or more chronic conditions who completed the National Council on Aging Chronic Care Survey. Part One analyzed data from 418 women to describe sociodemographics, disease types, and healthcare utilization associated with internet use. Part Two analyzed data from the 251 internet-using women to identify the online self-care resources are they used and for what purposes. **Methods:** Participant characteristics were compared by age group, number of chronic conditions, and disease types (i.e., cardiovascular disease, diabetes, arthritis, lung disease, depression, and cancer) using chi-square tests, independent sample t-tests, and one-way ANOVA. **Results:** Approximately 31% of participants were age 65+, 30% reported having three or more chronic condition types, and 65% reported using the internet. A significantly larger proportion of non-internet users reported needing help learning what to do to manage their health conditions and how to care for their health conditions. Among only internet-using women, 18.7% participated in online discussions/chatrooms/listserv and 45.2% read about the experiences of others with chronic diseases. A significantly larger proportion of internet-using women with diabetes and depression reported needing help learning how to manage their health conditions. Larger proportions of internet-using women with depression reported relying on the internet for help/support and interest in reading about others' experiences online. **Conclusions:** Understanding internet use among women with chronic conditions can inform targeted efforts to increase

internet availability, educate potential users about the benefits of online resources, and tailor internet-based materials to meet self-care needs.

## CONCORDANCE AND CORRELATES OF SYMPTOM REPORTING FOR CAREGIVERS AND CHRONICALLY-ILL OLDER ADULTS

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In the U.S. more than 40 million people are caring informally for an aging person. Oftentimes this caregiver acts as a healthcare advocate in formal and informal settings, thus having a vested interest in accurately understanding symptoms experienced by their care recipient. While proxy reports are moderately accurate for some physical symptoms, proxy reports are known to be less accurate for emotional/psychological symptoms. Dyadic level data from the LIFE Project was analyzed to examine the concordance of both physical and psychological symptom reports from older adults and their respective caregivers. In addition, care recipient and caregiver correlates of concordance were examined. Overall, care recipients reported significantly more distress over their physical symptoms than their caregivers predicted ( $p < .05$ ). All four emotional symptoms (sad, worry, irritable, nervous) were low in concordance scores ( $\leq 60\%$ ). Correlates of lower symptom-level concordance included higher care recipient scores on negative PANAS items ( $p < .05$ ) and more care recipient symptoms/distress at baseline ( $p < .05$ ). Caregiver stress was also a meaningful predictor of weaker concordance ( $p < .05$ ). Implications for the current project include the synergistic impact of care recipient-caregiver functioning on symptom concordance, and quality of care outcomes for both dyadic members. Results are discussed in terms of the Monin and Schulz (2009) model of caregiving, including care recipient suffering behaviors and caregiver stress response.

## SESSION 225 (POSTER)

### CAREGIVING

#### ROSALYNN CARTER INSTITUTE FOR CAREGIVING'S TRAINING CENTER FOR EXCELLENCE - ENSURING QUALITY SUPPORTS FOR CAREGIVERS NATIONWIDE

L.J. Bauer, G. Alston, L. Easom, A.L. Ramos, *Rosalynn Carter Institute, Americus, Georgia*

The Rosalynn Carter Institute for Caregiving (RCI) has conducted more than six years of work related to the integration and implementation of evidence-based programs to help family caregivers in communities across the United States. As a result, the RCI has emerged as a leader and purveyor in providing intensive technical assistance for the implementation of evidence-based caregiver interventions at the community level. In this role of purveyor, the RCI has led the transformative change required in agencies to implement and sustain evidence-based interventions with fidelity and measurable outcomes. As a purveyor of evidence-based caregiver programs, RCI continues to refine its training and technical assistance offerings to assist community agencies that have varying degrees of expertise in adopting evidence-based caregiver programs with fidelity. We have launched the RCI National Training Center of Excellence and offer training and certification as well as intensive technical assistance, in three evidence-based programs: RCI REACH (Resources Enhancing Alzheimer's Caregiver Health); BRI Care Consultation (telephonic support for Alzheimer's) and Operation Family Caregiver (program for service member and veteran families).

## CAREGIVING TRAJECTORIES AMONG ADULT CHILD CAREGIVERS: A TYPOLOGY

S. Wang, M.E. Szinovacz, *Gerontology, University of Massachusetts Boston, Boston, Massachusetts*

This study examined types of changes in caregiver involvement and reasons associated with specific types of change. 20 adult child caregiver sibling dyads and 9 individual caregivers completed semi-structured interviews about their involvement in parental care over time and reasons for changes in care. Qualitative data analyses relied on coding with Atlas.ti software. The data yield three types of changes (both for increases and decreases in care): gradual change (slow gradual increase or decrease in care); spikes (sudden increases or decreases over a short time period, with a return to the previous level after such change); stepwise change (abrupt increases or decreases in care that then remains at that level). Gradual changes are typically associated with changes in the care recipient's health, whereas spikes and stepwise changes are associated with a wider variety of reasons, including changes in the caregiver's or his/her sibling's employment, changes in living arrangements with the parent, changes in the health of the parent's spouse, or temporary health changes in the care recipient such as acute conditions requiring hospitalization. Findings confirm that caregiver involvement varies over time. Changes in care involvement differ in regard to intensity and abruptness. Consequently, longitudinal data are essential to fully understand caregiving and health care providers need to assert whether and how care situations changed over time.

## THE EFFECTS OF STOPPING SPOUSAL CAREGIVING ON CAREGIVER DEPRESSION

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While studies have examined the effects of spousal caregiving on their mental health, limited work explores factors that affect spousal caregiver depression once caregiving has ended, especially among representative samples of older couples. Spouses may cease caregiving due to their partner's death and institutionalization, or when the partner continues to live in the community with the former caregiver. Using data from the HRS (2000-2010), we included couples in which both members were 50+ and examined the association between the reasons why spousal caregiving (for ADL and/or IADL limitations) ended over a two-year period and caregiver's follow-up depressive symptoms ( $n = 1,230$ ). We used Pearlin's Stress Process Model to identify and control aspects of the baseline caregiving situation that might affect follow-up depression. Baseline factors included caregiver's depressive symptoms, caregiver's and spouse's health and the type and amount of care the spouse provided. OLS regression results indicated that spousal caregivers whose partner was in a nursing home at follow-up had significantly more depressive symptoms than those whose partner had died or was still co-residing in the community but not receiving spousal care. The level of depressive symptoms for spouse's whose partner died or still resided in the community did not differ. Baseline functional limitations of the caregiver and care recipient, the caregiver's baseline depression, and being a caregiving wife also positively influenced caregiver's depressive symptoms at follow-up. Findings suggest the importance of targeting services to meet the need of spouses after their partner leaves home to reside in a nursing facility.

## GIVE THE PEOPLE WHAT THEY WANT: TEN YEARS OF CONDUCTING A CAREGIVER EDUCATION CONFERENCE

S. Fulks, *Gerontology, Barton College, Wilson, North Carolina*

In the fall of 2003 Barton College launched an undergraduate major in Gerontology. Designed as an applied degree, the program is modeled along recommendations from AGHE. Our networking partners - Alzheimer's NC (formerly the Alzheimer's Association of Eastern North Carolina) and the Upper Coastal Plain Area Agency on Aging, became

partners in creating a Caregiver Education Conference. Launched in the Spring of 2004 and held annually since, this conference became the model for Alzheimer's NC in offering a series of regional conferences in place of the traditional single state conference. During the past ten years our conference has featured a mix of national, regional and local authorities on virtually all facets of the caregiving experience, as well as students presenting their current research. Our conference draws an average of 214 participants per year, and hosts an average of 24 outside programs and services - enabling networking between the caregivers and the resources available. This presentation features the evaluation of each of the ten conferences by the participants, and demonstrates how the conference has evolved and adapted to the needs of the participants. Each conference features two primary presenters and a series of 'break-out' sessions designed to address more specific interests of the caregivers. Evaluations include style, content and relevance of each topic and the presenter. This content analysis represents a unique opportunity to hear from the participants - offering their assessment and a reality check of what the professionals think caregivers need to know.

## EFFECTS OF THE MORE PERSONALITY RESOURCES ON CAREGIVERS' HEALTH

S. Kim, B.G. Knight, *Gerontology, University of Southern California, Los Angeles, California*

It is widely acknowledged that caregiver personal resources play a central role in understanding caregivers' health. Some researchers suggest that personality resources (e.g. sense of mastery) may help individuals respond to the challenges of caregiving in a growth-conducive way that confers positive health outcomes (Ardelt, 2005; Glück, 2011). The objective of the current study was to examine the role of some personality traits on caregivers' mental and physical health. Participants included 219 caregivers of aging parents (mean age: 52.05) from the second wave of the Midlife in the United States (MIDUS) study. The MORE personality resources consisted of sense of Mastery, Openness to Experience, Reflective Attitude, and Emotional Regulation. Caregivers' health outcomes included depression, life-satisfaction, self-rated health, and allostatic load. Using the multiple mediation model (Preacher and Hayes, 2008), we found that Mastery and Openness to Experience had positive direct effects on life-satisfaction and negative direct effects on depression. Furthermore, Mastery showed a positive direct effect on self-rated health. The MORE personality resources did not mediate the relationship between demographic characteristics (e.g. age, gender, caregiving hours and co-residence) and caregivers' health. Findings support the importance of direct effect of the MORE personality resources on caregivers' mental health, especially Mastery and Openness to Experience. Our results suggest that some personality resources may help people to deal with life challenges, such as caregiving, in a positive way.

## HELP-SEEKING CAREGIVERS OF FAMILY MEMBERS IN ASSISTED LIVING AND COMMUNITY HOMES

E.J. Plys, S. Qualls, *University of Colorado Colorado Springs, Colorado Springs, Colorado*

The purpose of the current study was to examine how the setting in which a care recipient (CR) lives and kinship (spouse vs. adult child) influence caregivers' (CG) perception of burden, rate of problem behaviors, and attributions of problem behaviors. Family members seeking caregiver counseling services ( $n = 379$ ) at an outpatient mental health clinic whose CR lived in assisted living (AL;  $n = 56$ ), the CR's home ( $n = 174$ ), and the CG's home ( $n = 149$ ) completed intake questionnaires that assessed demographic information, the CG's experience, CG's presenting problem, CR behavior problems, and CG subjective attributions of problem behaviors. A series of one-way ANOVAs found that caregivers did not differ across settings on demographic variables (i.e., income, gender, kinship, age), caregiver burden, problem behaviors, or presenting problem. However, attributions for problem behaviors varied

by setting, with AL caregivers more likely to attribute behavior problems to mental health issues in the CR,  $F(2, 347) = 3.31, p = .03, \eta^2 = .02$ , despite similar levels of mental health problem behaviors observed across groups. In addition, after controlling for kinship, attributing problem behaviors to CR mental health issues significantly predicted greater burden,  $b = 2.45, p = .02$ , in AL. Only in AL did spouses experience more burden compared to adult children,  $F(1, 54) = 5.62, p = .02, \eta^2 = .09$ . Results suggest that the caregiver experience and perceptions of challenges may differ across settings, as placement of a family member in AL represents a new role for caregivers.

#### THE UTILITY OF THE FAMILY EMPOWERMENT SCALE WITH GRANDPARENT CAREGIVERS

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The Family Empowerment Scale (FES, Koren, DeChillo, & Friesen, 1992) was developed specifically to assess empowerment in families with emotional disorders, wherein among custodial grandfamilies, difficulties in grandchildren's social, emotional, and behavioral functioning are not uncommon, either in reaction to the dissolution of the family of origin or in response to the newly formed family unit. Utilizing the 3 subscales of the FES which represent differential levels of empowerment (family, service system, community) as indexed by one's attitudes, knowledge, and behavior, we explored the construct and discriminant validity of the FES with grandparent caregivers. Three-hundred thirty-nine (M age = 58.4, n Caucasian = 152, n African American = 149, n Hispanic = 38) custodial grandmothers completed the FES and self-report measures of personal distress (e.g., CES-D), rated grandchild distress (SDQ) and parenting style (PPI). Substantiating its construct validity, FES subscales correlated ( $p < .05$ ) with less self-reported anxiety and depression, more positive personal affect, more positive parenting practices, and less grandchild distress. They were independent of grandmother health. FES Family and FES Community scores were reliably higher ( $p < .05$ ) among African American caregivers, versus Caucasians and Hispanics, whose scores did not differ from one another. These findings suggest the FES to be valuable in understanding empowerment among grandmother caregivers in the face of the many personal and parental challenges they face in raising a grandchild. They also reinforce the family as a resource among African American grandmothers in dealing with the demands of caregiving. [Funded by R01NR012256]

#### BEHIND THE TIMES: SHOULD SCHOLARS UPDATE HOW FAMILY CAREGIVERS ARE CLASSIFIED?

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Adult caregiving literature identifies caregivers above the age of 18; however, scholars under represent caregivers of all ages, nor acknowledge age differences and possible differences in caregivers' psychosocial development. Chronological age partnered with developmental stages can produce a multitude of strains. Scholars are unsure how physical and mental strains associated with completing developmental tasks affect informal caregivers. Completing numerous daily caregiving tasks, such as ADLs, can be physically and emotionally draining, which may expose the caregivers to an increased risk of experiencing negative psychological emotions. The aim of the current study was to observe adult caregivers in a southern university ( $n=239$ ), using Erikson's developmental stages and Arnett's "Emerging Adulthood" concept as a model for these age groups: 18-19, 20-24, 25-29, and 30-34 years old. We examined the amount of completed caring activities and the caregivers' psychological affect to determine if new caregiving subgroups should be formed. Eighteen to nineteen year olds differed

significantly from all three groups on completed caring activity and negative psychological affect. This was also true for 20-24 year olds on the same variables. Twenty-five to twenty-nine year olds and 30-34 year olds differed significantly from 18-19 and 20-24 year olds on completed caring activity and negative psychological affect; however 25-29 and 30-34 year olds did not differ significantly from each other on these variables. These findings support that caregivers differ in amount of caregiving activity and psychological affect across age groups. Adult caregiving subgroups should be created to account for variations across the developmental stages.

#### PARENTAL SURVIVAL AND CARE NEEDS AMONG DIFFERENT BABY BOOM COHORTS

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There has been considerable concern about the future availability of family care for the baby boom cohorts. However, as care needs typically arise in late old age and care provision is associated with diverse negative health outcomes, a more immediate issue is the care burden faced by the baby boomer cohorts as their parents reach their old age. To address this issue, we compare parental care needs and care provision among four cohorts of baby boomers, namely, those aged 51-56 in 1992, 1998, 2004, and 2010 using pooled data from the nationally representative Health and Retirement Study ( $N=14,948$ ). Our data indicate that overall 19.5% of respondents have both parents living and 63.2% have at least one living parent. Using logistic regressions that control for gender, age, race, education, marital/partnered status, and foreign born status, we find that parental survival increased substantially for the younger cohorts, especially survival of both parents. In addition, parental frailty (needs help with ADLs or cannot be left alone) is higher among younger cohorts. However, care provision is not significantly higher among younger cohorts, especially when differential survival of parents is taken into account. It is not clear whether frail parent in younger cohorts are more able to rely on spouses or other sources of help or whether they self-manage their frailty. Without doubt, these data raise concerns about the rising morbidity among the elderly and potential associated care provision from sources other than their children.

#### CONVERGENCE OF SELF-REPORT AND CLINICAL RATINGS OF DEPRESSION AND ANXIETY MEASURES BY CUSTODIAL GRANDMOTHERS

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Accurate, time and cost-efficient measurement of depressive and anxiety symptom severity and other caregiver outcomes is of great importance in assessing and monitoring treatment for older adults. Using data from the project COPE – an RCT study to test the impact of intervention programs on the wellbeing of custodial grandmothers and their grandchildren, we examine the level of similarity and equivalence between clinical and self-report measures of depression and anxiety among 152 Caucasian, 149 African Americans and 38 Hispanic custodial grandmothers ( $N= 339$ ; Mean age = 58.4). Our goals are to look at convergence between self-report measures of depression (CES-D) and anxiety (OASIS) with clinical ratings of depression (MADRS) and anxiety (HAMAS), and note any differences by race in self-report and clinical measures in terms of both continuous scores and clinical cut-offs. Strong to moderate significant zero-order correlations were found between self-report and clinical depression (0.75 and 0.52 for continuous and cutoff measures) and anxiety (0.66 and 0.47 for continuous and cutoff measures). The strength of these correlations was also similar across Caucasian, African American and Hispanics grandmothers.

Analyses of variance indicated significant differences among Caucasian and African American grandmothers for measures of depression and no significant differences for ratings of anxiety among the three groups using both self-report and clinical ratings. Findings indicate that self-report and clinical measures of depression and anxiety among custodial grandmothers are equally valid to detect racial/ethnic differences. These findings support the use of either self-report or clinical ratings measures among custodial grandmothers. [Funded by R01NR012256]

#### **LESSONS LEARNED: RECOMMENDATIONS FOR IN-HOME CAREGIVER SUPPORT INTERVENTIONS**

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Accessing interventions designed to meet the needs of dementia caregivers can be difficult given the demand of their caregiving duties. To address this problem, we developed Supporting Caregivers of Rural Veterans Electronically (SCORE), a psychoeducational caregiver intervention delivered via in-home telehealth devices. The purpose of this presentation is to identify: 1) the usefulness of the program; 2) barriers to participation; and 3) recommendations. Participants were assigned a Care Manager, who provided telephone support, assisted with delivery of the educational content, and followed the caregiver over the course of the study. Participants were randomly assigned into one of two groups: 1) telephone support, “attention control group,” or, 2) intervention. Caregivers (n = 118) completed semi-structured interviews at the end of the study. Qualitative data were analyzed using the constant comparative method to identify themes. Most participants were female spouses (mean age: 68.75 years old (11.92 years)). Several themes emerged. First, caregivers found the educational information about dementia and its progression most useful. Second, access to a knowledgeable contact person was invaluable. Finally, caregivers preferred receiving information to coincide with the immediate need. Barriers to participating in the program included: limited time to access the content; the demands of caregiving; and the caregivers’ own health problems. These results suggest that a technology-based, in-home caregiver support program is a feasible method to provide support to dementia caregivers. Given the time limitations caregivers have, we recommend flexibly tailoring educational material and a Care Manager to support the caregivers’ immediate needs.

#### **COMPLEX ASSOCIATIONS AMONG CAREGIVING, IL-6, DHEAS AND METABOLIC DYSREGULATION IN OLDER ADULTS**

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Psychoneuroendocrinology theories predict that the chronic stress leads to immune system and hypothalamic-pituitary-adrenal (HPA) axis dysregulation, resulting in metabolic syndrome. We hypothesized that caregivers would be more stressed than non-caregivers, resulting in stronger associations between biomarkers of the immune system (IL-6) and HPA axis (DHEAS) with metabolic dysregulation based on ATP-III criteria. The sample included 185 community-dwelling adults aged 60-97 (mean = 74, sd = 7.9) from the Boston MA area, 70% were female, 21% had metabolic syndrome. Participants included caregivers to persons with Alzheimer’s Disease or Parkinson’s Disease (38%) and non-caregivers (62%). Caregivers were mostly spouses of the care recipient (83%), helped with an average of 5.5 IADLs and 2.9 ADLs, and had been providing care for an average of 6.8 years (sd = 8.7). Women caregivers reported higher Perceived Stress Scores than other

gender/caregiver groups (mean = 20.2 versus 13.5-16.4, p<0.01), but were least likely to have metabolic syndrome (14%) or metabolic dysregulation (mean 1.27 +/- 0.2 components). Men caregivers had the most metabolic dysregulation: 33% had metabolic syndrome; mean 2.29 +/- 0.3 components. In age-adjusted analyses, higher quintiles of IL-6 were associated with greater metabolic dysregulation in caregivers (beta coefficient +/- standard error = 0.49 +/- 0.17 and 0.31 +/- 0.09 for men and women, respectively, p<0.01), women non-caregivers (0.18, +/- 0.09, p<0.05) but not men non-caregivers (0.09 +/- 0.18). DHEAS was not associated with metabolic dysregulation in any group. In conclusion, stress-related physiological associations differed by gender/caregiver group; the hypothesis was supported by results with IL-6 but not DHEAS.

#### **INTERGENERATIONAL CAREGIVING AND BOOMERS: PROVIDING CARE TODAY, NEEDING CARE TOMORROW**

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More than 85% of adults aged 40–50 years have a living parent (Swartz, 2009) and baby boomers in their 60s are living an additional 19.9 years on average (Arias, 2011). Thus, there is a tremendous impact on family caregiving across generations. Moreover, many boomers share caregiving responsibilities for parents, children, and grandchildren, while anticipating their own future caregiving needs (Fingerman, et al., 2012). We examined family caregiving issues and future self-care needs of 77 participants aged 55-70 who self-identified as caregivers in a study of retirement needs of baby boomers living in a metropolitan area. Sixty-one percent were female. Participants reported providing care for parents (58%), spouses/partners (27%), children/grandchildren (23%), siblings (5%), and/or friends (4%). Caregiving responsibilities included transportation (62%), shopping (60%), housework (58%), meal preparation (58%), friendship (53%), financial assistance (48%), yard work (40%), and bathing (29%). Thirty-six percent indicated they spent between 1-10 hours/week providing care, 12% spent 11-20 hours/week, and 6% responded that care responsibilities never ended. Forty-nine percent reported wanting to live close to family/friends. When asked to anticipate their own future care needs, 33% responded that family members would provide care, 44% were unsure about family support, and 21% had no family caregiver options. Baby boomers are facing intergenerational caregiving responsibilities unlike any time in history. As the balance shifts from boomers providing care to needing care in the coming decades, findings from this study can contribute to the development of micro-, mezzo, and macro-level interventions.

#### **GERMAN SURVEY ON VOLUNTEERING: FAMILIAL CARE AND SELECTION OF VOLUNTEERING DOMAINS IN THE COMMUNITY**

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Purpose. Having a person in need of care in the family can restrict participation such as volunteering outside the family. Having high prosocial values might motivate those individuals to volunteer despite high care-related time demands. Social contact to other families in similar circumstances might lead to a higher likelihood to volunteer in the domains of care or health (“network hypothesis”). However familial caregivers might also be likely to search for volunteering opportunities in domains that offer experiences that are in contrast to their obligations at home (“volunteering as compensation hypothesis”). Methods. Among 20,005 participants of the German Survey on Volunteering 2009 we have identified 1,284 individuals aged 14-91 years (M=51 years; SD=17.4 years) having a care recipient in the family for whom they are (mainly or partially) responsible. Findings. Compared to the average German population family caregivers reported a higher rate of overall volunteering (39% vs. 36%), as well as a higher rate in the domain of health (5% vs. 2%). With respect to the domain of sports there were



no differences (10% in both groups). Logistic regression revealed that (among other variables) prosocial values and not having enough time for activities other than caregiving predicted volunteering outside the family. Interpretation. Prosocial values seem to be more important than time budget for volunteering outside the family. The higher than average rate of volunteering gives further evidence for a link between private and public helping behaviors. In addition, the higher than average rate in the health domain supports the network hypothesis.

#### **PSYCHOLOGISTS IN HOME BASED HOSPICE CARE: A SURVEY AND RECOMMENDATIONS FOR PRACTICE**

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In a random sample survey of home-based hospice organizations in Missouri the presence and roles of psychologist staff members were assessed. Hospice teams were identified by the state board in this rural and urban sampling. Of the forty-five home-based hospice organizations surveyed, only one had a psychologist on the team and this was in an administrative capacity. Potential barriers to hiring psychologists include expense, interpretation of regulations by state boards for psychosocial services, and lack of understanding of benefits of psychological interventions at the end of life, and lack of interested or trained psychologists. Psychological conditions were identified in this survey for patients and included: depression, anxiety, grief/loss, trauma, and suicidal thoughts/attempts. Palliative and hospice care teams within hospital and the Veteran's Administration system are more likely to have psychologists on staff providing at least part-time services in this specialty area. Barriers can be overcome with internship or other training opportunities within a hospice model and education of state boards and hospice administrators in the efficacy of psychologist staffing.

#### **CHARACTERISTICS OF LATE-LIFE DEPRESSION IN NURSING HOME PATIENTS RELATED TO TIME OF ONSET AND RECURRENCE**

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In searching for more effective treatments for depression in late life, researchers have distinguished subtypes based on age of onset or recurrence of episodes. Prior research has found that early onset patients were older, whereas later onset patients or those with recurrent episodes had lower cognitive and physical functioning. Research is conflicting on severity of depression. We analyzed baseline data from a clinical trial in nursing homes. We hypothesized that the recurrent depressed participants would be more impaired in cognition and daily function, have less activity, higher depressive symptoms, and generate greater staff burden and problem behaviors. Participants were 51 residents with major depression diagnosed using a structured interview. Participants were divided by early or late onset and by single episode vs recurrent. Late-onset participants were significantly older and had higher self-reported negative affect, but did not differ in other respects from the early-onset participants. Participants with recurrent episodes spent more time in dependent ADL activity and were less educated. We did not find differences related to cognition, depression severity, or medical burden. In long term care, patient differences based on time of onset and recurrence appear to be minimal; differences from other studies may be due to the higher level of overall medical comorbidity in this sample, as well as a higher mean age, both differences associated with a long-term care population. Since major depression is a known risk factor for long-term care admission, future research should emphasize differences in risk for admission based on depression history.

#### **OLDER ADULTS' PERSPECTIVES ON SELF-CARE OF MULTIPLE CHRONIC CONDITIONS: STATE OF THE SCIENCE**

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The prevalence of Multiple Chronic Conditions (MCC) is continuing to rise, reaching more than 60% of persons 65 years or older. Having MCC complicates the diagnosis, management, and natural course of each separate condition. Self-care is crucial in the management of chronic diseases. However, little is known about self-care practices of older adults with MCC and their perspectives on living with MCC. A systematic search was carried in PubMed, CINAHL and EMBASE databases focusing on older adults and combining "self-care" or "self-management" with "multiple chronic conditions", "multiple comorbid conditions", "multiple chronic diseases", "multimorbidity", or "comorbidity". Following a thorough review of the titles and abstracts, 20 articles focusing on older adults' perspectives and challenges of managing and coping with MCC were included. Most studies were qualitative and presented at least two of the following major themes: (1) individuals with MCC prioritize one condition over the others based on their prior experiences and the seriousness, predictability, or controllability of their conditions; (2) individuals with MCC receive health-related recommendations from multiple sources and navigate a fragmented health care system; (3) individuals with MCC face challenges with self-care practices, such as lifestyle changes, polypharmacy, and symptom recognition. Individuals with MCC also identified miscellaneous barriers and facilitators to self-care practices, such as self-efficacy, social support, and access to resources. Through optimal collaboration with patients, health care professionals can start designing interventions and developing guidelines to address the complexity of MCC and bolster self-care practices of older adults with MCC.

#### **EVIDENCE OF DIFFERENTIAL MORTALITY BETWEEN ELDER SELF-NEGLECT TYPES**

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Background: Elder self-neglect independently predicts mortality; beyond other medical, social, physical and mental factors. This study provides new evidence regarding 4-year differential all-cause mortality associated with types of elder self-neglect. Methods: A secondary data analysis of N=5,511 cases of elder self-self-neglect (i.e. age >64) substantiated by Texas Adult Protective Services (APS), between the dates of January 1, 2004 and December 31, 2008 and data from the Texas Vital Statistics was conducted. Datasets were matched using probabilistic and deterministic algorithms. Adjusted 4-year survival analyses were conducted to assess for differential all-cause mortality across medical neglect, physical neglect, mental health neglect and poly-neglect. Results: Differential mortality was assessed by comparing medical neglect (HR = 1.80, 95% CI: [1.25, 2.56], p = 0.00162) and physical neglect (HR = 1.38, 95% CI: [0.97, 1.98], p = 0.0717) to mental health neglect (4-year survival rate: 66.2%, 95% CI: [0.607, 0.723]), adjusting for age. Comparing medical neglect (HR = 1.29, 95% CI: [1.15, 1.45]) to physical neglect also showed a significant difference in mortality. Poly elder self-neglect (HR = 1.27, 95% CI: [1.12, 1.42], p < 0.001) had a greater risk of mortality when compared to a single type of elder self-neglect (4-year survival rate: 66.5%, 95% CI: [64.7%, 68.3%]). Conclusion: This study provides evidence for differential mortality between the types of elder self-neglect. In addition, neglecting multiple domains imposes a greater risk when compared to a single domain. These data have important implications for the case management and triage of APS substantiated elder self-neglect cases.

## COGNITIVE BEHAVIOR THERAPY GROUPS FOR OLDER ADULTS: AN EFFECTIVE TREATMENT OPTION TO ENHANCE QUALITY OF LIFE

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Outpatient CBT groups for older adults dealing with mood disorders and difficulties adjusting to changes due to aging and increased health stressors, have been offered at the University of Michigan Geriatrics Center clinics for the last 20 years. They are proven to be an effective and cost efficient model of care. Groups are offered twice every year to 8-12 participants for 10 sessions, and are co-facilitated by 2 clinical social workers. Each session includes educational materials, practice and implementation of skills to group members' situations, and peer support. The poster will give an overview for practitioners to implement CBT groups in various settings, and will include outline and content of group sessions, tools used, and description of the course book with examples specific to the aging cohort. After completion of the 10-week series, participants are offered monthly support group sessions to strengthen their new developed skills, deepen peer support, and prevent and/or address relapse of mood changes. Analysis from data collection from 2008 to the present, include pre and post test scores from group members' Geriatric Depression Scale and Burns Anxiety scale to document changes and improvements of mood over the course of the group therapy sessions. Research documents the value and effectiveness of CBT to the older adult population as a brief evidence based intervention model. By combining these techniques with group peer support, we are able to empower our older adult patients population to improve their quality of life in a meaningful way.

## AN EXPLORATORY FACTOR ANALYSIS OF THE PERSON-CENTERED CARE ATTITUDE TEST

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Few validated person-centered care (PCC) surveys exist that measure the extent to which PCC is practiced in care settings; none measure staff members' attitudes toward PCC. This poster presents the results of an exploration of the construct validity of the Person-Centered Care Attitude Test (Per-CCat). The Per-CCat version 5 consists of 42 Likert-type questions divided into four sections that align with PCC principles: care, communication, culture and community, and climate. Eighty-six employees of Virginia Mennonite Retirement Community completed the survey; due to missing data 70 were analyzed. Principle Components Analysis was utilized for the exploratory analysis. Bartlett's Test of Sphericity ( $X^2 = 2006.56$ ,  $p = .000$ ) and Keiser-Myers-Olkins measure of sampling adequacy (.746) indicated that the data were factorable. The rotated components matrix suggested that there were five components. Using factor loadings  $> .30$ , Per-CCat items were sorted into factors and examined for logical groupings. Eight questions were removed because they loaded on more than one factor or did not align with the other questions in the group. The 5 factor, 34 item solution suggested that the Per-CCat does measure attitude toward the following PCC principles: Residents' personhood; staff attitudes toward work; care that honors personhood; work climate; and culture. Further validation studies of the Per-CCat are necessary. Given the trend in long-term care toward person-centered care, a validated survey measuring attitudes toward PCC will be useful for hiring and educating nursing home personnel.

## SESSION 230 (POSTER)

### COGNITIVE FUNCTION

#### EMOTION DIFFERENTIALLY IMPACTS PATTERN SEPARATION FOR YOUNGER BUT NOT OLDER ADULTS

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Think about arriving at a vaguely familiar street corner. How does your brain distinguish this street corner from those seen previously and encode it as a unique memory? The CA3 and dentate gyrus subfields of the hippocampus play key roles in pattern separation, the process that permits a new representation that shares features with old representations to be encoded as a unique representation. These hippocampal subfields have many noradrenergic receptors, making them quite responsive to emotional arousal. Both pattern separation processes and noradrenergic systems decline in aging. We examined whether emotion influences pattern separation more for younger than for older adults. Participants completed a continuous recognition memory task. Object and scene images were presented one at a time, with some images repeated. Other images, which were similar to previously seen images, but not exactly the same, were presented as "lure" items. While viewing each image, participants indicated if the item was new, had been previously seen, or was similar to an image they had seen before. Trials were blocked, with blocks containing either emotional or neutral filler items. Younger adults showed better pattern separation (lower false alarms) to similar images in emotional blocks, than neutral blocks. Older adults, alternatively, made marginally more false alarms in emotional blocks, than neutral blocks. Pattern separation was enhanced by emotion in younger adults, but not in older adults. This suggests that an important function of arousal—making new events more distinct from previous events in memory—no longer is as effective in later life.

#### COMPARING AGE-RELATED COGNITIVE PERFORMANCE IN PARKINSON'S DISEASE TO AGE-RELATED COGNITIVE PERFORMANCE IN AGE- AND EDUCATION-MATCHED CONTROLS

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Characterizing age-cognition relationships in patients with Parkinson's disease (PD) receives less attention than efforts devoted to characterizing cognitive differences between PD and normal aging, or establishing cognitive correlates of disease progression. In this study we find age at PD diagnosis (AAD) to be a leading predictor of cognitive function, particularly when compared to age- and education-matched normal controls (NC). By example, in NC (N 29, ages 54-80, M=67 years), long-delay free recall (LDF) on the California Verbal Learning Test (CVLT-C; Children's version is used to ensure adequate PD performance) shows no significant relationship with age ( $r = -.22$ ) or apathy ( $r = -.11$ ; Marin's 14-item scale; AP). There is, however, a significant relationship ( $r = -.52$ ) between LDF and depression (15-item GDS). By contrast, in PD patients (N 30, ages 51-90, M=70 years), age is strongly correlated with LDF ( $r = .71$ ) and AAD ( $r = .96$ ). AAD is similarly related to LDF ( $r = .71$ ). As well, GDS and AP correlate with LDF performance in PD ( $-.52$  and  $-.37$ , respectively). Of note, AP and GDS have a non-significant linear correlation with each other ( $r = -.16$ ; trending toward non-linear  $r$ ). Interestingly, and counter to expectations, duration of disease (DUR) correlates positively with LDF ( $r = .39$ ) i.e., longer duration relates to better LDF. When entered into a multiple regression model, AAD eclipses other predictors of LDF (e.g., AP, GDS, DUR). Although not completely understood in mechanism, AAD/age emerges as a significant predictor of memory performance for PD patients, and is a major qualitative variable discriminating between performance in age-related NC and PD patients.

## **DIFFERENCES IN FUNCTION, COGNITION, AND HEALTH VARIABLES BASED ON FRAILTY SEVERITY**

K.B. Dassel, L.S. Edelman, N. Sanders, *University of Utah, Salt Lake City, Utah*

Frailty is a complex condition related to disability, aging, and a variety of medical conditions. The current study examined group (N=50) differences between prefrail and frail older adults referred to the University-affiliated Faint & Fall Clinic in relation to cognitive, functional, and health variables. This study sample was on average 75.6 (S.D. = 10.5) years old, 99% White, and 54% female. Participants were categorized as pre-frail (n=29) if they met 1-2 criteria on the frailty index or frail (n=21) if they met 3+ criteria. In regards to daily function there was an even split between impaired and unimpaired IADL functions, whereas there were significantly fewer participants impaired in basic ADLs (only 24% were impaired). Fifty-eight percent of the sample screened positive for depression based on results from the PHQ-2 and/or current treatment with antidepressant medications. Thirty-four percent of patients exhibited impaired cognitive functioning based on the Mini-Cog. Results of a Chi-square analysis exploring group differences (prefrail vs. frail) in the presence of + depression screen, cognitive status, and IADL/ADL functioning revealed that patients who were prefrail were significantly more likely to have a positive depression screen ( $\chi^2 = 7.7$ ;  $p < .01$ ), have IADL impairments ( $\chi^2 = 4.0$ ;  $p < .05$ ), and be obese ( $\chi^2 = 4.8$ ;  $p = .03$ ) compared to those persons who were frail. No significant differences were found between frailty groups on cognitive status or ADL functions. This study suggests that intervention techniques should be targeted towards the prefrail older adult population in order to help slow or prevent additional health decline.

## **PERSON PERCEPTION IN FRAIL, OLDER ADULTS: CONTENT ANALYSIS OF THEIR DESCRIPTIONS OF FAMILIAR OTHERS**

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Person perception includes the ability to form and use cohesive internal representations of those we interact with over time. As part of a larger study of social cognition in aging and dementia, 40 nursing home residents, nearly half with GDS scores indicating mild to moderate cognitive decline, completed a test that assessed their ability to describe psychological attributes of familiar others. Participants were instructed to think of two people whom they had known well and to describe each one so that the interviewer would have a clear idea of what he or she was like; they were also asked to describe themselves. Verbatim transcripts of the descriptions of familiar others were scored for two types of statements: "Differentiating," where the person was described in terms of fairly specific personal characteristics, such as interests or abilities; and "Dispositional," which described traits having implications for the person's behavior in multiple situations or which referred to his or her thoughts and feelings. Average number of statements coded as "Differentiating" or "Dispositional" across descriptions was significantly higher for residents with no or minimal cognitive impairment than for those with mild to moderate impairment. Additional analyses examined the general approach that participants took in describing a familiar other, e.g., historical, anecdotal; the specific types of characteristics participants chose, or remembered, to relate; and, finally, how they described themselves. Measures like this are informative about frail, older adults' lived social experience, as well as their ability to understand and respond to others.

## **THE TRAJECTORY OF COGNITIVE AGING AND ASSOCIATED FACTORS IN COMMUNITY-DWELLING ELDERLY IN BEIJING**

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The phenomenon of age-related decrements has been well documented for various cognitive abilities in later life. Unfortunately, there is still only limited evidence in Mainland Chinese old population. In this study, we used a battery of neuropsychological scales to estimate the patterns of age-related declines and the potential associated factors of cognitive function in community-dwelling residents of Beijing. 1248 elderly subjects finished 9 neuropsychological tests assessing general mental status, episodic memory, visual-spatial ability, language, processing speed, and executive function. Their personal information questionnaire including demographic information, medical history, eating habits, lifestyle regularity and leisure activities were also collected. The apolipoprotein E gene was genotyped using TaqMan genotyping assays. One-way analysis of variance showed significant differences in the neuropsychological scores across the age groups. The piece-wise linear fitting results suggested that the performance on Auditory Verbal Learning Test remained stable until 58 years old, and kept declining thereafter. Regarding processing speed and executive function, the linear declines began at early 50s. The Scores on visual-spatial and language tests came down after 66 years old. The rapid decline stage of Mini-Mental Status Examination was from aged 63 to 70 years. Multivariate linear regression indicated that the education, gender, leisure activities, diabetes, and eating habits were associated with cognitive abilities. Our results could enlighten determining the critical periods or optimal times for intervention. The identification of these potential associated factors for cognition in late adulthood, especially those that can be altered, had both scientific significance and clinical relevance.

## **YOU ARE OVERTHINKING IT: THE NEGATIVE IMPACT OF COGNITIVE REAPPRAISAL ON THE RELATIONSHIP BETWEEN LONELINESS AND PHYSICAL HEALTH**

M.C. Chan, H. Fung, *Chinese University of Hong Kong, Hong Kong, Hong Kong*

The detrimental effect of loneliness on health is well documented in the literature. For example, loneliness is found to be a risk factor for health conditions including increased vascular resistance and elevated systolic blood pressure. On the other hand, recent research has found the salutary effect of an emotion regulation (ER) strategy known as cognitive reappraisal on health. Appleton, Buka, Loucks, Gilman, & Kubzansky (2013) contrasted cognitive reappraisal and another ER strategy known as suppression, and found that reappraisal contributed to reduced risk in levels of inflammation, while suppression increased the risk of inflammation. Despite the benefits of reappraisal, a person-by-situation approach suggests that the adaptiveness of different ER strategies depends on the situation in which they are used. In our study with participants across the lifespan (Age 17 to 83), we explored the relationship among loneliness, habitual reappraisal, and the degree of physical or somatic complaints endorsed by the participants. We found that usage of cognitive reappraisal is positively correlated with level of loneliness and negatively correlated with the degree of physical symptoms endorsed by the participants. Furthermore, usage of cognitive reappraisal statistically mediated the positive correlation between loneliness and degree of physical symptoms reported by the participants. Finally, there are no age differences between young, middle, and old age group for the mediation model. The result of this study suggested that cognitive reappraisal is not inherently and always adaptive. Specifically, the present finding supports the critical role of flexibility in deployment of different regulatory strategies depending on context.

## DIABETES AND COGNITIVE PERFORMANCE IN A NATIONALLY REPRESENTATIVE SAMPLE: THE NATIONAL HEALTH AND AGING TRENDS STUDY

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Type II diabetes mellitus (DM) and cognitive impairment are common in older adults, and their prevalence is increasing. Thus, it is important to examine the extent to which they are related. We investigated the association of DM diagnosis with cognitive performance and dementia diagnosis using data from 7,606 participants in the National Health and Aging Trends Study (NHATS), a nationally representative cohort of Medicare beneficiaries aged  $\geq 65$  years. Participants or proxy respondents reported DM and dementia diagnosis; participants completed a word list memory test and the Clock Drawing Test (CDT), and they rated their own memory. Analyses adjusted for demographic characteristics, body mass index, depression and anxiety symptoms, and medical conditions showed that DM was associated with poorer immediate recall ( $B = -0.31$ , 95% CI  $-0.41, -0.20$ ), delayed recall ( $B = -0.30$ , 95% CI  $-0.43, -0.18$ ), and poorer self-rated memory ( $B = -0.10$ , 95% CI  $0.04, 0.16$ ), but not with the CDT ( $B = -0.07$ , 95% CI  $-0.15, 0.005$ ). After excluding participants with history of stroke, we found that DM diagnosis was more strongly associated with poorer immediate ( $B = -0.33$ , 95% CI  $-0.44, -0.21$ ) and delayed recall ( $B = -0.30$ , 95% CI  $-0.44, -0.16$ ), CDT performance ( $B = -0.10$ , 95% CI  $-0.17, -0.02$ ), and poorer self-rated memory ( $B = 0.10$ , 95% CI  $0.04, 0.16$ ). There were no associations between DM and dementia diagnosis. These findings, in a recent nationally representative sample of Medicare enrollees, provide further support for DM as a risk factor for poor cognitive performance. Future studies should investigate the possibility of using DM treatment to prevent cognitive decline.

## COGNITIVE STATUS AND INITIATION OF PROVIDER-RECOMMENDED LIFESTYLE CHANGES FOLLOWING ACUTE CORONARY SYNDROME

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Background: Lifestyle changes are often recommended to patients with acute coronary syndrome (ACS) to reduce their risk of recurrent events. We examined whether patient reports of providers' recommendations for lifestyle changes and patient initiation of recommended lifestyle changes vary by cognitive status. Methods: Cognitive status was assessed during hospitalization in 881 ACS patients (mean age=62, 70% male) from the TRACE-CORE study without dementia or delirium using the Telephone Interview for Cognitive Status (range=0-41,  $\leq 28$  signals impairment). During a one-month follow-up interview, patients reported whether they had received recommendations from a health care provider to change their diet, exercise more, quit smoking, reduce stress, or attend cardiac rehabilitation. Patients reporting a recommendation were asked whether they had initiated the change. Multivariable Poisson regression with robust error variance estimated the association between cognitive status and recommendation for and initiation of each lifestyle change. Results: Ninety patients (10%) were cognitively impaired during hospitalization. One month post-discharge, cognitively impaired patients were 29% less likely ( $RR = 0.71$ , 95%CI=0.55-0.92) to report recommendation by a provider to attend cardiac rehab and 42% less likely ( $RR=0.58$ , 95%CI=0.35-0.95) to report attendance than unimpaired patients. Cognitive status was not associated with reports of provider recommendation for, or patients' initiation of, other lifestyle changes. Conclusions: With the exception of cardiac rehab, patients

with and without cognitive impairment were similarly likely to report recommendation and initiation of lifestyle changes. Future research should examine whether cognitively impaired ACS patients can accurately self-report on receipt of recommendation and initiation of lifestyle changes.

## DAILY FLUCTUATIONS IN EVERYDAY COGNITION: IS IT MEANINGFUL?

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Everyday cognition measures thought processes and reasoning in the context of real-world cognitive competency. Previous research has shown that basic abilities underlie the performance on everyday cognition measures. These prior studies have used a between-subjects approach, which does not account for daily changes in cognition. It is important to take these differences into consideration because basic cognitive abilities fluctuate on a daily basis. The present study explores the utility of capturing daily fluctuations on tasks using real-world stimuli. The study aimed (1) to examine the extent of within-person and between-person variability in everyday cognition (2) investigate the within-person coupling relationship between the DECA, an adapted measure of the Everyday Cognition Battery (ECB), and basic cognitive abilities. A sample of 206 independent-living, adults (M age = 72.79; Range = 60 – 91 years old) were administered a computerized cognitive battery. The cognitive battery included the DECA and psychometric measures of basic cognitive abilities (perceptual speed, reasoning, and memory). Using multi-level model (MLM), significant within-person variability was observed across the DECA (46%), with 54% between-person variability. At each occasion, better performance on the DECA was significantly associated with better performance in simple reaction time (SRT;  $p < .01$ ) and memory (AVLT;  $p < .01$ ) even after accounting for linear time, age, education, and other cognitive measures. In summation, within-person performance fluctuations were observed for everyday cognition tasks. Further research should explore whether fluctuations on everyday measures may be a useful screening of early cognitive decline above and beyond the traditional cognitive measures.

## BEHAVIORAL COMPETENCE AND EMOTIONAL WELL-BEING IN MCI: IN BETWEEN COGNITIVE HEALTH AND DEMENTIA?

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Previous research has rarely investigated which factors, beyond cognitive abilities, are able to discriminate between older adults with mild cognitive impairment (MCI) and demented older adults as well as cognitively unimpaired individuals. In this study, we examined if older individuals with MCI differed from healthy controls (HC) and persons with dementia (AD) in objective and perceived behavioral competence and emotional well-being. Our sample consisted of 257 older adults from Israel and Germany aged 59 to 91 years ( $M = 72.9$ ;  $SD = 6.4$ ). Objective behavioral competence (assessed based on Global Positioning System (GPS) based tracking data and a structured questionnaire) of MCI individuals was fairly similar to the HC group. However, regarding perceived behavioral competence and emotional well-being, MCI individuals were more similar to the AD group and below the HC group's mean levels. Moreover, some unique characteristics of the MCI group were found, such as a mean negative affect which was significantly above both other groups and a mean cognitive activity engagement which was in between AD and HC. Moreover, based on a longitudinal analysis with a subsample across approximately 18 months, a

mean increase in negative affect was observed in the MCI group only. Findings thus suggest that a differentiated view of MCI individuals is in place: In objective behavioral competence, they are more similar to cognitively healthy individuals, in perceived behavioral competence and emotional well-being, they are closer to demented older adults. Moreover, they reveal some unique characteristics in which they are different from both other groups.

#### **DAILY DEMANDS INTERFERE WITH COGNITION: SOME DAYS ARE BETTER THAN OTHERS**

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Previous research, mainly conducted in lab-based settings and using between-person analyses, has shown that cognitive interference may negatively affect cognition (Clapp & Gazzaley, 2010). We investigated the role of internal sources of interference (i.e., intrusive thinking and multitasking) in everyday life in relation to daily cognition, and the moderating role of age. Participants (n=122; age range:22-94 years) completed a background questionnaire and a daily diary for one week. Cognitive performance was measured at baseline using the Brief Test of Adult Cognition (BTACT) and over seven consecutive days using immediate word recall, category fluency tasks, and self-reported memory problems. Reports of intrusive thinking and multi-tasking were also assessed over the seven days. Multi-level modeling (MLM) examined within-person relationships between interference and daily cognition and age differences. Covariates included gender, education, work status, busyness, and cognitive functioning measured with BTACT. Older age was associated with less intrusive thinking and worse objective daily cognition; age was not related to multi-tasking or daily memory problems. In MLM, participants scored worse on category fluency on days with more intrusive thoughts. Multi-tasking was not related to category fluency. On days with more intrusive thinking and multi-tasking, participants reported more everyday memory problems. Interference was not related to recall and there were no interactions with age. Across the adult lifespan, internal sources of interference associated with the demands of daily life contribute to intraindividual fluctuations in cognitive functioning, particularly executive functioning and everyday memory problems. The results have implications for interventions aimed to improve daily cognition.

#### **COGNITIVE CHARACTERISTICS OF COMMUNITY-DWELLING OLDER PEOPLE WITH MILD COGNITIVE IMPAIRMENT AS ASSESSED BY THE JAPANESE VERSION OF THE MONTREAL COGNITIVE ASSESSMENT**

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Background: The Montreal Cognitive Assessment (MoCA) is sensitive to mild cognitive impairment (MCI) in clinical settings and covers several domains, including attention, orientation, language, memory, visuospatial, and executive function. The aim of the study was to examine cognitive characteristics of community elderly with MCI, using a Japanese version of the MoCA (MoCA-J). We used the data from both community setting and clinical setting and compared the scores with the subtests of the MoCA-J. Method: In the community setting, 913 community-dwelling Japanese elderly participated in health examinations. The MoCA-J, MMSE, and other survey of actual life situation were conducted. From the results of the assessment, 913 persons were divided into three groups, Cognitive Impairment (participants who scored <24 in MMSE, n=53, mean age=76.9), Operational MCI (O-MCI, participants who scored <26 in MoCA-J with complaints about memory problems, 315, 74.3), and Normal Control (NC, 416, 72.5). In the clinical setting, MCI patients were recruited from the outpatient memory clinic (Clinical

MCI; C-MCI, 30, 77.5). Results: In the community setting, scores on attention, language, memory, and executive function were significantly different among three groups (p<.01 each). There were no significance between NC and O-MCI on orientation score. In comparisons of O-MCI and C-MCI, there were significant difference on memory score (1.5 vs 0.7, p<.01). Conclusion: While older persons with O-MCI as defined by MoCA-J are impaired on several cognitive domains other than orientation, memory have not decline like a MCI patient.

#### **COGNITIVE COMPENSATION IN THE CONTEXT OF AN UNPREDICTABLE PLATFORM PERTURBATION**

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Epidemiological research indicates a link between hearing loss and mobility. A potential explanation is that cognitive compensation occurs in both speech perception and postural tasks in older adults. Therefore, simultaneous listening and balancing might be more challenging for older adults with hearing loss. We investigated this hypothesis using a dual-task paradigm. Samples of healthy young (n = 28) and older adults (n = 8) completed cognitive (modified n-back) and balance (balancing on a moving platform) tasks singly and concurrently. Each condition was given under noisy and quiet conditions, where background noise (babble) was used to simulate auditory aging. Participants made significantly more cognitive errors in noisy compared to quiet conditions, and older adults made more errors when compared to younger adults. Importantly, an interaction between auditory challenge and age indicated that older adults exhibited greater competition for cognitive capacity than young adults, suggesting a different resource allocation strategy. Center of mass data indicated an effect of background noise whereby the amplitude of the peak displacement was decreased. Together, the results suggest that sensory challenge has a negative effect on auditory-cognitive performance and changes the postural response to a mild perturbation. These results support the contention that hearing loss and mobility challenge are linked by their common reliance on compensatory cognitive capacity.

#### **CENTENARIAN OFFSPRING SHOW BETTER COGNITIVE FUNCTION ACROSS LONGITUDINAL FOLLOW-UP**

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Centenarian offspring, who have been shown to have reduced morbidity compared to age-matched cohorts, can serve as windows into earlier life advantages of familial exceptional longevity. In this study we examined whether centenarian offspring have better cognitive function than a referent cohort and whether they are able to maintain that cognitive advantage with aging. Methods: New England Centenarian Study (NECS) offspring and referent controls were administered the Telephone Interview for Cognitive Status (TICS), a 51 point measure of global cognitive function, biennially via telephone. Mixed effects models for repeated measures were used to determine average cognitive trajectories for centenarian offspring and referent cohorts by sex and education level. Results: 762 participants (age range 49-97 years) completed at least one administration of the TICS with an average of 2.8 administrations occurring over 3.9 years of follow-up. In both males and females, centenarian offspring with a college degree performed better than referent controls with a college degree followed by centenarian

offspring without college degrees and controls without college degrees. Females in each group outperformed males in corresponding groups ( $p < 0.0001$ ) which is consistent with other studies that use the TICS. Over follow-up, centenarian offspring maintained higher TICS scores compared to their referent groups. Conclusion: Centenarian offspring from the NECS have better cognitive function across longitudinal follow-up compared to a referent cohort. The cognitive benefits of familial exceptional longevity are evident even at relatively young ages.

### **MULTI-TASK TRAINING IS THE EFFECTIVE TOOL TO IMPROVE COGNITIVE PERFORMANCE IN OLDER ADULTS**

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**BACKGROUND:** many studies confirm the positive effect of dual-task training on cognitive ability in older adults. The aim of our work is to verify that multi-task training is the most effective way to improve cognitive function in people with mild cognitive decline than dual task. **METHODS:** we established special gymnastics based on a combination of motor learning tasks (using small tools) and cognitive tasks, forming exercises which require cognitive effort. We created two groups different from each training: Dual-Task Training Group (DTTG) and Multi-Task Training Group (MTTG) each of 32 participants aged  $\geq 67$  years who scored between 24 and 26 the Mini-Mental State Examination (MMSE). It was proposed to them to perform an hour of activity twice a week for 14 weeks. **RESULTS:** all participants in both training groups showed improvement in all tests. The average values obtained before and after surgery in the following tests in each group: (DTTG)- Digit Span Forward: 2,9-3,3; Digit Span Backward: 0,6-0,8; Rey Auditory Verbal Learning Test (first attempt): 3,9-5,2; TMT-A: 89,8-78,5; (MTTG)- Digit Span Forward: 2,8-3,7; Digit Span Backward: 0,5-0,9; Rey Auditory Verbal Learning Test (first attempt): 3,8-5,6; TMT-A: 84,6-71,5. Multi-Task Training Group participants showed significant improvement on MMSE (mean=2.21,  $p < 0.001$ ) compared to Dual-Task Training Group (mean=0.93,  $p = 0.08$ ) **CONCLUSION:** multi-task training has proven more effective tool that dual-task training to improve cognitive performance in older adults with mild cognitive decline.

## **SESSION 235 (POSTER)**

### **AGING AND ENVIRONMENT**

#### **VOICES FROM FERNALD: COMPENSATING NUCLEAR WEAPONS WORKERS AND THEIR SURVIVORS**

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The Energy Employees Occupational Illness Compensation Act (EEOICPA) was passed by Congress in 1999. The intent of the law has been to provide nuclear weapons workers or their survivors' monetary compensation if the worker contracted or died from specific illnesses caused by exposure to radioactive or toxic materials. Fernald, located northwest of Cincinnati, Ohio, was one among many weapons facilities operating throughout the United States between the 1950s and 1990s. This small exploratory case study examined how former Fernald workers or their survivors experienced applying for the EEOICPA program. In-depth interviews were conducted with middle aged and older individuals examining the range of emotions they felt during the application and determination process, and how the experience has influenced their own family histories,

### **ROLES OF COMMUNICATION PROBLEMS AND COMMUNICATION STRATEGIES ON RESIDENT-RELATED JOB SATISFACTION MEASURES**

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Although there are interventions aimed at improving communication between nursing home staff and residents with dementia, the relationship between the newly learned communication strategies and job satisfaction is unclear. This study investigated the impact of caregivers' appraisals of the effectiveness of their own communication strategies on job satisfaction measures that are focused on the staff-resident relationship. Staff caregivers ( $N = 101$ ) of residents with dementia completed questionnaires appraising the distress associated with dementia-related communication problems, appraising the usefulness of communication strategies in resolving misunderstandings, and job satisfaction. Three types of communication strategies were included in the analyses: (a) effective repair strategies, which help to resolve communication breakdowns, (b) completing actions by oneself and (c) tuning out or ignoring the resident. Hierarchical linear regression models revealed that effective repair strategies were significantly linked with feeling close to residents. Additionally, staff members who thought completing actions on their own was a useful strategy were more likely to perceive their role as influential in the lives of residents. In contrast, staff members who appraised tuning out the resident as a useful strategy were less likely to perceive their role as influential to residents. Finally, staff members who appraised dementia-related communication problems as distressing were more likely to report that residents placed unreasonable demands on them. Findings provide preliminary support for understanding mechanisms by which the appraisals of communication problems and communication strategies influence job satisfaction and provide insights into the importance of enhancing communication skills of long-term care staff.

### **NEIGHBORHOOD WALKABILITY ASSESSMENT FOR SENIORS: USING GEOGRAPHIC INFORMATION SYSTEMS**

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The purpose of this study was to examine walkability for seniors in a low-income neighborhood. The objective neighborhood walkability in the DC area was assessed via geographic information systems (GIS) using ArcGIS 10.1 data using the North American Datum (NAD) 1983 state plane coordinate system. Ward 8 in the DC area was selected due to its concentration of low-income families in the southern part of the Anacostia River. First the location of public housing area in Ward 8 was geocoded. To measure the objective neighborhood walkability for seniors, we calculated the access from public housing to the following destinations within .25 miles buffer: food (grocery stores; farmers' markets and community gardens); transportation (bus stations; metro stations); basic facilities (post offices; hospitals and public schools) and recreation (green sites; DC parks and shopping centers). Neighborhood walkability for seniors in our study was not in good condition. They did not have access to food sources within .25 miles. There is only one farmer's market and two groceries existed in Ward 8. None of those were in .25 miles from the public housing. Bus stops and sidewalk system in Ward 8 are relatively completed and works efficiently. However, there are only two metro stations in Ward 8 area with one service for only 1/3 part of people live in north part of Ward 8. In addition, people live in north and northeast of Ward 8 had no access to post office and hospitals within .25 miles.

## THE ROLE OF EFFICACY IN MAINTAINING WELL-BEING OVERTIME: A PERSON-ENVIRONMENT (P-E) PERSPECTIVE

S. Park, J. Smith, R. Dunkle, *University of Michigan, Ann Arbor, Michigan*

**Objectives:** We examine subgroups of older adults living alone with different health and environmental profiles and ask if their subjective well-being over time is mediated by their sense of personal control. **Method:** Data came from the 2006 and 2010 wave of Health Retirement Study (HRS: N = 1258, age range 65-104). Four health (sensory-cognitive impaired, physically impaired, frail, and healthy) and three environment profiles (physically average- socially unsupported, physically unsupported-socially supportive, and physically supportive –socially above average) were identified. Path analysis was conducted to examine associations among the subgroups, perceived control and changes in depressive symptomology over time. **Results:** Whereas well-being was maintained in the healthy group, it decreased in the other three health profile groups. Especially, the frail group showed the greater decrease in subjective well-being. Analyses revealed that P-E fit enhances or diminishes the sense of personal control and this in turn is associated with the maintenance of subjective well-being. Regardless of social-physical environmental context, personal control was high in the healthy profile subgroup and low in the physically impaired group. When the environment fit was better for the other two health subgroups (the sensory-cognitive impaired group and the frail group), their control was enhanced and well-being was maintained. **Discussion:** The findings about the heterogeneity of both health limitation and social-physical environment profiles in older adults living alone, and the association between various person-environment profile combinations (fit), control and subjective well-being have important policy and intervention implications.

## SUSTAINABILITY IN ASSISTED LIVING FACILITIES: STAFF PERCEPTIONS OF IMPLICATIONS FOR WELL-BEING

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Sustainability, or “green living”, is a phenomenon spreading to all areas of building and development. Assisted living facilities (ALFs) have also incorporated sustainability practices into their establishments. However, little research has addressed the impact of sustainability on staff or their perceptions of its influence on residents. We surveyed staff of ALFs to discover their perceptions of sustainability efforts. Assisted living facilities were identified online, contacted and permission sought to avail surveys to the staff. Subsequently, surveys were delivered to the ALFs and picked up within three weeks. The pen and paper survey was distributed to nine facilities located across Michigan, as well as to employees of ALFs who were members of student organizations. Questions on sustainable practices were grouped into four main categories: demographic information; sustainable practices, including thermal comfort, air quality, lighting and view, acoustic quality, cleanliness and maintenance, and overall sustainability; motivation to green; and views on sustainable practices. The survey also asked how staff members (n=94) were impacted on a day-to-day basis. Additionally, staff perceptions of the impact of sustainability initiatives on resident well-being were measured. The results indicate that efforts toward sustainability largely took the form of conservation of resources to manage costs. Respondents were satisfied with these efforts and supported them. They saw little harm to residents as a result of these activities. However, malodorous conditions were a common source of dissatisfaction. Overall, this study details the perceptions and opinions of ALF staff members and the depth of the impacts of sustainability.

## REAL WORLD OUTDOOR WALKING PERFORMANCE IN OLDER ADULTS

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**Background:** The ability to walk safely is critical to older adults' independence. Yet few have studied the impact of individual and environmental factors on walking performance in a real-world outdoor setting. **Methods:** Seventeen community-living (CL) and senior housing (SH) older adults (mean±sd age 66±10) walked outdoors on a planned course that included ramps, crosswalks, and uneven surfaces. Nine individuals completed a 350m course outside the SH and the remainder completed a similar 520m course. Outcomes included course performance time, comfortable gait speed (CGS) and self-reported factors: balance (ABC) and ambulation confidence (Ambulatory Self-efficacy), function (EPESE), and environmental barrier influence on community activity and participation (Facilitators/Barriers Survey). **Results:** Participants reported little functional impairment (3±1). Mean CGS was 1.2±0.4 m/s. Balance confidence was high (84±15), and slightly lower in confidence to safely ambulate (78±24). Environmental barriers were somewhat likely to interfere with community participation (2.3±1.0) and activity (2.8±0.9). CGS was significantly associated with function ( $r=-.66, p<.01$ ), and balance ( $r=.67, p<.01$ ) and ambulation ( $r=.58, p<.05$ ) confidence, while fewer environmental barriers were associated with community participation ( $r=-.69, p<.01$ ) and activity ( $r=-.62, p<.05$ ). Course time (CL=5.4±0.5, IL=7.1±1.2 min) was significantly associated in all participants with CGS ( $r=-.23-87, p<.05$ ) and in CL participants with barriers to community participation ( $r=-.98, p<.05$ ). **Conclusion:** Real-world walking performance in older adults relates to both CGS and environmental barriers to community participation. Environmental barriers influence even unimpaired individuals who are confident in balance and walking. Future work should evaluate these relationships in impaired older adults who may find the environment more challenging.

## INFLUENCE OF HOUSING QUALITY ON FEELINGS OF WELLBEING AND NEIGHBORHOOD INTEGRATION

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Within environmental gerontology, research has emphasised the importance of housing and environment for the independence of older people. The purpose of this study is twofold. First, it investigates the relationship between housing quality and indicators of individual's well-being (feelings of loneliness, feelings of unsafety, psychosocial well-being, and frequency of falling). Second, the research examines the relationship between housing quality and neighborhood integration (neighbourhood involvement, quantity and quality of contacts, and neighbourhood satisfaction). Survey data from the Belgian Ageing Studies for 67,560 people aged 60 and over living self-reliantly in 142 municipalities in Belgium provide the empirical evidence for the analysis. A multiple linear regression model was conducted. Results indicate a significant relationship between poor housing quality and indicators of well-being. The more inappropriate the dwelling, the more unsafe seniors feel and the higher feelings of loneliness, feelings of depression, and frequency of falling are reported. Poor housing quality also correlates significantly with all the variables of neighborhood integration. The strongest relation is detected for neighborhood involvement. The influence of inadequate housing is often narrowed down to health outcomes, however, this study shows a relationship between poor housing and older people's neighborhood integration. When looking at policy plans, ‘aging in place’ is considered as an ideal residential strategy for growing old. These findings show consequences of ‘staying put’ when living in maladjusted dwellings and stress the need for developing a

variety of housing options so older people can stay as long as possible, with higher life-quality, independently in the home environment.

#### **RELATION OF DRIVING ON THE AMOUNT OF WALKING AMONG OLDER URBAN AFRICAN-AMERICANS**

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The study was a descriptive, cross sectional, non-experimental survey with a sample of 134 African American adults over age 65 living in community in a large northeastern city. The purpose was to describe the relation of having a driver's license and access to a care with the amount of self-reported walking. The theoretical framework was based on the Ecological Theory of Aging (Nahemow & Lawton). The quantitative instruments used were: a ten question demographic survey detailing driving habits, the SF-12 Health Survey, Neighborhood Environment Walkability Scale (NEWS), and the Community Healthy Activities Model Program Seniors (CHAMPS). Close to half of the participants in each age cohort, young-old, middle-old, and oldest-old, were currently driving and had access to a car. Men drove more than women in every age cohort. Spearman correlations were conducted, and driving a car had a negative correlation with the number of disease conditions present ( $r = -.21$ ), although it was not correlated with any specific demographic items such as age, BMI or length of residence in the neighborhood. In regression models examining the amount of transport walking performed, having access to a car ( $p = .013$ ) was associated with 48 less minutes of walking per week. Driving a car was not a significant variable for the amount of leisure walking performed. Implications for clinicians are to be aware of the number of drivers in the oldest age cohort even in urban areas that have access to public transportation.

#### **THE EMBODIMENT OF PLACE: PERCEPTIONS OF WELL-BEING AND PLACE AMONG OLDER AFRICAN-AMERICAN ADULTS IN DETROIT**

F. Richards, *Anthropology, Michigan State University, East Lansing, Michigan*

Within gerontology, researchers have increasingly paid attention to the social production of space and place and examined how populations assign meaning to their spatial and built environments. The purpose of this ethnographic study was to examine the lived experiences of community dwelling African American female seniors (AAFS) living with diabetes in Detroit, Michigan. Specifically, this study explored how conceptions of aging and well-being were shaped by African American female seniors attitudes and beliefs regarding Detroit and its perceived impact on their lives. Utilizing a qualitative approach, unstructured and semi-structured interviews were conducted with 40 community dwelling AAFS aged 60 years and over. Employing grounded theory methodology for data analysis, the interviews were transcribed and coded for repetition, similarities and differences using NVivo software by three independent raters. Analysis from the study generated the following themes for African American female seniors conceptions of well-being: adequate financial resources, availability of friends and family for social support, housing, quality of food, and overall health. Preliminary analysis suggests that AAFS beliefs about Detroit and well-being varied depending on the availability of material and social resources, socioeconomic status, and perceived physical bodily limitations. African American senior women with perceived debilitating limitations expressed feelings of vulnerability to the economic transformations within Detroit. This study reveals African American female seniors embodiment of their social and environmental contexts and in turn the various factors that impact their conceptions of well-being and aging. Future discussion concentrates on the role of place in well-being for seniors in post-industrial settings.

#### **THE WALKABLE NEIGHBORHOOD PROJECT: STUDENTS ADVOCATING FOR OLDER ADULTS IN THE COMMUNITY**

M. Turner, R. Ludke, K. Chebahtah, E. Kiehne, C.A. Gosselink, *Psychology, Missouri State U, Springfield, Missouri*

In Springfield, MO, community leaders were influenced to form the Healthy Living Alliance in order to preserve the beauty of the Ozarks and promote healthy lifestyles among the residents, including the Walkable Neighborhood Project. University students were recruited to be boots on the ground data collectors who, after training would survey sidewalks, land uses, and access to services (e.g., grocery stores, bus routes). In our gerontology course, the instructor invited us to agree to participate, but not all students were enthusiastic. Some decried the intrusion of the project into the lives older adults because photographs of the neighborhood were involved; others expressed the fear that elders living in less-than-ideal private housing could be fined if they didn't make changes mandated by Big Brother. Ultimately, everybody agreed to participate as part of the Aging Policies and Politics class. As the only Gerontology students volunteering in the project (22 out of 400 students), the class voiced a desire to advocate for the older adults. During a debriefing in class after the survey was completed, students shared what they had observed. A key finding was the difference between neighborhoods of privilege vs. those of low socioeconomic status. In this poster, students' varied expectations, aspirations, and experiences will be presented. In the end, though, students agreed that the project was worthwhile because it had the potential to benefit older adults aging in community throughout the City of Springfield.

#### **DOES THE NEIGHBORHOOD ENVIRONMENT MODIFY GENETIC RISK FOR COGNITIVE DECLINE?**

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Previous research has identified multiple factors associated with cognitive function, including the ApoE4 gene. However, little research has looked beyond individual factors to consider the role of the neighborhood environment. A greater density of physical resources (recreational centers and parks that promote physical activity) and institutional resources (libraries, bookstores, and community centers that facilitate mental stimulation) may buffer cognitive decline in later life. These benefits may be even greater among those at greater cognitive risk (e4 allele). Using data from the Chicago Health and Aging Project (1993-2011), a prospective cohort study of 3781 adults age 65+, we fit a 3-level growth curve model to examine the role of individual and neighborhood factors (objectively observed at the block group level) on cognitive decline. Results indicate that cognition function (composite of East Boston Memory Test, symbol digit test, MMSE) declines more rapidly in later years ( $p < .001$ ). E4 carriers have a faster rate of cognitive decline ( $p < .001$ ), net of controls. Adults living in a neighborhood with community/recreational centers have higher cognitive function at age 65 ( $p < .05$ ) but do not have significantly different rates of cognitive decline from adults living elsewhere. Older adults who go to neighborhood churches, libraries, and local parks have higher cognitive function than those who never go ( $p < .001$ ), and cognitive function declines more slowly for those making more frequent park visits ( $p < .05$ ). No differences were found in effects by e4 status. These results suggest a role of neighborhood environments in buffering cognitive decline among older adults regardless of genetic risk.

#### **FOOD STAMP USE AND PERCEIVED NEIGHBORHOOD SAFETY: ASSOCIATIONS AMONG OLDER ADULTS**

T. Ross, E. Grinshteyn, *School of Community Health Sciences, University of Nevada, Reno, Reno, Nevada*

Background: Feeling safe in one's neighborhood is important for older adults as those who feel safe are more likely to walk in their



neighborhood, have social interaction, and use area services, which all lead to better physical and mental health. This research hypothesized that food stamp use led to feeling less safe even after controlling for wealth. Methods: The 2008 Health and Retirement Study dataset was analyzed to assess the association between receiving food stamps and feeling safe among older adults after controlling for wealth. Wealth instead of income was controlled for as older adults of varying financial security have little actual income. Older adults' perception of neighborhood safety was measured as excellent, very good, good, fair, or poor. Three models were run (linear, ordered logit, and generalized ordered logit models). Results: The parallel lines assumption was violated so the results of the generalized ordered logit model are presented. After controlling for wealth, which should remove the effect of financial variation, food stamp receipt was still significantly associated with feeling less safe ( $p < 0.0001$ ). This association was stronger for those who felt less safe with food stamp recipients more likely to feel less safe even after controlling for wealth ( $\beta = 1.04$ ,  $p < 0.0001$ ). Conclusions: Food stamp receipt is associated with feeling less safe even after controlling for financial security. This relationship showing that food stamp receipt thus seems to trigger concerns for older adults should be further researched to understand this complex response to food stamp receipt for older people.

#### **DISCURSIVE REPRESENTATIONS OF THE MEANING OF FINITUDE IN 'CANCER SURVIVORSHIP'**

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**Background/Significance.** Phenomenological investigations surrounding illness and illness behavior are often rooted in a health beliefs model and are thus described according to personal interpretations of disease, and about life and death. In this paper, we evaluate how older cancer patients describe survivorship in everyday language and discuss implications for initiation of care and self-management behaviors, as guided by one's long-term evaluations of health. Methods. This work draws on data from the Eating for Life study, which included informants with cancers of the breast and prostate, as well as Non-Hodgkin's lymphoma ( $n = 53$ ). Informants were recruited to participate in a semi-structured interview pertaining to experiences and conceptualizations of cancer survivorship and dietary behavior, following acute periods of care. Interview transcripts from those aged 65-74 years ( $n = 21$ ) were used for this sub-analysis and were evaluated using techniques of discourse and narrative analyses to focus on survivorship beliefs within the aging context. Findings. Analyses revealed the importance of age and time, as reflected in beliefs about cancer, its experience, and the potential for recurrence. Cancer illness and survivorship were thus often seen as deeply implicated in disruptions to biography, but also to one's ability to engage in future planning. Conclusions. How older persons conceptualize the future seems to bear deeply on decisions made in reaction to cancer therapies, but also uptake of self-care and overall health management. We suggest that notions of time and cancer survivorship be integrated in care models, with an appreciation of how older persons approach decisions relevant to care.

## **SESSION 240 (POSTER)**

### **END OF LIFE CARE AND INTERVENTIONS**

#### **EFFECTS OF EDUCATION PROGRAM TO PROMOTE ADVANCE DIRECTIVES COMPLETION IN LOCAL RESIDENTS**

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**Background:** I have developed an education program to facilitating advance directive (AD) completion, utilizing the situation of end-of-life care for people with dementia. The aim of the present research was to examine the effects on the AD completion rate of the education program in local residents. Methods: The design was a quasi-experimental study with intervention and control groups. The study population was local welfare officers from two cities in Osaka, Japan, of them, 81 persons were allocated to the intervention group and 60 persons to the control group. The 70-min intervention program was performed twice for the participants in the intervention group. Primary outcomes were AD completion and intention to complete an AD, as indicated by binary "Yes/No" responses, and the secondary outcomes were AD Knowledge, AD Attitude, and Dementia Knowledge. Results: The intervention group exhibited a significant increase in a between-group comparison of the change in the number of people who completed an AD (odds ratio=5.0, 95% confidence interval=1.0-25.0,  $p < 0.04$ ). The results showed that the interactions between Group and Time were statistically significant for scores of both the AD Attitude Survey Test ( $F = 4.1$ ,  $p = 0.04$ ) and the Dementia Knowledge Scale ( $F = 4.6$ ,  $p = 0.04$ ). Conclusions: The results suggest that the education program facilitating AD completion could promote the completion, favorable AD attitude and dementia knowledge among local residents.

#### **ENRICHMENT OF PERSONHOOD OF PEOPLE WITH ALZHEIMER'S DISEASE IN INTERGENERATIONAL REMINISCENT TALK**

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Based on ethnographic observation at a geriatric hospital in Japan, this study will demonstrate (1) intergenerational and intra-generational communicative features of senior residents (male and female, 80s-100s); and (2) ways in which those residents with Alzheimer's disease (hereafter AD) find their personhood in the current setting by referring to the social and interpersonal networks they used to have in the past. In the observed weekly activity called "Tea Time Talk," a group of residents with dementia or AD gather for 30 minutes with a clinical psychologist (hereafter CP) who gives a topic of the day that encourages the participants to reminisce their experiences related to the topic. On the surface level, the younger CP manifests control over the activity. However, the older participants' experiential privilege over the CP quickly gives them a collective teacher's role. Moreover, during the reminiscence talk, the older participants often account for who they are/were by situating themselves in comparative or contrastive relations with others surrounding them (e.g. other family members, people of different ages or opposite gender). It is suggested that their use of interpersonal network as a way to show their selfhood serves as empowerment of personhood. Consequently, it should be emphasized that the reduced social network of those with AD in the current life situation does not necessarily elicit the commonly perceived 'loss of self,' if we look qualitatively at their discourse behavior. This study also illustrates under-researched cognitive features in conversation (e.g. humor production) of those with AD.

## MONITORING PAIN AND SYMPTOMS ON A MOBILE PHONE APPLICATION: FACTORS CORRELATED WITH REPORTING FREQUENCY

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Access to palliative care is largely limited to the last months of life, provided through hospice, leaving seriously ill patients with limited access to pain and symptom management. Mechanisms to provide efficient monitoring of pain and symptoms are needed. This study aimed to determine the frequency of pain reporting on a mobile phone application among seriously ill, older patients. We recruited English-speaking adults, age 55 or older, with at least one chronic condition, and pain  $\geq 3$  on a scale of 0 to 10 ( $n=23$ ). Participants received a mobile phone and training on the application. Approximately 62% were male, with an average age of 73.9 $\pm$ 11.9. Nearly 60% identified as African-American, 9.1% Hispanic, and 18.2% Caucasian. Over the 75 day period, subjects submitted an average of 27.2 reports (range 1-74), and 30.4% met the submission goal of 3 entries per week. Assistance from others, namely children or grandchildren, in sending reports was inversely correlated with number of reports sent ( $p=.042$ ). There was a trend toward more reports among those hospitalized in the previous six months ( $p=.051$ ). No significant correlations were found between number of reports and pain level, age, training hours, education, previous cell phone use, ethnicity or diagnosis. Our pilot study found that those receiving help in submitting pain reports submitted fewer reports overall. Additionally, the lack of correlation between training hours and frequency of reports suggests increased training may not increase reporting frequency. Findings suggest that some seriously ill patients may be able to monitor and submit pain reports.

## MEASURING STAFF'S END-OF-LIFE CARE EFFICACY IN ELDERLY CARE FACILITIES IN JAPAN

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In our super-aged society, demand for end-of-life (EOL) care at elderly care facilities is increasing in Japan. The facilities enable elderly adults to spend their last days not in a medical setting but in a daily-life setting. However, many care workers are reluctant to undertake such work. Given the current situation, there is an urgent need to cultivate active attitude for EOL care among staff, however previous studies have addressed only their negative attitudes. Based on social learning theory, this study focused on self-efficacy - the personal drive to do something actively (Bandura, 1977). The purpose of this study was to develop an EOL care efficacy scale (ECES) and to assess its reliability and validity. After conducting a content analysis of 11 textbooks and a focus group interview, a scale consisting of 27 items was created. The study was conducted via a mail-in survey and 1,358 certified care workers completed the ECES. In order to examine the validity, the degree of generalized self-efficacy and job competence were also assessed. An explanatory factor analysis removed two ineligible items and revealed a two-factor structure consisting of instrumental care efficacy and emotional care efficacy. The internal consistencies of the two subscales were above .90. Correlations between ECES and two aforementioned scales ranged from .23 to .45. In conclusion, the ECES was shown to be reliable and valid. This newly conceptualized scale will enable the examination of antecedent factors theoretically and assessment of the effect of potential interventions to maintain the efficacy.

## VARIABILITY IN CONTENT AND ECOLOGICAL VALIDITY OF ONLINE PALLIATIVE CARE INFORMATION SHEETS

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GSA 2014 abstract Elissa Kozlov Introduction: Americans rely on the Internet for health information, and people are likely to turn to that resource to learn about palliative care. Several palliative care organizations post information sheets about palliative care on their websites. The purpose of this study was to analyze online palliative care information sheets to evaluate the breadth of their content. We also compared the frequency of content appearance to expert rankings of the importance of domains of palliative care knowledge. Methods: Twenty-six information sheets were identified using web search engines. Two researchers independently coded each sheet for content. Palliative care professionals ( $n=20$ ) rated the importance of 22 content domains. Results: The mean prevalence rate for the 22 domains was 44.7%(SD = 30.4, range = 7.7 – 96.2). The information sheets ranged widely in their coverage of domains. For example, 96% stated that palliative care addresses symptoms of serious illness, while only 11% stated that palliative care helps patients decide if and when to stop curative treatments. Discrepancies emerged between expert ratings of importance and frequency of the information ( $r = .25$ ,  $p > .05$ ). Conclusions: This study demonstrates that palliative care information sheets available online vary considerably in their content coverage. Furthermore, information palliative care professionals rate as important is not always included. In order for palliative care information sheets to be educative and helpful, they need to be consistent, accurate, and comprehensive, otherwise patients might not receive information that facilitates access to this life improving specialty service.

## ADVANCE CARE PLANNING WITH DYING OLDER OFFENDERS: INNOVATIONS IN END OF LIFE CARE

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While aging in place is occurring in prisons and correctional facilities throughout the United States, not all prisons have adopted end-of-life care programs. Such programs, like hospice and advance care planning, allow for the facilitation of the dying process and honoring of offender end-of-life wishes. Literature on the benefits of advance care planning with many populations is growing, however, no research to date has been conducted on the benefits of engaging offenders in this process. This study evaluated the process of developing an advance care planning program on an ambulatory care unit of a Midwestern medical classification prison. The program implemented, Honoring Your Wishes, was developed based on the Respecting Choices model of advance care planning. Offenders deemed likely to die within one year participated in facilitated advance care planning discussions with trained volunteers. Through the process of implementing this program in a correctional facility, multiple obstacles were identified that may impact future research in this area. These obstacles include: policy and protocols associated with medical care and transport, family involvement with dying offenders, offender rights associated with medical and end-of-life care, prison bureaucracy including state laws that impact the way advance care planning can be delivered in prisons, and the warden's role in honoring end-of-life wishes. As a first study on implementing advance care planning programs with dying offenders, this study sheds light on barriers that must be addressed to better meet the unique needs of offenders as more are aging and dying in place.

## DEATH PERCEPTION: EFFECTS OF KNOWLEDGE OF THE END-OF-LIFE CARE AND EXPERIENCE OF DEATH OF FAMILY OR FRIENDS

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Despite considerable evidence for fear of death, little research has focused on how knowledge about the end-of-life care affects death perception. This study examines the main effects and an interaction effect of knowledge about the end-of-life care and the experience of the death of family or friends on death perception. The data was drawn from a national interview survey in South Korea. A total of 1896 respondents aged from 46 to 64 are included in this study. A Death Perception Scale with 10-items was used to assess perception of death. The average age of the respondent was 56.12 (SD=5.152) and 51% of the respondent were male. Using hierarchical regression analysis, the main effects of knowledge about the end-of-life care and the experience of the death of family or friends in the last year and an interaction between these variables are examined. Demographic factors (i.e., age, education, gender, and religion), life satisfaction, and perceived health are also included in the regression model. Main effects and the interaction effect are all significant. Findings indicate that better knowledge of the end-of-life care is associated with more positive perception of death; however, the effect is stronger for those who have not experienced the death of family or friends. In addition, older age and higher life satisfaction are associated with more positive perception of death. This study contributes to a knowledge base that points to the necessity of death education. Replication studies with other ethnic groups would be needed to generalize the findings.

## THE SOCIAL CONSTRUCTION OF DEATH: THE EMERGENCE OF LEGAL TERMINOLOGY TO DEFINE END-OF-LIFE CARE

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New terminology about death has developed in response to the growing use of life-sustaining technologies. In end-of-life cases that involve prolonged use of intensive care, the language used to discuss and diagnose death is now socially determined by legal terminology. Medical diagnoses of brain death, permanent vegetative state or persistent vegetative state have contributed to “naming and framing” discussions about end-of-life care as legal decisions. After the introduction of the living will in 1967, “do not resuscitate” orders, advance directives and health-care proxy designations have become common terminology in relation to end-of-life care. We present a typology of the social construction of death and dying resulting from legal challenges over patients’ rights to deny or withdraw life-sustaining medical technology. We review the medical literature about advance directives and present a historical outline of landmark legal cases in this field to show that legal actions prior to or during care are now necessary to overrule life-sustaining treatments used by default during medical care. Because of the reliance on legal terminology to frame definitions of dying in a growing number of end-of-life care situations, we encourage service providers for older populations to advocate for individuals and their families to prepare advance directives and designate healthcare proxies before end-of-life care is needed. We conclude with a discussion of the social, economic and political implications of the evolving social, and increasingly public, definition of death framed within medical and legal terminology rather than within traditional, cultural frames.

## ADJUSTMENT AFTER BEREAVEMENT: WHAT YOU DON’T DO MATTERS MOST

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Despite the relatively common occurrence of bereavement, or experiencing the death of a loved one, there is considerable variability in individuals’ responses to that experience. In the present study, individuals’ responses to bereavement were investigated using the Stress and Coping Model (Lazarus, 1966; Lazarus & Cohen, 1977; Lazarus & Folkman, 1984) as a framework. Data from 436 individuals who were bereaved for 24 or fewer months prior to participation in the study were used to investigate associations between age, gender, emotion reactivity, coping, history of depression, grief, and adjustment (in terms of both positive and negative well-being) using a structural equation model ( $\chi^2(50) = 165.143$ ,  $p < .001$ ,  $\chi^2/df = 3.30$ , CFI = .939, GFI = .944, RMSEA = .075). The model revealed that older participants, women, and those who reported using more avoidant/involuntary coping strategies reported more grief; that those who reported using more avoidant/involuntary coping, those who reported experiencing more grief, and those who reported having a history of depression reported more negative well-being; and that women, those who reported being less emotionally reactive, those who reported using fewer active engagement coping strategies, those who reported using more avoidant/involuntary coping, those who reported experiencing more grief, and those who reported having a history of depression reported lower positive well-being. Results are discussed in terms utility in identifying who may need more assistance after the death of a loved one and differences between the current sample and samples used in other bereavement research.

## PERSONAL GROWTH THROUGH SPOUSAL BEREAVEMENT IN LATER LIFE

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This study purposes to explore the growing process through spousal bereavement in later life, and to develop the theory. A qualitative research was conducted, and the participants were 17 seniors. The analysis according to Strauss and Corbin’s grounded theory(1998), resulted in 143 concepts, 43 subcategories, and 19 categories. Range analysis according to paradigm showed that the causal conditions were “marital relationships,” “independent/dependent tendencies,” and “emotional readiness for the death of a spouse,” and the phenomena were “depression,” “hopelessness,” “daily stress,” “psychological intimidation,” “regret,” and “sense of being freed.” The contextual conditions that affect these phenomena were “desire for intimate personal relationships” and “desire to maintain independence”; the action/interaction strategies to manage the phenomena were “facing reality” and “efforts for construction of the new life”; and the mediating conditions that promote or suppress these action/interaction strategies were “social support” and “spirituality.” The results were “reconstruction of the meaning in life,” “increase in self-esteem,” “reinforcement of social network”, and “embrace and acceptance.” Furthermore, when personal growth after bereavement of a spouse was analyzed focusing on changes over time, the growth process consisted of three steps: “sadness and despair,” “embracing and moving forward,” and “personal growth.” The pattern analyses were performed to typify recurring relations by category, and 5 types were derived. The results of our study show that personal growth after spousal loss is an integrative process in life after crisis, and can be conceptualized as the process of overcoming the despair that immediately follows the death of a spouse, seeking a new life by actively taking control, and discovering a strengthened self.

## THE ROTE ADMINISTRATIVE APPROACH TO DEATH IN SENIOR HOUSING: USING THE OTHER DOOR

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Administrators of senior housing communities are bound by issues of confidentiality and HIPPA laws when releasing sensitive information to others. As such, administrators' approaches to notification of resident deaths may be inhibited. It is also possible that administrators' perceptions of how to approach death differ from those who experience it, such as staff members who provide direct care or peer residents (Gubrium, 1975). Results show that administrators spoke of approaching death in their facility similar to any other procedural task. The removal of the residents' body varied by community and those responsible for coordination ranged from maintenance crews, on-duty staff, and management. Notification practices were also inconsistent across communities: at beginning of shifts, email messages, word of mouth, or with the use of symbols in common areas. Differences exist in internal cultures on providing open or closed forms of respect, such as keeping the room open as the family packed possessions, or locked doors barring entry of resident friends. These practices are standard for some facilities while others are flexible to accommodate the resident/family requests. Additionally, a majority of the sites did not offer additional training and/or support on death and dying for family and staff members. It was often assumed that staff had previously obtained such training through their previous educational and professional experiences. Findings of the study suggest the need for changes in the way that senior housing staff members currently approach the death of a resident and providing support for staff and family members.

## INFLUENCES OF SOCIAL INTEGRATION ON ATTITUDES OF ASSISTED SUICIDE

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With four states passing legislation allowing assisted suicide, and several high profile legal cases capturing media attention, the debate over the "right" to die has become an important part of the national conversation on end-of-life concerns. Drawing from the work of Durkheim (1897/1986) on suicide and social integration, this study examines how varying types of social integration, both within the research participants and in the characters in the described scenarios, affect attitudes of assisted suicide. Using 250 adults, we investigated how participants responded to questions on assisted suicide and scenarios involving the choice of assisted suicide for imagined characters. Preliminary findings indicated that, much like the social patterns governing who commits suicide, the support for assisted suicide differs based on participants' level of social integration, or more specifically, by education level, religiosity, gender, region, and age. Further, when the characteristics of fictitious scenarios indicated a greater level of social integration, participants were much less likely to support their choice of assisted suicide. These findings provide interesting insight to the debate on the attitudes regarding the right to die and assisted suicide.

## EVALUATION OF HOSPICE CARE BY FAMILY MEMBERS OF HISPANIC AND NON-HISPANIC PATIENTS

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The Hispanic older adult population is increasing rapidly, and past research suggests this demographic group under utilizes hospice services, highlighting the need to improve our understanding of their specific needs in end-of-life. The primary purpose of this study was to compare perceptions of hospice experiences as reported by caregivers of Hispanic versus non-Hispanic patients. This study relied upon information from the Family Evaluation of Hospice Care (FEHC) survey provided by 2,980 caregivers, 152 of whom cared for a Hispanic patient and

2,828 who cared for a non-Hispanic patient. Binary logistic regression was employed for binary outcomes, ordinal logistic regression was used for dependent variables measured on an ordinal scale, and multinomial logistic regression was used when the outcome variable was assessed on a nominal scale. In each analysis, patient's ethnicity (i.e., Hispanic vs. non-Hispanic) was entered as an independent variable, along with the control variables. Caregivers of Hispanic patients were more likely than non-Hispanic caregivers to report that hospice was inconsistent with the patient's wishes and felt they received more attention than desired for emotional issues. Caregivers of Hispanic patients were also more likely to express that emotional/spiritual forms of support were insufficient. Similar levels of satisfaction were reported for caregivers of Hispanics and non-Hispanics regarding dignity/respect, information received from hospice staff, coordination of care, and overall satisfaction, suggesting for the most part hospice adequately meets the needs of Hispanic patients and their caregivers. The implications of this study will inform future efforts to develop culturally sensitive models for hospice care.

## SENIORITY AND MEDICAL ERRORS: A MULTI-SOURCE APPROACH FOR HEALTHCARE PROFESSIONALS

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Introduction: Many studies indicate that medical errors decrease as the healthcare professional get more experienced. However, due to diversity and complexity of medical errors, current literature have limited evidence on the individual's experience of medical errors among different types of medical errors. This study aims to examine the association between medical errors and seniority for healthcare professionals. Methods: Using multi-source approach, this study collected samples from surgeons (n=250), nurse anesthetists (n=550), surgical nurses (n=669), physical therapists (n=445), and pharmacists (n= 560). The surgeons filled out the semi-structured questionnaires which included diagnosis errors, treatment errors, procedural errors, and communication errors. The nurse anesthetists, surgical nurses, physical therapists only filled out procedural errors and communication errors. In addition, in-depth survey for 110 healthcare professionals were conducted. Results: Our research finding indicate that types of medical errors for surgeons differ from those of paramedical personnel. Surgeons involved in broader types of medical errors, while the other personnel involved more in specific types of errors, i.e., procedural errors. When all personnel get experienced, all types of medical errors decreased, the percentage ranged from 50 % to 10 %. However, communication errors only decreased from 35 % to 50 %.

## BARTHEL INDEX OF ACTIVITIES OF DAILY LIVING: ITEM RESPONSE THEORY ANALYSIS FOR LONG-TERM CARE ADULTS

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Background The Barthel Index (BI) is a frequently-used measure of independence in activities of daily living (ADLs). Item functioning of various versions of the BI were examined using Rasch analysis. IRT models for ordered polytomous responses may provide more insight into item functioning across levels of independence in ADLs. Objectives To compare fit and appropriateness of the 1-parameter logistic model (1PL), partial credit model (PCM) and generalized partial credit model (GPCM) for the 15-item BI. Methods This study is a secondary analysis of baseline BI data from four randomized controlled trials for 788 residents from multiple long-term care facilities. Three different IRT-based models (1PL Rasch model, PCM and GPCM) were used to estimate item parameters. Fit of items and response vectors was assessed. Overall fit was compared across the three models. Results Item difficulties were similar for all three models. Most of the 15 items located at moderate level of functional independence. In all three models, "don brace" was the easiest ADL and "climbing stairs" was the most

difficult. Multiple items showed misfit in both IPL and PCM. PCM and GPCM item parameters and person proficiency estimates were highly correlated. The difference in deviance between the PCM and GPCM was significant. In the GPCM, most items showed good discrimination but several had negative or very low discrimination parameters. Discussion GPCM results suggested that further revision of the BI may be warranted. Because some items showed poor discrimination, caution should be used when measuring ADL independence with the BI item set.

### CHARACTERISTICS AND OUTCOMES OF OLDER ADULTS WHO REFUSE POST-ACUTE CARE SERVICES

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**BACKGROUND:** A significant part of high quality discharge planning is to assure that older adults have adequate post-acute care (PAC). However, the plans offered to patients are not always acceptable to them. The characteristics of those who refuse PAC and how their decisions affect outcomes are not well understood. **AIMS:** Compare socio-demographic and clinical characteristics, quality of life, and problems and unmet needs in patients who accepted PAC services to those who refused; (2) examine the association between PAC refusal and 30-day readmission. **METHODS:** Secondary analysis of 495 patients age 55 and older offered PAC. **RESULTS:** 28% refused PAC services. Refusers were significantly younger (68 years old versus 73,  $p < .001$ ); married (61.8% versus 45.8%,  $p < .001$ ); with private insurance versus Medicare or Medicaid (35.3% versus 18.3%,  $p < .001$ ); had lower risk of mortality/severity of illness ( $p < .001$ ); shorter lengths of hospital stay (4.8 days versus 7.5 days,  $p = .001$ ); better quality of life ( $p < .001$ ), and fewer problems/unmet needs after discharge ( $p < .001$ ). Refusers' 30-day readmission rate was nearly 6% higher than accepters (18.7% versus 13%,  $p = .12$ ). After adjustment for baseline characteristics, a logistic regression showed that refusers had higher odds of readmission ( $OR = 2.76$ ,  $p = .002$ ) and patients with better QOL were less likely to be readmitted ( $OR = .15$ ,  $p = .015$ ). **CONCLUSIONS:** Younger, married, privately insured, and healthier patients tend to refuse PAC services, but have two times higher chances of 30-day readmission. Implications suggest investigating why patients refuse PAC, tailoring PAC interventions to patient preferences, and examining the reasons for readmissions among this relatively healthy cohort.

### HOW TO IMPROVE STAFF'S END-OF-LIFE CARE EFFICACY IN ELDERLY CARE FACILITIES IN JAPAN

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In Japan, demand is increasing for end-of-life (EOL) care in a daily-life setting at elderly care facilities. However, many care workers are reluctant to undertake such work. To cultivate a positive attitude toward EOL care among staff, this study focused on EOL care efficacy (ECE) based on social learning theory (Bandura, 1977). The purpose of this study was to examine the hypothesis that EOL care efficacy is explained by 4 theory-based factors: the number of opportunities to observe role models, the number of opportunities to receive linguistic persuasions, the frequency of feeling a sense of achievement, and an emotional response to EOL care. Through a mailed survey, 467 certified care workers completed two subscales of ECE scale: instrumental care efficacy and emotional care efficacy. They were also asked to report a number of care-provided experiences (control variables) and about the above 4 factors (explanatory variables). Confirmatory factor analysis almost supported the hypothesis ( $CFI = .969$ ,  $RMSEA = .071$ ), but the existence of role models did not significantly affect emotional care efficacy. This might be because emotional care is less visualizable than instrumental care and difficult to imitate. Linguistic persuasions were

not significantly to instrumental care efficacy, perhaps because linguistic persuasions are easily denied by the clear outcomes of instrumental care. To motivate staff to perform EOL care, this study suggests using social leaning theory. However, relevant factors differ depending on the type of care; thus, the theory should be used for this purpose with careful attention to the type.

### EFFECTS OF CAREGIVING ON CAREGIVERS' USE OF THE INTERNET FOR CAREGIVING INFORMATION

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Using the data extracted from the Caregiving in the U.S. 2009 survey, this study describes caregivers' use of the Internet for caregiving information and examines effects of caregiving on caregivers' search for six specific types of online caregiving information. This study included 459 informal caregivers of community dwelling older adults. More than three-quarter and one half of caregivers searched for information about care receivers' conditions (77.1%) and treatments and services for care receivers (52.9%), respectively. Logistic regression analyses revealed effects of caregiving on caregivers' online search differed depending upon types of information. Care receivers' cognitive impairments increased the odd of caregivers' search for information about care receivers' conditions ( $OR = 2.72$ ,  $p = .001$ ), services for care receivers ( $OR = 1.65$ ,  $p = .03$ ), support for caregivers themselves ( $OR = 2.32$ ,  $p = .03$ ), and care facilities ( $OR = 2.67$ ,  $p < .0001$ ). Caregiving strain increased the odds of caregivers' search for information about care receivers' conditions ( $OR = 1.11$ ,  $p = .04$ ), services for care receivers ( $OR = 1.09$ ,  $p = .03$ ), caregiving tasks ( $OR = 1.19$ ,  $p = .03$ ), and care facilities ( $OR = 1.19$ ,  $p = .0001$ ). Caregiving length increased the odds for caregivers' search for information about health care professionals ( $OR = 1.69$ ,  $p < .03$ ) but reduced the odds for caregivers' search for information about care facilities ( $OR = .52$ ,  $p = .008$ ). Finally, caregiving hours were significantly related to caregivers' search for information about caregiving tasks ( $OR = 1.43$ ,  $p = .008$ ). The research and practice implications of these findings are discussed.

### DEVELOPMENT AND PRELIMINARY EVALUATION OF THE CAREGIVER ASSISTIVE TECHNOLOGY OUTCOME MEASURE

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**Introduction:** Assistive technology is often provided to improve users' independence and thereby reduce the burden on their informal caregivers, but no measure is currently available to capture the outcomes that caregivers experience after device provision. Therefore, the Caregiver Assistive Technology Outcome Measure was created to measure the impact of assistive technology interventions on the burden experienced by informal caregivers. **Objective:** To describe the development of the Caregiver Assistive Technology Outcome Measure and to report the preliminary evaluation of its psychometric properties. **Methods:** Based on an existing conceptual framework, a preliminary version of the Caregiver Assistive Technology Outcome Measure was created. Cognitive interviews were used to identify items that needed clarification. A revised version of the Caregiver Assistive Technology Outcome Measure and manual were then reviewed by clinicians. The measure was piloted as part of an intervention study evaluating the effect of assistive technology interventions on users' informal caregivers. **Results:** We developed a three-part measure, which we refined using cognitive interviews and clinician feedback. The first part of the measure identifies a specific problematic activity to be targeted, the second part measures the burden associated with that activity and final

section records perceptions of overall burden. For the specific problematic activity and overall burden sections of the tool, the 6-week test-retest intraclass reliability coefficients were 0.88 (95% CI=.64-.96) and 0.86 (95% CI=.60-.95) respectively. The measure correlated as hypothesized with other measures. Conclusion: The Caregiver Assistive Technology Outcome Measure is a promising new measure with strong content validity and positive psychometric properties.

#### **THE INTRAPERSONAL INFLUENCE: A COMPARISON OF SENSE OF COHERENCE AND SELF-ASSESSMENT OF OLDER ADULTS RECENTLY RELOCATED TO A NURSING HOME AND LIVING IN THE COMMUNITY**

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Relocation into a nursing home is a complex transition with multiple factors. We explored intrapersonal factors of (N = 307) European (EA) (n = 153) and African American (AA) (n = 154) community-dwelling older adults (n = 196) and those recently relocated into a nursing home (n = 111). The Orientation to Life Questionnaire assessed sense of coherence (SOC), the Self-Efficacy for Functional Abilities (SEFA), and the Iowa Self-Assessment Inventory assessed these factors. Two (ethnicity) by two (residence) factorial ANOVAs compared the groups at baseline; the Bonferroni correction was used. Results indicated that self-efficacy differed significantly between community-dwellers and nursing home-dwellers,  $F(1, 297) = 103.47, p < .001$ . AAs reported significantly more alienation than EAs,  $F(1, 273) = 11.21, p = .001$ ; community-dwellers reported significantly less alienation than nursing home-dwellers,  $F(1, 273) = 6.68, p = .01$ . EAs reported more social support than AAs,  $F(1, 292) = 4.87, p = .028$ ; nursing home-dwellers reported less social support than community-dwellers  $F(1, 292) = 6.39, p = .012$ . SOC did not differ between groups but positively accounted for variation in better self-rated cognitive functioning and social support, and less anxiety/depression and alienation. Findings suggested that sense of coherence may impact older adults' self-assessment of interpersonal and intrapersonal resources. Self-assessment and self-efficacy may influence when older adults transition into a nursing home. Longitudinal analyses will explore whether these self-perceptions changed over a two month time period following the transition into a nursing home, providing insights about older adults' adjustment following this complex transition.

#### **INDIVIDUAL AND PROVINCE INEQUALITIES IN HEALTH AMONG OLDER PEOPLE IN CHINA: EVIDENCE AND POLICY IMPLICATIONS**

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The design of adequate policies promoting good health and longevity for older people in China is a key policy challenge given the significant differences between provinces. This paper uses multi-level modelling to analyse data from the nationally-representative Chinese Health and Retirement Longitudinal Study (CHARLS) in order to investigate the characteristics associated with poor health among older people, including individual characteristics, household characteristics as well as the characteristics of the provinces in which the older person lives (contextual effects). The results show that female individuals, rural residents, those with an education level lower than high school, with no income sources, who are ex-smokers, and those from poor economic status households are more likely to report disability and poor self-rated health. Individuals living in provinces which are more developed and marketised are less likely to report difficulty with ADLs. Differentials in the health outcomes remain substantial between provinces even after controlling for a number of individual and household characteristics. This research raises policy-relevant questions about the effectiveness

of health services for older people in China, particularly those in rural areas.

## **SESSION 245 (POSTER)**

### **MENTAL HEALTH I**

#### **THE IMPACT OF LONELINESS ON OLDER ADULTS' PHYSICAL FUNCTIONING: HEALTH AND MOBILITY OUTCOMES**

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Recent studies have shown that loneliness is strongly related to various negative outcomes. For example, loneliness can act as a catalyst in age-related health decline, including worsening sleep quality and increased blood pressure. Approximately 5 to 15% of older adults have reported frequent feelings of loneliness. Older adults face a greater threat of social isolation with overall health deterioration and shrinking social networks, vis-à-vis decreased mobility. With more frequent interaction with neighbors and community members being associated with lower levels of loneliness, mobility-limited or sick older adults may face unique challenges in cultivating an accessible network of contacts from which to derive feelings of connectedness. Several factors related to older adults' self-reported loneliness were examined. Sample included 457 older adults (mean age=73; 46% African American, 54% Caucasian) from the UAB Study of Aging. Results indicate that greater loneliness was significantly correlated with current self-reported lower health ( $r=.25, p<.001$ ) as well as lower self-reported health 6 months later ( $r=.21, p<.001$ ). Greater loneliness was also significantly correlated to lower current mobility, ( $r=.31, p<.001$ ). A regression model revealed that loneliness ( $\beta=-.07, p=.003$ ) was a significant predictor of mobility 6 months later, even after controlling for age and current mobility score ( $F(3, 453)=474.16, p<.001$ ). Implications include the impact of psychosocial constructs, especially loneliness, for physical outcomes such as health and mobility.

#### **HAPPINESS AND SOCIAL DETERMINANTS ACROSS AGE COHORTS IN TAIWAN**

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Purpose: The purpose of this study was to examine the happiness and its social determinants across different age cohorts in Taiwan. Methods: The data were from the 2011 "Taiwan Social Change Survey", a face-to-face nation-representative survey. The participants were aged 18 year old or more, and the sample size was 2,135 persons. The samples were divided to three age groups: young (age 18 to 39), middle-aged (age 40 to 64), and elderly (aged 65 or more). Happiness was measured by self-rated happiness level scored 1 to 5. Demographics, socioeconomic status, health and lifestyle, social capital, and quality of life were the predictors. The linear regression was used for the analysis. Results: The happiness level was not significantly different across age cohort groups. The common determinants to happiness across age groups were being non-smokers, having less negative affect and better quality of life. The specific determinants of happiness for the young group were being male, receiving less family support, less formal support, more social trust and more control over life; for the middle-aged group were being social drinkers and more participation in social groups; and for the older group were lower educated, receiving less family support, higher economic status. Physical health, social class, marital and working status, religion, and using internet were insignificant. Conclusion: Living a healthy lifestyle and being independently, and a better quality of life determine happiness. Social connection factors seemed to be more related to the younger and middle-aged generations than

the older cohort, while socioeconomic status determined happiness for the elderly.

### **RESILIENCE IN LATE-LIFE BEREAVEMENT: EXAMINING THE RELATIONSHIP BETWEEN RESILIENCE AND CUMULATIVE LIFETIME LOSS**

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Though much of the recent focus in bereavement literature has examined the nature and correlates of complicated grief, it is important to recognize that many older adults endure bereavements without major disruptions in emotional and daily functioning, despite the likelihood of having experienced numerous losses over a lifetime. This suggests an adaptive or resilient coping style within the context of late-life bereavement. The aim of this study was to expand our current knowledge of resilience in late-life bereavement. We investigated the relationships between cumulative lifetime loss, resilience-related coping/emotion-regulation strategies (affective complexity, positive emotions and repressive coping), and resilient vs non-resilient bereavement outcomes. Seventy-four recently bereaved, community-dwelling older adults completed study questionnaires assessing a variety of bereavement-related variables, including depression history history of loss, retrospective affect, current experiences of grief, depression, anxiety and well-being, and social and emotional functioning. While cumulative lifetime loss was largely unrelated to bereavement-related outcomes, experience of positive affect one month post-loss was associated with lower post-loss depression ( $r = -.30, p < .05$ ), well being ( $r = .25, p < .05$ ) and unimpaired social and emotional functioning ( $r = -.28, p < .05$  and  $r = -.36, p < .01$ , respectively). These relationships highlight the role of positive affect in facilitating or maintaining adaptive post-loss functioning that could be emphasized in grief-related interventions. Suggestions for future research include examining the relationships between the cumulative impact of having experienced multiple bereavements, lessons learned/wisdom gained in the context of coping with loss, and bereavement outcome.

### **UNDERSTANDING SUICIDE ATTEMPTS AMONG COMMUNITY-DWELLING U.S. CHINESE OLDER ADULTS**

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Background: Suicide attempt is a strong risk factor for completed suicide. Greater cultural barriers and health disparity may place Chinese older adults at high risk for suicide attempts. Yet currently very few studies have been conducted on suicide attempts among U.S. Chinese older adults. This study aimed to examine the prevalence and methods of suicide attempts among community-dwelling Chinese older adults. Methods: Guided by the community-based participatory research approach, 3,159 community-dwelling Chinese older adults in the greater Chicago area were interviewed in person from 2011-2013. Suicide attempts were measured by the Geriatric Mental State Examination-Version A (GMS-A). Results: Of the 3,159 participants, 58.9% were female and the mean age was 72.8 (SD = 8.3). The lifetime prevalence of suicide attempts was 791 per 100,000 and the past 12-month prevalence of suicide attempts was 285 per 100,000. Medication overdose was the most common suicide method both in the group of lifetime suicide attempts and 12-month suicide attempts. Lower income was positively correlated with lifetime suicide attempts and 12-month suicide attempts. Living with fewer household members was positively correlated with lifetime suicide attempts but not with 12-month suicide attempts. Conclusion: Suicide attempt is a significant health issue among U.S. Chinese older adults. Future longitudinal studies should explore risk factors and outcomes associated with suicide attempts in U.S. Chinese aging populations. Policy makers and community stakeholders should improve efforts to improve public awareness of sui-

cidal behaviors, reduce suicide-related stigma, promote mental health services, and extend timely and effective suicide interventions in the Chinese community.

### **UNDERSTANDING HOPELESSNESS AMONG COMMUNITY-DWELLING CHINESE OLDER ADULTS IN THE GREATER CHICAGO AREA**

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Background: Hopelessness is an important indicator for psychological well-being. We know very little about the feelings of hopelessness in the U.S. Chinese aging population, the largest and oldest Asian population in the U.S. This study aimed to examine the prevalence of hopelessness among community-dwelling U.S. Chinese older adults. Methods: Data were drawn from the PINE study, a population-based study of Chinese older adults aged 60 and above in the greater Chicago area. Beck Hopelessness Scale -7 was used to examine feelings of hopelessness (Cronbach's alpha=0.82). Data were collected through face-to-face interviews. Results: Of the 3,159 community-dwelling Chinese older adults, 58.9% were women and the mean age was 72.8 (SD = 8.3). An overall of 40.9% of the participants reported having hopelessness thoughts. As the most commonly reported hopeless thought, 20.0% of the participants agreed it was very unlikely to get any real satisfaction in the future. Being older ( $r=0.13, p<0.001$ ), being unmarried ( $r=-0.09, p<0.001$ ), living with fewer people ( $r=-0.05, p<0.01$ ), having been in U.S. for more years ( $r=0.08, p<0.001$ ), having been in the community for more years ( $r=0.05, p<0.01$ ), having lower overall health status ( $r=-0.27, p<0.001$ ), poor quality of life ( $r=-0.20, p<0.001$ ), and worsened health status over the last year ( $r=-0.15, p<0.001$ ) were more likely to report having hopelessness feelings. Conclusion: The feelings of hopelessness were prevalent among community-dwelling U.S. Chinese older adults in the greater Chicago area. Further longitudinal studies are needed to examine the risk factors and outcomes of hopelessness among U.S. Chinese older adults.

### **GRIEF VS. DEPRESSION: A DEFINING LINE IN OLDER ADULTS WITH AGE RELATED MACULAR DEGENERATION**

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Much attention has been paid to the presence of depression and its negative impact on individuals with AMD, but little is known about the comorbid effects of grieving. In this study, we assessed the changes in mood, actions, and behaviors that typically occur in one third of older adults affected with macular degeneration (AMD). In particular, we focused on identifying the orientation of these changes as being symptoms of depression and/or grieving. Through an on-line survey, a total of 115 participants (72 women and 43 men) with ages ranging from 55-85 years old responded to the Grief Diagnostic Instrument (GDI) and the Geriatric Depression Scale (GDS). The result showed that 32% of all participants with AMD were depressed while 54% were identified as grieving. Among those who were found to be grieving, 30% showed no sign of depression. Further, it was also found that for 85% of the participants with AMD the grieving process still remained unresolved after two years. In fact, in participants with AMD, not only had the grieving process gone beyond the normal processing period, but the perception of loss and its severity was shown to be considerably greater than in those participants without AMD. These results suggest that there is a measurable difference between grief and depression, which supports researchers who have been investigating the differences between the symptomology, course and prognosis of each condition.

## MENTAL HEALTH SERVICE USE BY OLDER ADULTS: EXPLORING THE RELATIONSHIPS BETWEEN FINANCIAL HARDSHIP, SOCIAL SUPPORT, PSYCHOLOGICAL WELL-BEING, AND OPENNESS TO RECEIVING TREATMENT

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**Objectives:** This study was designed to examine the relationships between significant barriers to older adults' mental health service (MHS) utilization. We hypothesized that levels of financial hardship, social support, and psychological well-being would contribute to openness to using MHS, which would, in turn, affect past-year MHS utilization. **Methods:** Drawn from the nationally-representative Collaborative Psychiatric Epidemiology Surveys (CPES), the selected sample included 4,888 adults aged 55 and older. Latent constructs of financial hardship, social support, psychological well-being, and openness to using MHS were tested by conducting confirmatory factor analysis. A series of latent regression models was used to test the relationships among those constructs as well as to predict MHS use. **Results:** Results from the final latent regression model show that although openness to using MHS directly affected MHS use ( $\Psi=0.057, p<0.01$ ), all other variables also had significant direct effects, including social support ( $\Psi=0.087, p<0.01$ ), financial hardship ( $\Psi=-0.126, p<0.01$ ), and psychological well-being ( $\Psi=-0.592, p<0.01$ ). Only social support had a significant effect on openness to MHS ( $\Psi=0.179, p<0.01$ ), and thus could have an indirect effect on actual MHS use through openness to MHS. **Conclusions:** Higher socioeconomic status and poorer psychological health contribute to higher likelihood of actual past-year MHS use, but not openness to MHS use. Better social support is positively associated with openness to MHS, which, in turn, contributes significantly to MHS use. Thus, policies that make services more affordable for older adults, and public education campaigns targeting both older adults and their major support networks could help increase older adults MHS use.

## RELIGIOUS COPING AND MENTAL HEALTH AMONG UNDERSERVED AFRICAN AMERICAN OLDER ADULTS

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Barriers to accessing psychological services among African American elders include high poverty levels, mistrust of the medical community, continued societal marginalization, and the stigma of mental illness (Black, et al 2011; Neighbors et al., 2007). However, African American elders report religious involvement as a coping mechanism to manage mental health (Chatters, et al 2011). For example, they pray, read religious materials, and attend religious services more than older adults in other ethnic groups (Krause & Chatters, 2005). Studies have found positive effects of religiousness in African American elders in relation to lower levels of depression (Black et al., 2011). Recent research has called attention to the value of integrating religion in care for older adults across multiple health and medical settings (George et al., 2013). However, little is known about the role of religion as it relates to anxiety and well-being in underserved African American older adults. This proposal examines the relations of religiousness and religious coping with depression and anxiety in low-income African American elders. Our findings suggest that negative religious coping (e.g., feeling abandoned by God) is associated with anxiety ( $\beta = .35, p < .01$ ) and depression ( $\beta = .27, p < .05$ ). Moreover, frequent use of private religious practices was linked to low levels of depression ( $\beta = .33, p < .05$ ). Further analyses of the relations between religiousness and satisfaction with life will be examined and clinical implications of using religion to engage African American elders in mental health care will be offered.

## LIFE SATISFACTION AND PERSONALITY IN THE OLDEST-OLD: THE ROLE OF SOCIAL CONTEXT AND HEALTH IN RELATION TO NEUROTICISM AND EXTRAVERSION

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Recent studies on aging and well-being have suggested the utility of focusing on subgroups of the heterogeneous old-old population (e.g. Gerstorf, Smith, & Baltes, 2006). In the present study we apply a subgroup perspective to the study of the relationship between life satisfaction and the personality dimensions of neuroticism and extraversion in a sample of 453 individuals aged 80+. Our results demonstrate that introverted and emotionally unstable individuals were less satisfied with their lives, but emotionally stable introverts did not differ from emotionally stable extraverts. Further analyses showed that health and social network characteristics were uniquely associated with emotionally unstable and emotionally stable individuals. A greater portion of variance in life satisfaction was accounted for by multiple variables in the emotionally unstable group. Although no causal inferences can be drawn, our findings can direct recommendations for interventions.

## RELATIONSHIPS OF ANXIETY WITH ANXIETY SENSITIVITY, EXPERIENTIAL AVOIDANCE, AND MINDFULNESS IN OLDER ADULTS

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Anxiety is common among older adults and can be defined as a feeling of worry, apprehension, unease, or tension about an internal or external experience that has an ambiguous connotation. The purpose of this study was to explore potential risk factors for anxiety symptomatology in older adults, namely anxiety sensitivity, experiential avoidance, and absence of mindfulness. Participants were 41 community-dwelling older adults (M age = 69 years) who anonymously completed the Geriatric Anxiety Scale (GAS; Segal et al., 2010) as a measure of trait anxiety symptoms, the Anxiety Sensitivity Index-3 (ASI-3; Taylor et al., 2007) as a measure of anxiety sensitivity, the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) as a measure of experiential avoidance, and the Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004) as a measure of mindfulness. As expected, trait anxiety (GAS total score) was significantly positively related to anxiety sensitivity ( $r = .49$ ) and experiential avoidance ( $r = .80$ ), and significantly negatively related to mindfulness ( $r = -.38$ ). Anxiety sensitivity was significantly related to experiential avoidance ( $r = .58$ ), and mindfulness ( $r = -.33$ ). Lastly, experiential avoidance was significantly related to mindfulness ( $r = -.42$ ). Finally, multiple regression was used to examine the contributions of all three factors in predicting trait anxiety. The total variance was 64% ( $R^2$ , adjusted  $R^2 = .61$ ),  $F(3, 36) = 21.48, p < .001$ , with experiential avoidance (standardized  $\beta = .74$ ) as the only significant (positive) predictor. These findings add to the growing literature that anxiety sensitivity, experiential avoidance, and mindfulness are all meaningfully related to trait anxiety among older adults, indicating that they may be risk factors for anxiety-related pathology.

## DOES SOCIAL COHESION MODIFY THE RELATION BETWEEN FUNCTIONAL DISABILITY AND MENTAL WELL-BEING?

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Social cohesion as part of social capital may play an important role in older individuals' health and well-being. The purpose of this study was to identify (1) the direct effects of functional disability and social cohesion on mental well-being and (2) the buffering effects of social cohesion in the relation between functional disability and mental well-being. Data were drawn from 4,733 community-dwelling older adults included in the NHATS (National Health & Aging Trends Study)



Round 2 (M age = 76.36, SD = 7.27). Multivariate models of mental well-being, measured with the PHQ-4 scale, were estimated in order to test the direct and moderating effects of functional disability and social cohesion. In the direct effect model, both functional disability and social cohesion were found to have negative effects on mental well-being. In addition, their interaction was found to be significant ( $\beta = -.03, p < .05$ ). To further explore the interaction effect, the sample was divided into three groups based on the mean and standard deviation of social cohesion. The group with the lowest social cohesion showed a stronger correlation between functional disability and mental well-being ( $r = .331, p < .001, n = 1422$ ) than the group with the highest social cohesion ( $r = .232, p < .001, n = 1581$ ), and the difference was significant ( $z = 2.94, p < .01$ ). Findings indicate that social cohesion attenuates the negative impacts of functional disability and protect mental well-being of older individuals. Intervention efforts to promote health and well-being in later life should address environmental and community contexts.

### **SOCIAL SUPPORT, SELF-EFFICACY AND PSYCHOLOGICAL DISTRESS IN BLACK AND WHITE OLDER ADULTS**

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Social support and self-efficacy are protective against psychological distress in late life, findings that have implications for theory and intervention as the population ages. However, not all minority groups have been adequately studied. In particular, African Americans have received little empirical attention. In the present study, samples of 164 African American and 146 Caucasian community-dwelling older adults referred for mental health services reported their satisfaction with social support, their perceived self-efficacy and symptoms of psychological distress. A path model investigating the separate relationships among these variables, among African American and Caucasian participants, explained a greater amount of the variance than the model for all participants combined—underscoring the importance of separately studying demographic subgroups. For both groups, greater perceived self-efficacy was significantly associated with lower psychological distress. When social support was investigated, however, Caucasians' satisfaction with social support was significantly associated with lower distress, while in the African American sample, there was no relationship between social support and psychological distress. Additionally, the exploratory mediation analysis indicated that the impact of self-efficacy by social support on psychological distress was stronger for the African American sample than for the Caucasian sample. The importance of investigating possible differences in mechanisms of well-being and successful aging among racial subgroups, as well as potential theoretical explanations and clinical implications of these findings, are discussed.

### **IS IT SAD OR LONELY AT THE TOP? A COMPARISON OF PSYCHOSOCIAL INDICATORS OF DEPRESSIVE AFFECT AND LONELINESS REPORTED BY CENTENARIANS**

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The purpose of the current study was to compare psychosocial indicators of depressive affect and loneliness reported by centenarians. Data originated from a pilot study community-dwelling centenarians  $N = 154$  (M = 101; SD = 1.71) residing in Oklahoma. Hierarchical regression analyses using pair-wise deletion was employed, while controlling for the influence of confounding variables including subjective age, gender, education, perceived health, and life traumas. Results indicate that centenarians who reported significantly higher degree of educational attainment ( $b = -.15, p < .05$ ) low degree of lifetime exposure to major disasters ( $b = .18, p < .05$ ) and low degree of neuroticism ( $b = .47, p < .05$ ) also maintained lower depressive affect. Variables within this overall model accounted for 39% of the variance in depressive affect. In addition, loneliness among centenarians appeared to be significantly

reduced by higher degree of educational attainment ( $b = -.19, p < .05$ ), greater degree of social support ( $b = .445, p < .05$ ) and lower degree of neuroticism ( $b = -.30, p < .05$ ). Overall, variable in the model accounted for 36% of the variance in loneliness. Results from this study have implications relative to how geriatric clinicians and practitioners seek to improve mental health among long-lived adults.

### **THE DEVELOPMENT OF AN INTERNATIONAL META-TOOL FOR PAIN IN COGNITIVE IMPAIRMENT: THE PAIC-TOOLKIT**

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Background: Pain is common in people with dementia, yet treatment is often ineffective and identification is challenging. A number of pain assessment tools exist, utilizing observation of pain-related behaviours and facial expressions. However, these often lack sufficient evidence of psychometric properties and are not internationally implemented. The EU-COST initiative "Pain in impaired cognition, especially dementia" aims to combine the expertise of clinicians and researchers to address this important issue by building on previous research in the area, identifying existing pain assessment tools for dementia, and developing consensus for items for a universal meta-tool for use in research and clinical settings. This paper reports on the initial phase of this collaboration task. Methods: All existing observational pain behaviour tools were identified and elements categorised using a three-step reduction process. Selection and refinement of items was achieved through scrutiny of the evidence, consensus of expert opinion, frequency of use and alignment with the AGS guidelines. Results: 12 eligible assessment tools were identified, and pain items categorised according to behaviour, facial expression and vocalisation according to the AGS domains 1 – 3. This has been refined to create the PAIC-toolkit for evaluation. Conclusions: This multidisciplinary, cross-cultural initiative has created a draft Meta-tool for capturing pain behaviour to be used across languages and culture, based on the most promising items used in existing tools. The draft PAIC-toolkit will now be taken forward for evaluation according to COSMIN guidelines and the EU-COST protocol in order to refine included items and optimise the tool.

### **THE PROTECTIVE EFFECTS OF RELIGIOSITY ON DEPRESSION: A 2-YEAR PROSPECTIVE STUDY**

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Approximately 20% of older adults are diagnosed with depression in the United States. Extant research suggests that religious activity, or religiosity, may serve as a protective factor against depression. This study examines whether religiosity protects against depression and/or aids in recovery. Data are drawn from the 2006 and 2008 waves of the Health and Retirement Study. The sample consists of 1,992 depressed and 5,740 non-depressed older adults (mean age = 68.12 years) at baseline (2006) for an overall sample size of 7,732. Logistic regressions were employed to assess the relationship between organizational (OR), non-organizational (NOR), and intrinsic (IR) measures of religiosity and depression onset (in the baseline non-depressed group) and depression recovery (in the baseline depressed group) at follow-up (2008), controlling for other baseline factors. Religiosity was found to both protect against and help individuals recover from depression. Individuals not depressed at baseline remained non-depressed two years later if they frequently attended religious services (OR factor), while those depressed at baseline were less likely to be depressed at follow-up if they more frequently engaged in private prayer (NOR factor). Findings suggest that organizational as well as non-organizational forms of religiosity affect depression outcomes in different circumstances (i.e., onset and recovery, respectively). Important strategies to prevent and relieve depression among older adults may include improving access and transportation to places of worship amongst those interested in

attending services and encouraging discussions around religious activity with mental health professionals.

#### **GENETIC FACTORS AND COGNITIVE AGING: EVIDENCE FOR NEURODEGENERATIVE GENETIC PLASTICITY**

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Genetic and environmental factors have the potential to modify cognitive aging, as evidenced by our recent observation that the Apolipoprotein (ApoE) e4 allele constrained the benefits of cognitively-stimulating lifestyle activities (CSLA) in typical aging. In an extension of this research, our first objective was to examine the interactive relationship between Clusterin (CLU) genotype (a risk factor for Alzheimer's disease) and two types of CSLA: integrated information processing (CSLA-II) and novel information processing (CSLA-NI). Our second objective was to examine how this relationship was modified by additional individual factors, such as level of education and ApoE genotype. Using three-wave data across six years of follow-up from the Victoria Longitudinal Study (VLS), we used latent growth analyses to estimate the relationship between CLU and CSLA on changes in cognitive performance ( $n = 277$ ; ages 55-94). We found significant interactions between CLU, education, CSLA, and ApoE genotype for outcomes in processing speed, and episodic and semantic memory. For all CLU genotypes, higher frequency of participation in CSLA-NI and higher levels of education were associated with higher cognitive outcomes ( $p < .05$ ); however, this effect was more pronounced for the at-risk C/C carriers. Interestingly, the negative effect of ApoE e4 on cognitive performance was only seen in non-risk C/T or T/T carriers ( $p < .05$ ). The results provide additional support that certain genotypes may act "plasticity" factors which make individuals more or less responsive to the protective benefits of cognitive stimulation.

#### **CHANGE IN COGNITIVE FUNCTION: FINDINGS FROM 2 WAVES OF THE NEW ZEALAND LONGITUDINAL STUDY OF AGEING**

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Cognitive decline refers to a range of changes that may vary from mild (those associated with normal ageing) to severe where the ability to perform activities of daily life (e.g., paying bills, medical regimes, planning activities, dressing, bathing) is greatly impacted. The progression of cognitive decline highlights the need for assessment over time as studies have shown that subtle changes can be measured even over short periods, especially in the oldest age groups. This paper looks at changes in cognitive function over 2 years for participants in the New Zealand Longitudinal Study of Ageing (NZLSA). In 2010 1,001 participants aged 49-84 years completed Addenbrooke's Cognitive Examination Revised (ACE-R). Participants were re-tested two years later. ACE-R scores in 2010 and 2012 were highly correlated,  $r = .71$ ,  $p < .001$ . There was a slight drop in mean ACE-R total scores between wave 1 ( $m = 93.40$ ,  $sd = 5.25$ ) and wave 2 ( $m = 92.32$ ,  $sd = 6.01$ ). Just over half those who were retested had a decrease in ACE-R score between waves (482, 54.5%), while 34.5% improved. Comparing those who declined to those who stayed the same or improved, decliners were older, had lower educational attainment, were in poorer health, and were more likely to rate their memory as poorer now (2012) than it had been at wave 1. These findings are consistent with age related declines in cognitive functioning. However, the significant proportion who improved scores between the two waves highlights the considerable heterogeneity within older aged cohorts in the occurrence, rate and type of cognitive decline with age.

#### **COMMUNITY CHOIRS TO PROMOTE HEALTH IN DIVERSE OLDER ADULTS: COMMUNITY OF VOICES STUDY DESIGN AND BASELINE CHARACTERISTICS**

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**OBJECTIVE:** Describe the Community of Voices (Comunidad de Voces) intervention, study design, implementation, and participants' baseline characteristics for those enrolled to date in a research study examining the efficacy of a 1-year community choir program to promote health and well-being of ethnically diverse older adults. **METHODS:** This study uses a cluster-randomized controlled trial in which 12 San Francisco Administration-on-Aging (AoA) senior centers are being randomized in matched pairs to either: begin the choir immediately (intervention group) or wait 6 months to begin (control group). Participants attend weekly 90-minute choir sessions for 12 months that provide culturally-appropriate repertoire with a combination of socio-emotional, cognitive, and physical engagement. We are collecting primary and secondary outcomes that focus on psychosocial, physical function, and cognition using the NIH Toolbox and legacy measures, as well as completing a cost-effectiveness analysis. **RESULTS:** To date, we have randomized 6 of 12 sites and enrolled 185 participants. The sample is 36% non-Latino White, 28% African American, 25% Latino, and 12% Asian/Pacific Islander; mean age is 71.5 years (range 60-88,  $SD = 7.2$ ); 70% are women. Twenty percent has less than a high school education, and 27% rated their health as fair or poor. Implementation of computer-administered NIH Toolbox assessments and performance measures in low-resource senior centers will be discussed. **CONCLUSIONS:** Working collaboratively with AoA senior centers and a community music center has facilitated recruitment. If the intervention is found to be efficacious, it could serve as an easily translatable cost-effective model for promoting optimal aging and reducing health disparities.

#### **FUNCTIONAL AND DECISION MAKING CAPACITY AND QUALITY OF LIFE IN BRAZILIAN OCTOGENARIANS AND NONAGENARIANS**

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**Introduction:** The aging population is a challenge of this century, impacting society and imposing needs of structural adjustments. The longevity involves numerous changes in people's lives, mainly in the oldest-old (80+ years) and when associated with functional disability may impair health, precluding an autonomous life and impairing quality of life. **Methods:** This study was descriptive analytical cross-sectional quantitative research in the oldest-old (80 years or more) of RS. The instruments used were general questionnaire, a survey of interaction between the oldest-old and his/her life, assessment of functional independence, quality of life, and ability to make decisions. **Results:** The sample consisted of 47 oldest-old, divided in octogenarians (19) and nonagenarians (28). The average of moral psychological phase of octogenarians was classified as conscientious and nonagenarians' average was conformist. Both groups showed greater loss in decisions related to activities at home. Nonagenarians had worse functional capacity and quality of life when compared to octogenarians. The quality of life was associated with functional capacity and ability to decision making. **Conclusions:** Investigating factors that may contribute to the oldest-old has higher quality of life is essential for the restructuring of services, public health action plan and providing care with dignity, reaching to maintain functional independence as long as possible, preservation or recovery autonomy and always give priority to a better quality of life of seniors in the final stage of their lives. **KEYWORDS:** Oldest old; Personal autonomy; Quality of life, Physical functioning

## COMPLICATED GRIEF TRAJECTORIES AND ASSOCIATED RISKS

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**Background:** Trajectories of grief can vary during times of bereavement, such as when a caregiver loses a loved one. Given apparent similarities between symptoms of grief and depression, research and theory have often confounded the two. In fact, the construct of grief is distinct from depression and may also have distinct trajectories. **Methods:** To investigate trajectories of grief and depression, this paper uses data from 221 caregivers recruited from the Resources for Enhancing Alzheimer's Caregiver Health (REACH) project who lost a family member with dementia during the course of the study. **Results:** Group based mixture modeling identified two distinct trajectories of grief: persistently high and persistently low. Three distinct trajectories of depression were identified: persistently high, medium, and low. Those in the high grief trajectory group were more likely to also be in the high depression trajectory group, whereas those in the low grief trajectory group were more likely to also be in the low depression trajectory group. Significant differences in the proportions between grief trajectory membership and depression trajectory membership suggest that their patterns over time are distinct. **Conclusions:** Findings provide important insights into the long-term trajectory of emotions during bereavement, which will likely enhance understandings of bereavement-related psychological distress and lead to the development of long-term interventions for the bereaved.

## ANXIETY SYMPTOMS AMONG COMMUNITY-DWELLING U.S. CHINESE OLDER ADULTS

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**Background:** Anxiety is a major health problem in late life, yet little is known about anxiety symptoms among Chinese older adults. This study aimed to explore the prevalence and correlates of anxiety symptoms among U.S. Chinese older adults. **Methods:** Data were from a population-based study of community-dwelling U.S. Chinese older adults aged 60 years and above in the greater Chicago area. Anxiety symptoms were measured by the Hospital Anxiety and Depression Scale (HADS-A) (Cronbach's alpha = 0.80) in face-to-face interview format. **Results:** Of the 3,159 participants, 58.9% were female and the mean age was 72.8 (SD = 8.3). In total, 65.0% of the participants reported having any anxiety symptoms. Women ( $r=0.14$ ,  $p<0.001$ ), being unmarried ( $r=0.07$ ,  $p<0.001$ ), living with fewer people ( $r=0.05$ ,  $p<0.01$ ), having fewer children ( $r=0.04$ ,  $p<0.05$ ), poor health status ( $r=0.27$ ,  $p<0.001$ ), lower levels of quality of life ( $r=0.22$ ,  $p<0.001$ ) and worsening health changes over the past year ( $r=0.15$ ,  $p<0.001$ ) were positively correlated with any anxiety symptoms among U.S. Chinese older adults. **Conclusions:** This study emphasizes the need for improving knowledge pertaining to anxiety symptoms among minority older adults. In addition to epidemiologic investigations on prevalence and risk factors of anxiety symptoms, concerted efforts should be put into developing and promoting evidence-based psychotherapy treatments. Community organizations should improve awareness on anxiety symptoms and promote mental health care for U.S. Chinese older adults. Special attention should be given to older women, those who are unmarried, living alone, childless, and with impaired health status and inferior quality of life.

## SESSION 250 (POSTER)

### SEXUALITY AND AGING

#### SEXUALITY AND CONSENT IN LONG-TERM CARE: A QUALITATIVE INVESTIGATION OF CURRENT POLICIES, PROCEDURES, AND UNMET NEEDS

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Older adults are sexual beings who continue to engage in sexual and intimate activities across their lifespan. However, sexual rights are rarely acknowledged in long-term care (LTC) settings, as it is complex and stigmatized. Providers across disciplines in long-term care face several challenges in sexual and intimate expression management. In order to better understand the challenges and unmet needs in long-term care, a qualitative needs assessment was conducted with a convenience sample of nursing directors of long-term care facilities across the United States (N=20). In-depth, semi-structured interviews were conducted assessing sexual expression management and sexual consent assessment. This included: current policies and procedures, current management and assessment practices, perceived challenges and barriers to patient-centered sexual expression management, unmet needs in sexual expression management, and suggestions for future resources, policies, and procedures. Interviews were audio-recorded and transcribed for analysis. Constant comparative analysis (CCA) was utilized on a subset of interviews for initial development of codes and themes. Initial themes identified included: common challenges to sexual expression management (e.g., balancing patient autonomy and protection from harm, family involvement), importance of specific resources for successful management (e.g., presence/lack of sexuality training, available procedures to consult), and negotiating the environment in long-term care (e.g. privacy issues, time scarcity). Remaining transcripts continue to be analyzed via constant comparative analysis method, with multiple researchers for reliability considerations. Themes and connections will be presented to form a framework for understanding current practices and unmet needs relating to sexual expression management and consent assessment in a long-term care.

#### PHYSICAL FRAILTY AND SEXUALITY: THE ROLES OF POSITIVE AND NEGATIVE AFFECT?

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Previous studies have suggested that lower sexual satisfaction and desire in older adults are associated with decline in physical health and condition. The aim of this study is to investigate emotional pathways that explain the association between physical frailty and sexuality among married individuals. Past studies have highlighted the importance of emotional well-being on sexuality. Thus, we hypothesized that increased physical frailty is associated with lower sexual well-being through increased negative affect and decreased positive affect. Our sample included 760 married individuals across the lifespan from the Midlife in the United States (MIDUS) survey who completed both questionnaires and biomarker assessments. Sexuality was a latent construct measured via three items on sexual satisfaction, control and effort. Physical frailty was assessed using Basic Activities of Daily Living, Timed Walk, and Chair Stand Task. Positive and negative affect was measured via the Positive and Negative Affect Scale (PANAS). We used structural equation modeling to test the two mediators simultaneously. The model demonstrated good fit,  $\chi^2(16, N=716) = 35$  ( $p = .003$ ), CFI = .982, TLI = .969, RMSEA = .041, SRMR = .031. Results suggested that the indirect effect of physical frailty via positive affect was significant

( $Z = -2.046, p < .05$ ), whereas the indirect effect via negative affect was not. Findings suggested that in the context of physical frailty, lack of positive affect may have a stronger effect on sexual well-being than increased negative affect.

### **OLDER ADULT SEXUALITY: COMPARING KNOWLEDGE AND ATTITUDES OF HEALTHCARE PROVIDERS AND EDUCATORS**

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Older adult sexuality is increasingly an area of research, particularly the knowledge and attitudes of healthcare providers and educators. There are three available scales for measuring knowledge and attitudes toward older adult sexuality, but the Aging Sexual Knowledge and Attitudes Scale (ASKAS) (White, 1982a; White, 1982b; White & Catania, 1982) is the only one regularly cited by researchers and used as a scale to measure knowledge and attitudes of healthcare providers, educators, and older adults. According to a search on Web of Knowledge, researchers cite the ASKAS in 94 articles, including literature reviews, correlational studies, and experimental designs. Nonetheless, none of the articles compare knowledge and attitudes across a variety of disciplines. Based on a comparison of results from the available articles, medical and psychology doctoral students had the most knowledge of older adult sexuality (Snyder & Zweig, 2010), followed closely by health educators (Glass & Webb, 1995). On the other hand, older adults in a wellness program had the least knowledge of older adult sexuality (Steinke, 1994), followed closely by other community dwelling older adults (Steinke, 1994) and college students (Hillman & Stricker, 1996a). Additionally, health educators had the most permissive attitudes (Glass & Webb, 1995) and gynecologists had the most restrictive attitudes (Langer-Most & Langer, 2010). These results will be compared to self-reported knowledge and attitudes toward older adult sexuality. Due to a number of limitations of the available scales, suggestions will be made for future research and the development of an updated scale.

### **CHANGING SEXUAL PRACTICES IN INTIMATE RELATIONSHIPS IN LATER LIFE – A LIFE COURSE PERSPECTIVE**

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In late modernity sex has escaped its reproductive cage and people form pure relationships, based on mutual satisfaction (Giddens). Ironically, although older people are per definition non-reproductive, they have been neglected in studies on sexuality. The aim is to study sexual attitudes and practices among older people in life-course perspective. We present results from 1) a qualitative interview study with 28 63–91 year old Swedes currently dating or in a relationship (married, cohabiting, LAT) initiated 60+ and 2) a quantitative survey including 1225 60–90 year old Swedes (response rate 42%). The interviews revealed a normative change, from condemnation of extra-marital sex in young adulthood to encouragement of sexual relationships but not marriage in later life. Despite restrictive norms, the survey showed a majority (93%) had had their sexual debut before marriage. All informants had experienced the 1960's sexual liberation and today liberal attitudes seem to encompass later life. Most had had rather active sexual lives. Half or the survey respondents had had  $\geq 4$  more sexual partners, and one in five  $\geq 10$ . Today, an active sex-life was regarded as important for a good relationship. Many informants had interpreted sexual decline as "natural" and age-related, but re-discovered sexuality with their new partner. The survey confirmed relationship length as a better predictor of sexual activity than age. Cohort and period effects will be discussed. It has been argued that sexual practices will become more liberal in the future by cohort replacement. Our data indicates that "the future might already be here".

### **PERCEIVED SUPPORT IS ASSOCIATED WITH GREATER RETIREMENT PLANNING CONFIDENCE AMONG LESBIAN AND GAY ADULTS**

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Retirement planning includes a consideration of financial needs and timing and is critical for quality of life. Population aging adds urgency to this topic and although there is an increasing diversity of family forms including those lead by lesbian and gay adults, little is known about their retirement planning. The social rejection many lesbian and gay adults face is well documented (Meyer, 2003) and since social support is important for future orientation (Prenda & Lachman, 2001) we suggest it may be particularly important for lesbian and gay adults' retirement planning. Drawing on nationally representative Canadian data (GSS Cycle 21), we selected for non-retired adults between 45 and 70 years old ( $n = 9,446$ ). Multivariate analyses included demographic controls and self-reported sexual orientation (heterosexual as reference group, bisexual, gay or lesbian). Perceived social support was tested as a moderator of sexual orientation. The three retirement planning outcome variables included age expected to retire, certainty of expected retirement age, and expected retirement income adequacy. There were no main effects for sexual orientation with the retirement planning variables. However, perceived support moderated sexual orientation such that the better supported lesbian and gay adults felt, the younger their expected retirement age, the more certain they were about that age, and the more certain they felt about their retirement income adequacy. Thus, perceived support is important for future orientation and planning in general and may be important for lesbian and gay adults' retirement planning in particular.

### **TAKING AN INTERSECTIONAL APPROACH TO BODY IMAGE COPING: THE INFLUENCE OF AGEISM, SEXISM, AND RACISM**

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As women age, they are more likely to experience the effects of both sexism and ageism. Additionally, older women of Color are subject to the combined effects of ageism, sexism, and racism. Whereas qualitative researchers have examined the link between ageism and beauty work in older women (Hurd Clark, 2011), this link has yet to be established quantitatively. Additionally, a quantitative examination of the impact of multiple forms of discrimination on how women cope with their appearance is not known to exist. Body image coping strategies have previously been examined in younger adult samples in regards to psychosocial outcomes (Cash, Santos, & Williams, 2005; Choma, Shove, Busseri, Sadava, & Hosker, 2009); however, middle aged and older adult women have been excluded. Thus, this research study utilized a sample of 583 women, 18-87 years old, to examine intersections of inequality and discrimination as potential predictors of appearance coping behaviors in women across the lifespan. Results indicate that the intersection of experiences with racism, sexism, and internalized ageism significantly predict avoidance and appearance fixing behaviors but not positive rational acceptance behaviors for women of Color. For white women, the intersection of experiences with sexism and internalized ageism significantly predict avoidance, appearance fixing, and positive rational acceptance behaviors. These results have implications for practitioners as appearance fixing and avoidance behaviors predict levels of depression in women of Color. Avoidance and positive rational acceptance behaviors predict levels of depression in white women.

## DEPATHOLOGIZING AGING SEXUALITIES: FEMINIST ACTIVISM AT THE NEXUS OF SEXUAL NORMALIZATION AND ANTI-AGING MEDICINE

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The twenty-first century has ushered in new ways of conceptualizing, and new technologies for treating, women's sexualities. With the biomedicalization of aging and sexuality, older adults' sexual desire and performance have become targets for rehabilitation through the consumption of lifestyle drugs. The image of the "sexy senior" has not replaced the stereotype of the postsexual senior but serves as its foil; both are needed to make the contrast between successful aging and mortifying senescence intelligible. The pharmaceutical industry has invested substantial capital in pursuing a marketable solution to aging women's sexual problems, but pharmaceutical companies have wielded far more influence than older women in identifying and defining those "problems," raising concerns for feminist health activists. This paper draws connections between sexual medicine and anti-aging medicine and among various sites of resistance, e.g. pedagogy, research, and clinical practice. Although the political terrain has shifted, I argue that twenty-first-century feminist health activists can reclaim the women's health movement of the 1960s and 1970s as a usable past for tackling new challenges that emerge at the intersections of sexuality and aging.

## COMPASSIONATE LOVE ACTIONS AND PHYSICAL AND MENTAL HEALTH: HOW AGE MATTERS

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Compassionate love is defined as love that: values the other at a fundamental level; is accompanied by a free choice to love; reflects a true understanding of the needs and feelings of the person to be loved; reflects a response of the heart; and is accompanied by openness and receptivity (Underwood 2002,2009). Antecedents and consequences of compassionate love were previously studied. This study continues exploration of how positive inner thoughts (self-esteem, self-compassion, self-forgiveness and spirituality) combined with prosocial behaviors (forgiveness, empathy, sympathy, altruism, compassion and compassionate love) can improve perceived health and mental health. This study focuses on how age cohorts mediate these relationships. SEM was used to test the pattern of causal structures on an internet sample of 2245 individuals. Inner thoughts and prosocial behaviors explained 37% of the variance in health and mental health. The strongest pathways to health and mental health were a healthy self-esteem, the ability to have compassion for oneself, and compassionate love actions shown toward others. The goodness of fit statistics for the final model (CMIN/DF=2.54,CFI=0.93,RMSEA=0.05) indicated good model fit. The equivalence of the multidimensional models between the different cohorts were tested and found to be measurement and structurally invariant across cohort groups, giving confidence that the differences seen between cohort groups were true differences. Baby boomers and the silent generation had stronger pathways to health and mental health through the demonstration of compassionate love actions than younger cohorts. Implications for health and mental health promotion strategies for older cohorts will be discussed.

## SESSION 272 (POSTER)

### COGNITION

#### COGNITIVE PERFORMANCE AND ITS ASSOCIATION WITH PLASMA LEVELS OF VITAMIN D IN CHILEAN OLDER PEOPLE

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Background: The vitamin D (25OH-D) deficiency is a worldwide public health problem. Older people are especially vulnerable because

the decreased ability to synthesize 25OH-D. The autonomy in the older people is sustained mainly by good physical and cognitive performance. Recent research has suggested that 25OH-D plays a role in cognitive function. The objective of this study was to evaluate the association of 25OH-D deficiency with cognitive performance in Chilean older people. Methods: Cross-sectional study corresponding to the baseline of a RCT aimed to determine optimal levels of fortification with 25OH-D and B12 of a milk drink provided by the Chilean ministry of health to beneficiaries. 815 participants  $\geq 70$ y (61.5% women), mean age 77.3(SD: 5.2), living in 3 cities from different latitudes of the country were randomly selected from primary health care centers registries. Weight, height, 25OH-D and Mini Mental State Examination (MMSE) were measured. Cognitive performance deficit was defined as Percentil 25 of MMSE (MMSE $<24$ ). 25OH-D deficit was defined as  $<50$  nmol/L. Crude and adjusted regression models were performed to test the association of cognitive performance and 25OH-D deficiency. Results: Mean 25OH-D was 60.3 nmol/L (SD: 38.2) higher ( $p<0.05$ ) in men (67.1 nmol/L;SD:39.6) than in women (55.6 nmol/L;SD:36.1)). The proportion of 25OH-D deficit was 45.3% (CI95%:40.8-49.8). After age, sex and depression adjusted logistic regression a significant association between cognitive performance and 25OH-D deficit, was observed (OR=1.8; 95%CI: 1.12-2.84). Conclusions: The results suggest an independent role of vitamin D in cognitive performance of older people. Project funded by FONDEF D10I1091

#### ASSOCIATION BETWEEN GAIT AND COGNITION IN COMMUNITY-DWELLING PATIENTS WITH ALZHEIMER'S DISEASE

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Background Knowledge about the association between gait performances and cognition in community-dwelling patients with Alzheimer's disease (AD) could be relevant for designing rehabilitation programs focusing on maintaining functional independence and quality of life but few large-scale studies have examined the association. The objective of this study was to explore the association between gait, dual-task performance and cognition in community-dwelling patients with AD. Methods 165 patients (71 females, 94 males), age 71.3 $\pm$ 7.5 years (mean $\pm$ SD), MMSE 24.2 $\pm$ 3.5 who participated in the ongoing ADEX study were included. ADEX (Preserving Cognition, Quality of Life, Physical Health and Functional Ability in Alzheimer's Disease: the Effect of Physical Exercise) is a single blinded, multi-centre RCT including 192 community-dwelling patients with mild to moderate AD. Baseline tests included 400-meter walk (400MW, fast speed) and 10-meter walk (10MW, usual speed) single performance and dual-task performance where the cognitive task was to count backwards from 50 while walking. Cognitive function was assessed by Mini-Mental State Examination (MMSE) and Symbol Digit Modalities Test (SDMT). Results 400MW gait speed (m/s) was significantly correlated with MMSE and SDMT ( $r=0.225$  and  $r=0.224$ ,  $p=0.004$ ). In addition, MMSE and SDMT were significantly correlated with usual gait speed (m/s) ( $r=0.275$  and  $r=0.371$ ,  $p<0.0001$ ) and correct numbers counted backwards under dual-task performance ( $r=0.280$  and  $r=0.325$ ,  $p<0.0001$ ). Conclusions These preliminary data show a weak-to-moderate but significant association between gait performance and cognitive function in community-dwelling patients with AD. Whether gait performance and dual task performance can be improved by exercise is investigated in the ADEX study.

## EXECUTIVE HOMEOSTATIC NETWORK IN MILD COGNITIVE IMPAIRMENT

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**Background:** Patients with cognitive deficit constantly encounter stressors requiring overloaded mental effort in their daily lives and this may accelerate their cognitive decline. The executive homeostatic network (EHN) proposes stress regulation as a bidirectional interaction between the central executive network (CEN) and peripheral homeostatic system. In this descriptive correlational study, we examined if the EHN can be used to understand stress regulation in patients with mild cognitive impairment (MCI). We tested the associations of two CEN indicators, executive function (EF) and resting-state functional connectivity (rFC) in CEN, with two cardiovascular homeostatic indicators, reactivity and recovery of heart rate variability (HRV). **Method:** Seven patients' data are presented here (mean age 77). EF, including cognitive control, verbal fluency, and working memory, was measured using a computer battery package (EXAMINER) at baseline. rFC was collected by BOLD fMRI at baseline. HRV included heart rate (HR) and high frequency (HF) HRV of electrocardiogram at baseline, in response, and in recovery from a standard task with high executive load. **Results:** Greater HR reactivity while lower HF HRV reactivity was related to greater cognitive control, but not other EF domains. The rFC in CEN existed taking anterior cingulate cortex as the seed, and were related to HR and HF HRV reactivity and recovery, and cognitive control. **Conclusion:** These preliminary findings suggest that EHN may be useful in understanding the neurophysiological basis of stress regulation in MCI. These results may provide a basis for developing effective stress regulation interventions for individuals with high risk for dementia.

## GENDER DIFFERENCE OF EFFECTS FOR 'EMPTY-NEST' ON THE COGNITION AND ITS RISK FACTORS IN HEALTHY CHINA POPULATION ABOVE 60 YEARS OLD

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**Objective** The aim of this study was to estimate the differences of cognition and risk factors of cognition decline between empty-nest and non-empty-nest elderly in healthy China population. **Methods** In cross-sectional study, we examined 475 healthy elderly (aged 60 – 91 years, 235 men) free from cardiocerebral disease and diabetes mellitus. Participants were categorized into non-empty-nest and empty-nest group. The Mini-Mental State Examination (MMSE) was performed as a assessment of cognition. Carotid intima-media thickness (CIMT) was analyzed using M-mode ultrasonography **Results** MMSE score of empty-nest group was significantly lower than non-empty-nest group ( $p=0.002$ ) only for males. Stepwise multiple regression equation analysis in males shows that age and fasting blood glucose (FBG) are independently associated with MMSE in both non-empty-nest ( $B=-0.166$   $p<0.001$  for age and  $B=-0.78$   $p=0.013$  for FBG) and empty-nest ( $B=-0.245$   $p<0.001$  for age and  $B=-1.539$   $p=0.007$  for FBG) group. However, in non-empty-nest females the age ( $B=-0.147$   $p<0.001$ ), systolic blood pressure (SBP,  $B=-0.102$   $p=0.001$ ), and diastolic blood pressure (DBP,  $B=0.117$   $p=0.003$ ) were independently correlated with MMSE. In empty-nest females only the age ( $B=-0.168$   $p=0.005$ ) and estimated glomerular filtration rate (eGFR,  $B=-0.028$   $p=0.019$ ) were independently correlated with MMSE. **Conclusion** The cognition of empty-nest males was lower than non-empty males. There are gender differences of risk factors for cognition decline between empty-nest and not-empty-nest healthy China elderly population. Empty-nest females should pay more attention to faster aging-related decline of the cognition.

## SHORTHAND TRAINING AND COGNITION – RESULTS OF A 2 YEAR PILOT STUDY

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**Introduction:** We examined a group of women started shorthand learning in 2012 on a yearly basis. The training program consist of an one year phase of learning and a second one of motor speed training in writing shorthand. **Hypothesis:** The magnitude of learning shorthand is correlated to a less reduction of age associated cognitive abilities. **Setting:** Ambulatory healthy women. **Results:** Members of the training group are 17 women, mean age  $71.8\pm 4.9$  years without cognitive, psychiatric or neurologic diseases. They were all right handed. After one year one woman left the training group for personal reasons. All other participants are compliant to the program after two years consisting of two training session per week in year 1 and one session in year 2. They are independent in all ADL and IADL areas. After 2 years participants perform MMSE better (baseline  $27.3\pm 1.4$ , 2 years  $28.8\pm 1.4$ ,  $p=0.0053$ ). Even subtests of the Rey Complex Figure Test (baseline and 2 years: CFT  $89.3\pm 12.2$  and  $93.9\pm 6.6$ ,  $p=0.418$ , CFM  $74.8\pm 19.1$  and  $94.1\pm 9.2$ ,  $p=0.0015$ , CQM  $65.4\pm 18.8$  and  $90.4\pm 11.6$ ,  $p=0.0001$ ) were performed better. All other tests showed a non-significant change. **Discussion:** Comparing to baseline results we found no decline over 24 month in cognition. In subtests we found a trend to perform better and some tests showed a significant improvement. The data confirm research results that training programs are able to stop or to slow age associated decline.

## ARE RESULTS OF COGNITIVE TESTING WITH THE MMSE INFLUENCED BY CENTRAL ACTING ANALGESIC DRUGS?

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**Introduction:** Growing evidence shows an increasing use of opioids in elderly patients and a high rate for adverse drug reactions like falls, fractures, and mortality. **Research question:** Are results of cognitive testing with the Mini Mental Status Examination (MMSE, Folstein et al 1975) influenced by use of opioid drugs? **Setting:** Geriatric inpatient service for acute and rehabilitation care. **Methods:** Secondary combined analysis of two prospective, single center study cohorts (PROPSYC, 2011 and AGE OUT, 2012) with identical procedure for the MMSE. **Results:** Overall 395 patients were included, 144 male (M) and 251 female (F). Mean age was  $80.0\pm 8.4$  (M  $76.8\pm 9.1$ , F  $81.9\pm 7.4$ ,  $p=0.0000$ ) years (y). Mean MMSE was  $22.9\pm 4.9$  (M  $23.3\pm 4.7$ , F  $22.6\pm 5.0$ ,  $p=0.211$ ) points. Analgesics with central activity were given to 117 of 395 patients (29.6 %). Low potent opioids (tramadol hydrochloride, tilidine, tilidine/naloxone) were identified in 60 patients (M 18, F 42, age  $80.9\pm 7.7$  y), high potent opioids in 57 patients (M 15, F 42, age  $78.3\pm 9.5$  y). Transdermal patches were found in (M 6, F 15) and oral drugs in 36 (M 9, F 27) patients. The Pearson correlation  $r$  for low potent opioids was 0.044 and for high potent 0.174. Subgroup analysis for transdermal and oral application forms and sex showed no differences. **Discussion:** Our analysis show now influence on cognitive testing with the MMSE in users of low or high potent opioids compared to non-users.

## SELF-REPORT OF BIO-PSYCHO-SOCIAL FUNCTION IN ELDERLY AS A PREDICTOR OF MILD COGNITIVE IMPAIRMENT

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**Introduction:** Subjective memory complaints often precede the development of mild cognitive impairment (MCI) and assist in risk stratification in the older population. It is unclear if changes in perception of other lifestyle factors may help in the identification of individuals at-risk for MCI and further identify potential targets for disease prevention. **Methods:** Participants enrolled as cognitively intact in the University of Kentucky Alzheimer's Disease Center cohort, followed for at least 9 years, either remained cognitively intact (n=143) or developed MCI (n=34). RAND 36-Item Short Form Health Survey (SF-36) physical, social, and emotional well-being scale scores were compared between groups at three time points using a multivariate analysis of variance (MANOVA) adjusted for age at assessment, educational attainment, APOE-4 status, and gender. **Results:** Participants who transitioned to MCI during the course of the study reported significantly worse emotional well-being and social functioning than those that remained cognitively intact 5-6 years prior to clinically evident cognitive decline (p<.05; MANOVA). While emotional well-being normalized by 2-3 years prior to cognitive transition, lower social function scores persisted, and physical function scores dropped between the 5-6 and 2-3 year time points for participants who eventually developed MCI (p<.05; MANOVA). **Discussion:** These findings demonstrate that changes in self-reported bio-psycho-social function precede the transition from normal cognition to MCI by 2-6 years. Early identification of perceptual changes in lifestyle factors may signal impending cognitive decline and allow a window for interventions designed to slow or prevent the development of dementia and further maximize well-being in later life.

## RACIAL/ETHNIC DIFFERENCES IN TRAJECTORIES OF COGNITIVE FUNCTION IN OLDER ADULTS: ROLE OF SMOKING AND PHYSICAL ACTIVITY

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**Background:** The mechanisms responsible for racial/ethnic differences in cognitive function and subsequent cognitive decline in older adults are still unclear. **Methods:** Data from HRS, a nationally representative sample of older adults (3424 participants, ages 51-61 at baseline) interviewed bi-annually between 1992 and 2008. Hierarchical linear models with time-varying and time-constant covariates were used to define the trajectory of a global cognitive function score between 2002 and 2008. Trajectories of PA (non-active, decreasingly-active, increasingly-active, persistent-active) and smoking patterns were assessed between 1992 and 2002. **Results:** The average cognitive function decreased following a non-linear decelerating trajectory (intercept b=22.5, linear slope b=-0.16, p<.001, quadratic slope b=0.02; p<.001, and cubic slope b=-0.01, p<.05). Higher levels of education were associated with higher cognition intercept (b=0.62, p<.001), but not with differences in rate-of-decline. Blacks followed cognition trajectories with lower intercept (b=-4.42, p<.001) and slightly slower rate-of-decline (b=0.03, p<.05 for quadratic slope) compared with Whites. Hispanics have cognition trajectories with lower intercept (b=3.82, p<.001) and similar rate-of-decline compared with Whites. These differences remained significant after accounting for racial/ethnic differences in education, PA trajectories, smoking, and other covariates. **Conclusion:**

We found education to have a partial mediating effect on racial differences in cognition trajectories intercept (only) and no mediating effect for PA or smoking among older adults.

## IMPLICATIONS OF VASCULAR BURDEN ON DEMENTIA

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White Matter Disease (WMD) is a reflection of multiple microinsults to the brain over a person's lifetime. We aim to study the burden of white matter disease in an elderly urban population diagnosed with dementia. We hypothesize that White Matter Hyperintensity (WMH) volume and region-specific distribution may be associated with an increased risk of developing dementia and may serve as an MRI marker of risk of dementia. **METHODS:** We retrospectively selected the MR images of patients with a diagnosis of dementia and quantitatively measured the volume and distribution of WMH on MR fluid attenuated inversion recovery images using an import DICOM (Digital Imaging and Communications in Medicine) image tool of Analyze 10.0 software (AnalyzeDirect). The locations specified were Subcortical, Deep White Matter (DWM) and Periventricular parenchyma. We compared them to age matched controls. **RESULTS:** 877 patients were diagnosed with Alzheimer's dementia from 2000 to 2010 in an urban hospital. There were 398 patients identified with both dementia and stroke; from the remaining 479 patients with dementia only, 105 had MR imaging available for review (age: 69.2±10.4 years). The dementia group had a significantly higher total ((1.38%+1.30% vs. 0.55%+0.66%, p<0.02), deep (0.36%+0.38% vs. 0.14%+0.15%, p<0.01) and periventricular (0.10%+0.09% vs. 0.03%+0.04%, p<0.04) WMD compared to the controls. **CONCLUSION:** Dementia patients have significantly more WMD burden than age matched controls in total, deep and subcortical white matter disease. Patients with extensive WMH should be identified and aggressively treated to slow the progression of vascular insults that may affect the progression of dementia.

## ASSOCIATION BETWEEN PHYSICAL FUNCTION ASSESSED BY QUESTIONNAIRE AND COGNITIVE DECLINE IN LATE LIFE

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**Aims:** Recent studies indicate that poor physical function is a risk factor for cognitive decline in late life. To examine the association between poor physical function assessed by questionnaire and cognitive decline after controlling for potential confounding factors. **Methods:** The participants were all residents aged 65 years and older, living in an urban district of Japan (N=7,682). First, a questionnaire survey was conducted for all participants to examine socio-demographic and health-related variables. Physical function was assessed using the Japanese version of Motor Fitness Scale (MFS), which is a self-rating scale of 14-items. Second, 3,000 residents were randomly selected from this population. The trained nurses visited their homes and the face-to-face interview was conducted to examine cognitive function using the Japanese version of the Mini-Mental State Examination (MMSE). Statistical analyses were performed using multivariate logistic regression analyses. **Results:** In the second study, 1341 agreed to the interview and 787 who completed MMSE were selected to be analyzed. The total score of MMSE was 27.22±3.16 among all participants; when a cut-off criterion of 23/24 was used, the frequency of low cognitive function was 9.27%. Multivariate logistic regression analyses showed that poor physical function significantly associated with cognitive decline after controlling for potential confounding factors (age; sex; education; income; subjective health feeling; frequency of outdoor activity; history of heart disease, cerebrovascular disease, dementia, Parkinson's dis-

ease, depression)(OR: 1.89; 95%CI: 1.03-3.46). Conclusion: Physical function might associate with cognitive decline in late life, independent of socio-demographic and other health-related variables.

### **IMPACT OF DIABETES AND HBA1C LEVELS ON COGNITIVE DYSFUNCTION IN JAPANESE OLD SUBJECTS - SONIC STUDY**

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**Introduction:** Diabetes is known to be a risk factor for dementia and cognitive dysfunction. Glycated hemoglobin (HbA1c) is a marker of average blood glucose for 1-2 months, and the goal of HbA1c in the elderly is 7.5-8.0% in guidelines. The aim of this study is to clarify the impact of diabetes and the level of HbA1c on cognitive dysfunction in people aged around 70. **Methods:** Community-dwelling people age around 70 years (men 479, women 521, 70±1) participated in the invitation survey at the community centers. We interviewed medical histories and medications, and performed MOCA-J as a cognitive test, physical examinations and blood tests. We assessed associations between MOCA-J and diagnosis of diabetes or HbA1c. **Results:** The score of MOCA-J was significantly lower in diabetes group than in non-diabetes group in women (p=0.002), but there was no significant difference in men. When we divided 3 groups (participants who had diabetes and HbA1c ≥7%, diabetes but controlled HbA1c <7% and no diabetes), diabetes and HbA1c ≥7% group tended to have lower score of MOCA-J (22.1±2.8) than no diabetes group (23.1±3.1) in men (p=0.07). In women, diabetes and HbA1c ≥7% group had significantly lower score of MOCA-J (21.8±4.7) than diabetes and HbA1c <7% group (23.2±3.3, p=0.05) and no diabetes group (23.9±3.2, p<0.001). **Conclusion:** Diabetes is a risk factor for cognitive dysfunction in women than men in the elderly. And the control of HbA1c could be more important for the progression of dementia.

### **LONELINESS AND COGNITIVE FUNCTION IN THE OLDER ADULT: A SYSTEMATIC REVIEW**

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**Introduction** The elderly are especially prone to psychosocial factors, such as loneliness, which place them at high risk for decreased cognitive function. Examination of cognitive function is a research priority due to irreversibility, lack of effective treatment, and accompanied social and economic burdens. Recent evidence indicates that loneliness may influence cognitive function, however, the relationship is complex and better understanding is necessary. **Objective** To summarize current findings on associations between loneliness and cognitive function in older adults ≥ 60 years. **Methods** A comprehensive, electronic review of literature was performed in PubMed, Medline (Ovid), and Psycinfo. Studies were limited to original quantitative research, written in English, used human subjects with a mean age ≥ 60 years, and published from January 2000 through July 2013. The initial search elicited 2,059 articles, of which 15 were retrieved. After further exclusion, 11 were included in this review. **Results** Overall findings indicate that loneliness, in general, was negatively associated with cognitive function. Findings of cross-sectional and longitudinal studies consistently indicated significant and negative associations of loneliness and over 10 different cognitive domains, including, verbal fluency, immediate and delayed

recall, working memory, semantic memory, and episodic memory, but not global cognitive function. **Discussion & Conclusions** Overall findings indicate that higher loneliness is associated with lower cognitive function in the elderly. Although preliminary evidence is promising, additional evidence is necessary to determine causality and potential biological mechanisms underlying the relationship between loneliness and cognitive function. Furthermore, findings should be verified in culturally diverse populations in different ages and settings using rigorous research designs.

### **A BIOBEHAVIORAL EXAMINATION OF STRESS, DEPRESSION, LONELINESS, AND COGNITIVE FUNCTION IN THE ELDERLY**

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**BACKGROUND:** Stress, depression, and loneliness are associated with adverse cognitive health outcomes in a rapidly growing aging population. Increased cortisol/DHEA ratio, estradiol, or testosterone may also be associated with detrimental cognitive health outcomes. **OBJECTIVES:** To examine stress, depression, loneliness, and cognitive function from a biobehavioral perspective and enhance understanding of how salivary biomarkers are related to cognitive function in an elderly population. **METHOD:** Using a cross-sectional design, data were collected once from 71 elderly (mean age 86.4). Stress, depression, loneliness, and cognitive function were measured with standardized instruments, and saliva samples were collected for salivary cortisol, DHEA, estradiol, and testosterone. **RESULTS:** Main findings include that stress and loneliness were significantly and negatively correlated with global cognitive function (r = -.25, r = -.30, both p < .05) and executive function (r = -.26, r = -.40, both p < .05). Cortisol also showed a significant negative correlation with executive function (r = -.30, p < .05). Estradiol was significantly and positively correlated with global cognitive function in men only (r = .54, p < .05). **DISCUSSION:** Loneliness, stress, and cortisol seem to be important biobehavioral variables on cognitive function in the elderly. Additional biobehavioral research is needed in this area with more diverse study participants, longitudinal research designs, and other relevant biomarkers for cognitive functions. With increasing longevity, biobehavioral interactions and cognitive function will remain a significant area of research in the elderly and better understanding of such interactions may reduce adverse burdens in the aging population.

### **POOR RENAL FUNCTION PREDICTIVE OF FRONTAL EXECUTIVE DYSFUNCTION IN AN ELDERLY COMMUNITY-DWELLING SAMPLE**

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**Background:** Poor renal function is widely viewed as a risk factor for cognitive impairment in older adults. This association has rarely been explored in representative, community-based samples of older adults. Herein, we examine the cross-sectional association between eGFR and cognitive function. **Methods:** The Einstein Aging Study (EAS) is a longitudinal, community-based study of adults age 70+ residing in Bronx County, New York. We calculated eGFR using the method of modification of diet in renal disease (MDRD) using 3 predefined eGFR categories in units of mL/min/1.73m<sup>2</sup> as low (<45), medium (45-59) and high (≥60). A battery of 13 cognitive tests was subjected to principle components analysis revealing 3 components, a global component, an episodic memory component and a frontal-executive component. We adjusted for age, sex, race, education and hypertension. **Results:** The 649 eligible participants had a mean age of 79.2 years and 61% were female. 67 (10.3%) participants had low eGFR. Results showed that declining eGFR significantly and independently predicted executive dysfunction (β = .09, p < .05), but not memory impairment or global



cognition. Conclusion: The association of low eGFR and executive dysfunction suggests that low eGFR, or factors associated with it, may be risk factors for poor executive function. Executive dysfunction reflects poor ability to maintain attention, to plan and organize, to process information quickly, and to be mentally flexible; skills that are required to carry out ADLs independently, including adhering to medical treatment. Poor executive function may interfere with adherence to recommendations for the management of kidney disease.

#### **C-REACTIVE PROTEIN AND POST-STROKE COGNITIVE DECLINE IN CARRIERS AND NON CARRIERS OF APOLOPROTEIN APOE4 GENOTYPE FROM THE TABASCO STUDY**

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Background: Carriers of APOE4 allele, a major risk factor for all dementias, have lower C-reactive protein (CRP) than non-carriers. Stroke patients are at increased risk for developing cognitive impairment, while high CRP concentrations were associated with risk of stroke and cognitive impairment. We sought to test whether APOE4 modifies CRP effects on rate of post-stroke cognitive impairment. Methods: Inflammatory markers, APOE4 and cognitive status were determined in 275 first-ever mild-moderate ischemic stroke patients free of dementia from the TABASCO study (mean age: 67.6), without evidence of inflammatory condition, within 72h from onset, who were followed for 2 years. Results: CRP was significantly lower among APOE4 carriers (16.8%) at all time points (admission, 6, 24 months post-stroke). Forty nine participants (17.8%) were found to have clinically significant cognitive decline (CD) over the 2 years. Interestingly, the CD group had elevated CRP levels at all time points than the cognitive intact group and no association between APOE4 genotype and risk for CD. Nevertheless, APOE4 carriers displayed strong negative association of CRP levels with total cognitive scores 24 months post-stroke, while non-carriers presented only weak association (Admission:  $r=-0.474$ ,  $p=0.017$  vs.  $r=-0.243$ ,  $p=0.012$ ; 6 months:  $r=-0.608$ ,  $p=0.003$  vs.  $r=-0.249$ ,  $p=0.017$ ). Conclusions: Lower CRP in APOE4 carriers may reflect impaired immune response in old age. Higher CRP was associated with inferior memory scores 24 months post-stroke and this association was stronger in APOE4 carriers. These findings imply that reduction of CRP might be more efficacious in preventing post-stroke cognitive decline and neurodegeneration in APOE4 carriers.

#### **COGNITIVE FUNCTIONING AND ALL-CAUSE MORTALITY: THE VA NORMATIVE AGING STUDY**

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There is emerging evidence that cognitive functioning factors such as intelligence predict mortality better than more established behavioral risk factors. This study examined the impact of cognitive functioning on all-cause mortality over 50+ years. Data are from the VA Normative Aging Study, a longitudinal study of 2280 men that began in 1963. Participants aged 21-81 were screened for the absence of chronic medical conditions at study entry. Cognitive functioning was assessed in half the sample ( $n=1040$ ) from 1965-67, using the General Aptitude Test Battery (GATB) to assess general verbal intelligence, visuospatial reasoning, and psychomotor speed. Covariates included age at cognitive testing, education, income, smoking status, and BMI. Cox proportional hazards models were used to assess whether all-cause mortality risk over age from 1963-2013 was associated with GATB factors. In univariate

models, higher psychomotor speed was associated with lower mortality risk (HR=0.90, 95% CI: 0.83-0.98). In multivariate models adjusted for covariates, psychomotor speed remained significant (HR=0.84, 95% CI: 0.77-0.92), while performance on other GATB factors was not predictive. Only smoking status had a greater effect on mortality than psychomotor speed (HR=1.87, 95%CI: 1.58-2.21), while age at testing (HR = 0.99, 95%CI: 0.98, 0.99) and education (HR=0.89, 95%CI: 0.82-0.96) had weaker effects. Other well-established risk factors for mortality, such as BMI and income, were not predictive of mortality in fully adjusted models. Thus, greater consideration should be given to cognitive functioning factors such as psychomotor speed, which may be more strongly associated with mortality than other behavioral predictors.

#### **METABOLIC SYNDROME AND COGNITIVE DECLINE IN THE VERY OLD; THE NEWCASTLE 85+ STUDY**

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The prevalence of metabolic syndrome (MetS) increases with age. Associations between MetS and poor cognitive function have been reported in populations less than 75 years old, with few studies undertaken in the very-old (e.g., persons aged 85+ years). Using data from the Newcastle 85+ Study (N=845), we tested whether there is an association between MetS and cognitive function in the very-old and also whether inflammation, physical activity or diabetes affects this association. One study found MetS to be associated with decelerated cognitive decline in the very-old; however, this study used a modified version of the National Cholesterol Education Program Adult Treatment Panel III MetS criteria. Using the full MetS criteria, defined as  $\geq 3$  of 5 risk factors (elevated blood pressure, elevated glucose levels, elevated triglyceride levels, elevated waist circumference and low levels of high-density lipoprotein (HDL) cholesterol), we found that the prevalence of MetS was 27.4% (N=214). MetS was not associated with baseline cognitive performance or change over 5 years in measures of global (Mini Mental State Examination: MMSE) or domain specific (attention and memory) function. However, after stratifying by inflammation status, those with high levels of inflammation and MetS had a decreased risk of cognitive impairment over 5 years (multivariate adjusted incidence rate ratio (IRR)=0.41 (95% CI: 0.20-0.86),  $p=0.02$ ). Mapping MetS in the very-old population is difficult; indeed, 94.4% (N=781) of individuals had high blood pressure according to the MetS criteria. The results suggest that cut-off values for the MetS components may need to be revised according to age.

#### **RISK FACTORS OF COGNITIVE DECLINE IN JAPANESE COMMUNITY DWELLERS : A 10-YEAR COHORT STUDY**

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Background: To explore the risk factors of cognitive decline not due to stroke, we constructed a cohort study utilizing annual health checkups as a part of the Long-term Care Insurance System in Japan. Methods: Elderly inhabitants of Kusatsu town were followed up for cognitive decline through annual checkups from 2003 to 2013. The measurements included Mini-Mental State Examination (MMSE), education, medical histories, depressive symptoms, number of remaining teeth, body mass index, waist circumference, blood pressure, ankle/ brachial index (ABI), pulse wave velocity, blood analyses, and others. Independent effects of the baseline measures on the risk of cognitive decline, defined as 5 points or larger drop in MMSE, were assessed by the Cox regression. Participants with baseline MMSE score  $<24$ , observation period  $<2$  years, or history/incidence of stroke were excluded from the analyses. Results: Among 573 individuals (women:56%, mean age:72) followed

up for 6.3 years in average, 34 experienced cognitive decline. The risk was found to positively correlate with older age (per 10 years) (HR=3.1; 95%CI=1.5-6.1), white blood cell count >7000/ $\mu$ L (3.2;1.4-7.2), total tooth loss (3.5;1.7-7.3), waist circumference >median (83.0cm for men, 84.5cm for women) (2.2;1.1-4.6) and ABI <0.85 (8.1;1.0-69.0), and negatively with medication for hyperlipidemia (vs. no history) (0.1;0.0-0.7), after controlling for each other and baseline MMSE score. Conclusion: Low grade inflammation, tooth loss, abdominal obesity, and atherosclerosis would be implicated in cognitive decline not due to stroke. The reduced risk in the medicated hyperlipidemia conceivably reflects the beneficial effects of statin.

## SESSION 260 (POSTER)

### HEALTH PROMOTION & SUCCESSFUL AGING

#### ACCELERATED AGING INDUCED BY WORK-RELATED STRESS: SUCCESSFUL PREVENTION STRATEGIES AND INTERVENTIONS

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In America we watch our Presidents age while in office. In the four to eight years they serve, their hairs grow grey and their faces become increasingly wrinkled. Popular conjecture is that what appears to be accelerated aging in our Presidents is a manifestation of chronic work-related stress. Work-related stress is present in many industries affecting many of those who work. The purpose of this systematic literature review was to examine the current state of the science on the relationship between accelerated aging and chronic work-related stress. Review of literature included the following online databases: Cinahl, PubMed, Google Scholar, for the following keywords: "work-related stress", "aging", "ageing", "occupational stress", "workplace stress", "interventions", and "nursing". The questions guiding this review were: (1) What is the empirical evidence for the relationship? and (2) What interventions have been empirically tested for reducing work-related stress and preventing the manifestations of accelerated aging? This presentation will focus on empirical tests of strategies that organizations have used to successfully reduce work-related stress in traditionally high-stress occupations and on the implications of these for designing research on the occupational health of older workers.

#### DETERMINANTS OF OPTIMAL OR FRAGILE AGING IN BRAZILIAN OLDER PEOPLE

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Methods: The sample was composed by elders interviewed in 2006 and 2010 (n=953) with genotyping data available in SABE Study (Health, Well being and Ageing), São Paulo, Brazil. The variable dependent was elders without functional or cognitive impairment in 2006 who maintained this condition in 2010 (optimal aging) and those who developed severe disability (fragile aging). Results: The optimal aging was associated with younger elderly (70-79 years: OR=0.59;  $\geq$  80 years: OR=0.35); high schooling (OR=4.86); no Diabetes (OR=1.73) and self-care health (OR=1.49); and the fragile aging, with oldest-old elderly (OR=2.13); low education (p=0.001); diabetes (OR=1.72); chronic lung disease (OR=2.20), stroke (OR=2.32) and less active social contact (p=0.025). Genotyping analysis stratifying by 'optimal aging' (n=479) and 'fragile aging' (n=474), HWE is kept in the latter group, but lost within the 'optimal aging' group. As they were further followed-up and received scores of maintaining or not their classification of optimal aging, HWE was observed in each score group: 0(n=319),

1(n=146) and 2(n=14); being 1 and 2 ascending deviations from the optimal classification. However, a border line signal of departure from HWE was observed in group 1. The source of this HWE loss is from underrepresentation of APOE  $\epsilon$ 2 homozygous and overrepresentation of APOE  $\epsilon$ 4 homozygous individuals from this observed population. Conclusion: The best or worst condition of aging is directly related to social inequality and further investigation on association between the departure from HWE and other APOE-related phenotypes is ongoing to clarify the above mentioned observation.

### THE USE OF MOTIVATIONAL INTERVIEWING WITH OLDER ADULTS

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Motivational Interviewing (MI) is a communication process that encourages individuals to develop internal motivation in order to implement behavioral changes within their lives. MI is now being successfully utilized in support of health promotion activities. There is extensive literature on the efficacy of MI however there is limited literature on the use of MI within older adults > 65 years of age. Older adults are at risk for increased chronic illness and physical decline; both of which are related to modifiable lifestyles. MI intervention encourages subjects to identify and implement healthy lifestyle changes. Motivational interviewing may not only help older adults explore the opportunities in changing behavior but will help to resolve the ambivalence of change. MI may be an effective approach in helping older adults become more physically active in later years. Declining activity rates in older adults along with physiological aging and disease make physical activity important for older adults. Lack of exercise in the older adult population effects functional ability and quality of life. Older adults have lived many years; many of their habits are deeply ingrained into their lifestyles. As health care personnel we understand that advising older adults to change behaviors has not been effective. MI allows the older adult to collaborate with the health care worker; it is a nonjudgmental process of encouraging change that considers where the older adult is in the continuum of change. It allows older adults the autonomy to make changes in their lifestyles through the process of skill building.

### FACTORS RELATED TO QUALITY OF LIFE IN MENTAL ASPECTS IN PERSONS JOINING TO VOLUNTEER GROUPS AS THE SOCIAL CAPITAL

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Aims: Social Capital (SC) is supposed to be getting more important to improve function of the community and to advance health promotion in an advanced aged country, Japan. We investigated the factors related to QOL in mental aspects in persons joining to volunteer groups that were a representative activity of SC in a Japanese typical urban town. Methods: This study conducted with anonymous self-administered questionnaires including SF36-ver.2 scale, and objects of this study were persons joining to volunteer groups in Hirakata city, Osaka prefecture, a mid-sized urban city in western Japan with a population about 410,000. The questionnaires were distributed to 1,076 members in 69 volunteer groups. Results: The answered questionnaires were finally collected from 51 groups and 601 members (response rates: 83.6% and 55.8%, respectively). Since the rate of female in all respondents was 80.0% (476 members), we analyzed only for female subjects. The mean age was 63.9 $\pm$ 10.6 years. Rate of subjects with current medical histories was 59.6% and 75.2% answered doing active volunteer performances. The independent related factors to QOL in mental aspect including older age, current medical history, active volunteer performances and higher frequencies of interaction with neighbors were clarified from the multiple regression analysis. Conclusions: Older age, current medical history, active volunteer performances, and higher frequencies of interaction with neighbors are factors related to QOL in mental aspect in persons

joining to volunteer groups. These results may be useful for developing SC to promote higher mental QOL in the community.

### **COMBINED ASSOCIATION OF OVERWEIGHT AND POLYPHARMACY WITH MOBILITY LIMITATION IN COMMUNITY-DWELLING OLDER WOMEN**

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**Objective:** To examine the combined association of overweight and number of medications with mobility limitation (ML). **Methods:** A cross-sectional study included pooled data on 1087 older women, aged 65 to 91 years (mean age  $72.9 \pm 5.5$  years). The participants were categorized by self-reported number of medications (0 medication (M0), 1 medication (M1), 2 medications (M2), 3 medications (M3), 4 medications (M4), 5 or more medications (M5+)) and body mass index (BMI) (overweight (OW): BMI  $\geq 25$  kg/m<sup>2</sup>, normal weight (NW): BMI  $< 25$  kg/m<sup>2</sup>). ML was assessed by self-reported difficulty in walking 400 meters or climbing stairs. Multivariable logistic regression analyses were performed to determine the combined associations of BMI and number of medications with ML, adjusted for age, exercise habit, smoking, alcohol and hand-grip strength. **Results:** A total of 28.4% participants had ML. The adjusted odds ratios of BMI combined with medications were 2.75 (1.39-5.44) in the NW plus M5+ group, 2.79 (1.38-5.62) in the OW plus M1 group, 3.13 (1.64-5.98) in the OW plus M2 group, 2.81 (1.32-6.00) in the OW plus M3 group, 4.43 (1.84-10.65) in the OW plus M4 group, 4.22 (1.98-9.02) in the OW plus M5+ group when compared to the NW plus M0 group. The odds ratio of OW with medication was significantly greater than that in NW with M5+. **Conclusion:** Results suggest that OW, when accompanied with multiple medications, yields greater risk of ML in community-dwelling older women. **Key words:** older adults, mobility limitation, body mass index, polypharmacy, overweight

### **CPAP ADHERENCE IN OLDER ADULTS WITH SLEEP APNEA AND MILD COGNITIVE IMPAIRMENT: SUCCESS STRATEGIES**

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**Background:** Obstructive sleep apnea (OSA) is prevalent in older adults with mild cognitive impairment. Continuous Positive Airway Pressure (CPAP) is the gold standard treatment for OSA, but numerous studies have shown low adherence to CPAP. To our knowledge, no studies have been conducted on CPAP adherence in older adults with mild cognitive impairment. Motivational interviewing has been shown to increase patients' positive expectations for change and shift the balance of patients' focus from CPAP barriers to the benefits of treatment. We propose the following specific aims: 1) Determine CPAP adherence in older adults with mild cognitive impairment who received a motivational interviewing intervention for CPAP adherence and compare it to published norms in older adults, 2) Determine the perceptions of a subsample of the older adults with mild cognitive impairment on motivational interviewing as an intervention to promote CPAP adherence. **Method:** Mean 6-month CPAP adherence will be objectively collected from the CPAP devices in 47 older adults with mild cognitive impairment who are part of a larger study investigating the effect of CPAP on memory. Also, we will conduct semi-structured qualitative interviews with approximately 10 of the older adults with mild cognitive impairment to determine their perceptions of motivational interviewing as an intervention for CPAP adherence. Qualitative interview data will be analyzed for emerging themes relevant to the participants' perceptions. **Results:** None yet. **Conclusion:** None yet. **Funding:** R01AG034682 National Institute on Aging and George Mason University OSCAR Program

### **HEALTH PROMOTION FOR PEOPLE WITH INTELLECTUAL DISABILITIES**

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**Background:** Longevity of people with intellectual disabilities (ID) has increased considerably, with many now reaching old age. Recent research reveals that people with ID, particularly as they age, experience a much higher burden of illness related to chronic, often preventable illnesses. Health promotion (HP) is one way to achieve 'healthy life expectancy' for this population. Whereas HP for the general population is a well-developed concept, the unique challenges of providing HP for people with ID are not well known. **Aim:** To summarize the current state of knowledge on how the concept of HP for people with ID is used, identify knowledge gaps, and draw implications for future research and practice. **Method:** Using Rodgers concept analysis, Medline, PsycINFO, CinAHL, and SocINDEX were searched for literature related to HP and ID from 1963 to 2013. 54 articles were included. **Results:** While the literature on HP generally refers to healthy people, the literature on HP for people with ID assumes poor health as starting point. Health care provider's lack of knowledge was identified as a primary challenge for achieving HP for people with ID. Most intervention studies focused on improving physical activity and reducing weight, while a few addressed advocacy and empowerment approaches. Very little information was found that articulated unique HP adaptations necessary for people with ID. **Conclusions:** HP approaches for people with ID cannot easily be adapted from general HP approaches. Instead, they have to take into account the specific requirements and challenges of this group.

### **FEASIBILITY AND ACCEPTABILITY OF THE DEFEATING URINARY INCONTINENCE WITH EXERCISE TRAINING (DUET) PROGRAM**

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**Purpose:** The purpose of this study was to develop and assess the feasibility and acceptability of a 12-week toileting disability prevention program for frail older women without dementia. **Methods:** Pilot study enrolling 21 women (mean age 86) from 3 continuing care communities. Individual randomization to treatment or no attention control group occurred at sites two and three. DUET combines individualized incontinence treatments, physical activity, and bathroom modifications to improve toileting skills. Measures of feasibility included recruitment, enrollment, and retention rates. Acceptability was measured with program adherence. Outcome measures included assessments of toileting skills, gait speed, balance, strength, urinary incontinence, quality of life, and a checklist of environmental toileting barriers. **Results:** Of the 47 women screened, 30 were eligible and 21 enrolled. Two women withdrew. Pre and post intervention data collection visits lasted 1.5 hours. All but one participant agreed to a pelvic exam done by a continence nurse. Treatment group participants completed all four continence nurse home visits and completed more pelvic floor muscle exercises than prescribed. Adherence to the exercise classes (64%) was higher than that for individualized walking (50%). Women were resistant to bathroom modification recommendations. Treatment group participants had improvements in toileting skills ( $p=0.026$ ) and urinary incontinence ( $p=.028$ ). **Conclusions:** Recruiting and retaining this frail population was feasible. Participants accepted the data collection procedures. Adherence to pelvic floor muscle exercises and group exercise classes was higher than that for individualized walking. Additional strategies to improve motivational techniques for walking and acceptance of bathroom modifications are needed.

## MORTALITY AND COMORBIDITY AMONG CENTENARIANS IN THE VETERANS ADMINISTRATION HEALTH CARE SYSTEM DURING 1997-2012

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The fastest growing segment of the aging population is the very old. Little is known about Veterans who live beyond 100 years of age. This study investigated the characteristics, comorbidities, and annual survival of veterans who were centenarians. Data from the Veterans Administration Health Care System included information on demographics, comorbidities, death, and duration of survival in the period from 1997-2012 for 2,432 subjects. Comorbidities include congestive heart failure (CHF), myocardial infarction (MI), peripheral vascular diseases (PVD), cerebrovascular diseases (CVD), cancers, diabetes, dementia, pulmonary, renal, and liver diseases. Survival analyses were conducted to assess the association of comorbidities and mortality using SAS 9.3. Centenarians were: 91% male, and 72% white. For subjects reaching their 100th birthday (n=2052), 718 died during the following year, 294 were lost to further follow-up or censored and 1040 survived beyond their 100th year. Cancer is the most frequent comorbidity in this population (12%), followed by chronic pulmonary diseases (9%), CVD (8%), diabetes (8%), chronic renal disease (8%); CHF (7%), PVD (7%), dementia (4%), MI (3%), and liver diseases (0.1%). White race was associated with increased risk of death (30%) compared to non-white races (RR: 1.3, 95% CI: 1.1-1.5). A diagnosis of dementia or congestive heart failure increased mortality risk by 40% (RR: 1.4; 95% CI: 1.1-1.8) and 22% (RR: 1.2; 95% CI: 1.0-1.5) respectively, adjusting for other covariates. Health care providers should be alerted to the risks associated with dementia and congestive heart failure among centenarian veterans.

## TESTING A THEORETICAL MODEL OF ATTRIBUTED DIGNITY

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As individuals age the maintenance of dignity increases in importance. Although the research on dignity has increased dramatically over the last 10 years, the relationships among the attributes of dignity are not yet well understood. Dignity, an intrinsic quality of being human, is manifested by an attributed, dynamic cognitive component of the self comprised of a sense of self value, self in relation to others, perceived value from others, and behavior that demonstrates respect toward self and others. This definition of dignity has been operationalized as the Jacelon Attributed Dignity Scales (JADS). The JADS, an 18-item Likert-scaled instrument, has been found to be a valid and reliable measure of attributed dignity comprised of four factors, as indicated above. Using the data from 289 older adults aged 65-95 years, path modeling and regression were employed to test the hypothesized theoretical relationships among the factors of attributed dignity. The findings indicate evidence for bi-directional relationships between 'perceived value from others' and 'self in relation to others', 'self in relation to others' and 'behaving with respect', 'behaving with respect' and 'perceived value from others'. Uni-directional paths between 'self value' and 'self in relation to others', and 'self value and behaving with respect' were also supported. The hypothesized bi-directional relationship between 'self value' and 'perceived value from others' was not supported. Understanding the relationships among the factors of attributed dignity provides insight into the development of interventions to support and enhance elder's dignity to promote successful aging.

## POSITIVE PSYCHOLOGY AND AGING THROUGH HEDONIC AND EUDAIMONIC PERSPECTIVES: A SCOPING REVIEW

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The phenomenon of ageing population has been primarily presented in terms of individual and social challenges and rarely is referred as an opportunity with benefits to older people and to the community. The study of aging from the lens of Positive Psychology allows this emphasis, looking beyond the decline normally associated with advancing of age and aiming to promote fulfilled and happy years in later life. In order to analyze the investment and statement of Positive Psychology research in the study of aging, a scoping review of the scientific literature published in the last 10 years was conducted. Our goal is to gather evidence on the key conceptual and empirical advancements that illustrate the commitment of Positive Psychology with aging issues. The literature search was conducted across the databases SCOPUS, Web of Science and INFOPsy, looking for papers having "Positive Psychology" and "Aging" (or similar words to aging) on their title, abstract or key-words. Simultaneously, aging related terms were searched in well-known journals of Positive Psychology. This strategy yielded 48 articles, 33 original scientific papers and 15 reviews for analysis. Main themes and study designs are presented and endpoints are discussed according to the hedonic and eudaimonic perspectives of the studies. In spite of the highest number of studies about happiness and life satisfaction (hedonic well-being), it is clear a growing interest on eudaimonic components of well-being in the last years, highlighting the human potential in advancing age and the importance of growth, self-actualization and meaning to a positive aging.

## SUCCESSFUL AGING IN CENTENARIANS: THE RELEVANCE OF SOCIAL ENGAGEMENT FOR PSYCHOLOGICAL WELL-BEING

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Rowe and Kahn's (1997) version of successful aging defines avoidance of disease and disability, maintenance of high physical and cognitive function, and sustained engagement in social and productive activities as essential components of aging successfully. The applicability of this model in very advanced age has been questioned and the relative importance of these aspects to well-being is not properly established. In order to analyze the effect of Rowe and Kahn's criteria on both subjective (hedonic) and psychological (eudaimonic) well-being, 140 individuals with 100 and more years old from the Oporto Centenarian Study (PT100) were interviewed. The mean age of the sample was 101.18 (SD 1.59); 89.3% women, 76.4% widowed and 57.9% living in the community. The Positive Valuation of Life Scale (Lawton et al., 2001), the Satisfaction with Life Scale (Diener et al., 1985) and a questionnaire of health and social information were used for data collection. Descriptive and inferential analyses were conducted. Mean scores of well-being were 27.81 (SD=5.21) for VOL and 6.51 (SD=1.97) for SWLS. Of the successful aging criteria only social engagement, i.e. participation in social activities, had a significant association with psychological well-being (p<0.01). These results stress out the influence of activity and social engagement participation in the adaptation to the challenges of very old age. The characteristics, sort and distribution of activities practiced at this age should be further investigated in order to promote and/or adjust available social engagement opportunities.

## **PREDICTIVE INFLUENCING FACTORS FOR DRUG MISUSE AND ABUSE BEHAVIORS OF THE ELDERLY IN THE COMMUNITY**

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**Objectives:** This study was to identify the factors, and their direct and/or indirect paths, influencing drug misuse and abuse behaviors among the elderly having a multidimensional vulnerability to drug use. The conceptual framework of this study was based on the key concepts in Pender's health promotion model (Pender, 1996). **Methods:** Based on cross-sectional research, a covariance structure analysis was performed to predict the paths among the factors influencing on drug misuse and abuse behaviors of the elderly. 357 elderly people were participated in this study. Data were analyzed using SAS 9.1 and LISREL 8.53 to test the model. **Results:** The fitness indices for the modified model were  $\chi^2=2.371(p=.796)$ , GFI=0.997, SRMR=.018, AGFI=0.989, NFI=0.988, NNFI=1.042, CFI=1.000, and IFI=1.013. Drug misuse and abuse behaviors directly was influenced on the attitudes toward drug use, and influenced on both directly and indirectly influenced on depression and uncertainty in the model. However, knowledge about drug use and social support only directly was influenced on depression and uncertainty, was not influenced on drug misuse and abuse behaviors in the model. **Conclusion:** Our findings suggest that to prevent drug misuse and abuse behaviors among the elderly, health professionals must assess depression, uncertainty, and attitudes toward drug use thoroughly. This structural model can promote comprehensive understanding of drug misuse and abuse behaviors in elderly of community by providing a theoretical framework for the prediction path.

## **PREDICTORS OF HIV RISK BEHAVIORS AMONG OLDER ADULTS: A MULTILEVEL ANALYSIS**

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With the increase in older adults living with HIV, being diagnosed or infected later in life, it is paramount that HIV risk behaviors are examined in this population. Understanding both environmental and individual factors and their unique influences on HIV risk behaviors among older adults is very important. A study was undertaken to develop an understanding of the environmental and individual population factors that predict HIV risk behaviors among older adults using population-based data from the Behavioral Risk Factor Surveillance System and eight state level data sources, guided by Andersen's Behavioral Model of Health Utilization (2007). The research design for the study was a multilevel repeated cross-sectional design with a three level-nested structure. The software package MLwiN was used to conduct the multilevel analysis using the Deviance Information Criterion (DIC) analytical method to assess the fit of models with Markov chain Monte Carlo (MCMC) estimation. Using a nationally representative sample of 23,950 individuals from 2008 to 2011, nested in 51 states, the trend study allowed for an understanding of the state and individual-level factors that predict participating in HIV risk behaviors. In each step, the model fit improved the DIC statistic. Overall, the results indicated that there were differences between states and their levels of HIV risk behaviors. While HIV risk behaviors decreased from 2008 to 2011, there was significant variation between and within states in the probability of individual HIV risk behaviors. Implications for the significant environmental and individual predictors will be presented.

## **MAKING CONNECTIONS: FROM CONDOM USE TO SEXUALITY RE-EDUCATION FOR 40+ AGED SINGLE HETEROSEXUAL WOMEN**

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Previous research indicates that consistent male condom usage is positively associated with women's higher education and personal

income particularly for single, heterosexual women. The current study upends this previously held knowledge, specifically for older, single, heterosexual women. Results indicate that higher personal income and higher education is negatively related to consistent condom use and is statistically significant ( $p < .05$ ). No prior research was located, which supported these findings. This is a disquieting revelation for researchers who have believed and shown that higher education/income positively correlates with higher and more consistent condom use particularly within sexual health and reproductive health. The current study's findings challenge one of the major assumptions within sexual health research, whereby women will be able to insist on condom usage when they hold more financial power and resources, such as higher education and health benefits, and are not relying on men for their fiscal support. Additionally, this finding supports Connell's cathexis of the "sexual structure of power," whereby women support men's authority even when it is directly affecting their personal reproductive health. The finding also offers some support of Connell's "structure of cathexis," whereby sexual relationships are organized around each individual's emotional attachment to the other partner. "Structure of Cathexis" is based within Connell's "Theory of Gender and Power" and "Emerson's Social Exchange Theory," with financial independence serving as a means for women to insist on condom use and protection from STIs. Additionally, this finding strengthens the need for sexuality re-education of middle-aged and older women.

## **TELEPHONIC INTERVENTION TO IMPROVE STAR RATINGS**

J. Li, K. Den Hartog, C. Taylor, D. Lunderborg, *Healthcare Analytics, Optum, Golden Valley, Minnesota*

Medicare STAR ratings are important components in comparing the quality of Medicare Advantage plans. Compliance with clinical measures is an important metric in STAR ratings. In late 2012, A telephone-based intervention was carried out with members of United-Healthcare's Medicare Advantage health plans to help members close gaps in necessary health care and thereby improve the quality of their lives. Members with gaps in STAR quality and performance measures related to missing screenings (C01-C05) were targeted for outreach. Members were called by nurses or health coaches, provided education about how best to receive care, and when appropriate assisted in scheduling appointments with their primary care provider. The impact of the telephonic program was measured by comparing closure rates of engaged individuals to a control group. Closure of the gap was determined by evidence found in healthcare claims that a particular action was taken to close the gap. The control group was drawn from a sample of those who did not participate in the program. Multivariate regression was used to adjust case-mix differences between groups. 91,629 members were identified who were non-compliant with at least one of measures. Of those, 15,879 participated in the program. Participants had increased gap closure rates compared to those who did not participate. The likelihood of closing a gap for participants was 74% higher for C01, 30% higher for C02, and 33% higher for C05. A driver of these gap closures was likely members scheduling visits with their primary care physician, with help from the telephonic program.

## **THE IMPORTANCE OF CULTURAL ACTIVITY FOR HEALTH AMONG ELDERLY KOREAN IMMIGRANTS**

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Immigrants may exhibit a sense of cultural preservation when they adapt to and navigate new cultural elements because they are ingrained in their own cultural values and beliefs. Elderly Korean immigrants struggle with accepting and embracing new cultural perspectives, which negatively influence their health and well-being. In spite of adaptation

challenges, elderly immigrants may develop their own strategies to deal with adaptation challenges and strive to improve health and well-being. One effective strategy for elderly immigrants to improve health would be to participate in personally meaningful activities. Previous authors suggest that participation in meaningful activities leads to substantial physical, psychological, cognitive, and social benefits among elderly adults. The purpose of this study is intended to capture the value of culture-related activities for the health of elderly Korean immigrants. Using the constructivist grounded theory, this study was designed to capture the value of culturally meaningful activities for health of elderly Korean immigrants. Three themes were identified as benefits of culturally meaningful activity involvement: (a) creating a psychological comfort zone, (b) improving emotional well-being, and (c) experiencing positive intergroup contact. The findings suggest that by engaging in various culturally meaningful activities, elderly Korean immigrants gain a sense of social, cultural, and psychological significance in life. This study also provided evidence that elderly Korean immigrants maintain and develop their cultural identity through culturally meaningful activities.

## SESSION 265 (POSTER)

### EXERCISE

#### HIGH CARDIORESPIRATORY FITNESS REDUCES AGE- AND HYPERTENSION-RELATED ARTERIAL STIFFENING IN MEN

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Hypertension is a common health problem worldwide; its prevalence is above 60% in Japanese older people. Hypertension accelerates age-related increase in arterial stiffness, which is a predictor of cardiovascular diseases. In contrast, previous studies consisting of mainly normotensive subjects demonstrated that high cardiorespiratory fitness (CRF) is associated with reduced arterial stiffness. However it has remained unknown whether high CRF also attenuates age-related acceleration of arterial stiffness in hypertensive individuals. To address this issue, we measured cardio-ankle vascular index (CAVI), a novel indicator of arterial stiffness in 77 middle-aged (aged 30–64 years) and 80 elderly Japanese men (aged 65–79 years) including 96 (61%) hypertensive individuals. CRF was assessed by measuring peak oxygen uptake ( $VO_{2peak}$ ), and subjects were divided into low- and high-CRF groups. In multiple linear regression analysis, although age was a major determinant of CAVI ( $\beta = 0.395$ ,  $p < 0.001$ ),  $VO_{2peak}$  was also associated with CAVI ( $\beta = -0.202$ ,  $p = 0.011$ ) independent of age and other covariates. Two-way ANCOVA revealed that in the low-CRF group, hypertensive individuals had higher CAVI than normotensive individuals (hypertension:  $8.50 \pm 0.12$ ; normotension:  $8.02 \pm 0.18$ ,  $p < 0.05$ ), whereas there was no difference in CAVI in the high-CRF group regardless of the presence of hypertension (hypertension:  $7.91 \pm 0.13$ ; normotension:  $8.04 \pm 0.14$ ). However, there was no difference in blood pressure between the different CRF groups. These results suggest that high CRF is robustly associated with reduced arterial stiffness in hypertensive middle-aged and elderly Japanese men without altering blood pressure.

#### RECREATIONAL EXERCISE AND PHYSICAL FUNCTION IN ACTIVE MEN AND WOMEN AGED 50 YEARS AND OVER

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Background: Laboratory-based exercise programs have been shown to be effective in enhancing physical function in older adults. However, outside of this ideal context, it is recognized that elderly individuals are very sensitive to factors that may hamper their involvement in exer-

cise. The present study aimed to investigate the relationship between recreational exercise and physical function in men and women 50 years and over. Methods: Data from 164 men and 361 women (50–89 yrs) involved in the YMCA 50+ Study have been used. Recreational exercises have been identified using structured interview. Participants were asked to specify the weekly exercise time (WET; min/wk) and for how long each activity have been practiced (Average exercise duration: AED; months). Activities were categorized in 3 main categories; Resistance, Aerobic and Body & Mind exercises. A composite score of physical function (PFs) was created based on the timed up-and-go, alternate step, sit-to-stand, and balance tests. Results: After controlling for age, body mass index and comorbidities, total WET explained an additional 1.0% of the variance in PFs ( $p = 0.010$ ). Further stepwise regression analysis including WET and AED of the 3 categories of exercise revealed that Aerobic WET was the only predictor of PFs and explained an additional 0.8% of the variance in PFs ( $p = 0.024$ ). Conclusion: Only Aerobic WET was associated with PFs. Although significant, this relationship was relatively weak, suggesting that recreational exercise have little influence on physical function. Such differences may originate from differences in exercise intensity between laboratory-based and recreational environment.

#### ELDERLY ROWING-TRAINED MEN HAVE COMPARABLE RISK OF TYPE 2 DIABETES TO NON-DIABETIC COUNTERPARTS

M. Higuchi, T. Ito, K. Tanisawa, X. Sun, Z. Cao, M. Asaka, S. Sakamoto, *Waseda University, Tokorozawa, Japan*

Rowing exercise using boats on water or ergometers at sports gyms has been widely performed by elderly people worldwide. Our previous studies have demonstrated that elderly rowing-trained men have higher cardiorespiratory fitness (CRF), and lower risk for coronary heart diseases than untrained men. In this study, we evaluated metabolic profile associated with type 2 diabetes (T2D) in elderly rowing-trained ( $n = 49$ ) compared with the age-matched non-diabetic men ( $n = 91$ ) (aged 60–79 years). CRF was assessed by measuring peak oxygen uptake. We used MRI to assess total abdominal fat (AF), visceral fat (VF) and subcutaneous fat (SF) areas. We obtained HOMA-IR as a parameter of insulin resistance, and HOMA- $\beta$  as an insulin secretion. Although rowing-trained had significantly higher CRF than age-matched controls ( $33.6 \pm 4.4$  vs.  $28.1 \pm 5.1$  ml/kg/min,  $p < 0.001$ ), no differences were observed in BMI ( $23.9 \pm 2.2$  vs.  $23.3 \pm 2.7$  kg/m<sup>2</sup>), and AF ( $512 \pm 87$  vs.  $479 \pm 83$  cm<sup>2</sup>) between the two groups. Rowing-trained men had similar levels of HOMA-IR ( $1.40 \pm 0.85$  vs.  $1.40 \pm 0.73$ ) and HOMA- $\beta$  ( $64.1 \pm 47.1$  vs.  $60.6 \pm 30.0$ ) to those of age-matched controls. In multiple linear regression analysis for all subjects, no association was observed between CRF and HOMA-IR and HOMA- $\beta$ . On the other hand, VF and SF areas were independently associated with HOMA-IR and HOMA- $\beta$ , respectively. This study suggests that elderly rowing-trained men have comparable risk of T2D to non-diabetic counterparts because of similar AF, both VF and SF, despite of their high CRF.

#### BALANCE AND STRENGTH TRAINING IN OLDER ADULTS: IMPACT OF A SIX-WEEK INTERVENTION ON BALANCE RELATED MEASURES

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The purpose of this study included examining relationships between the change in balance confidence, functional mobility, and various measures of balance in older adults after six weeks of balance training only and a combination of balance and strength-training programs. A convenience sample of 34 older adults (>65 years old) was grouped based on their current participation in Balance and Mobility and Strength Training programs held at the University of West Florida: group one [balance training only classes ( $n = 15$ )], and group two [balance and strength training classes ( $n = 19$ )]. Each participant was measured on

two different occasions: before and after six weeks of training. The following balance-related measures were assessed: The Fullerton Advanced Balance Scale (FAB), the Balance Efficacy Scale (BES), and the 8-foot-up-and-go test. The data were analyzed using the paired samples t-test procedure. There were significant differences between pre and post intervention in both groups for BES scores. The Balance training only (group one) scored significantly higher on the FAB ( $p < .001$ ) and the 8-foot-up-and-go ( $p < .01$ ) than the balance and strength training combination (group two). Both groups demonstrated improved balance confidence after the 6 weeks program. The Balance intervention was more effective in improving functional mobility and balance skills in the studied population. Implication of the study findings for older adults who participate in these types of exercises interventions include optimize their balance performance levels and remain more independent, leading to a better quality of life with reduced risk for falls.

#### **PROGRESSION IN LEVEL OF A NOVEL FALLS-PREVENTION EXERCISE AND PHYSICAL FITNESS**

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The Square-Stepping Exercise (SSE) is a novel falls-prevention program that includes varied steps in multiple directions, and step patterns that are made progressively more complicated. The purpose of this study was to examine the association between progressing in the step patterns and physical fitness (PF) changes during a SSE program. Participants in this study were 52 community-dwelling older adults (mean age: 70.4 ± 3.9 years, male = 7, female = 45) in Kasama City, Japan. They participated in a SSE program once a week for 3 months. To evaluate PF changes by the exercise program, we measured 7 physical performance tests before and after the intervention: grip strength, one leg stand, sit and reach, 5-time sit-to-stand, timed-up-and-go, 5-m habitual walk and choice-stepping reaction time. Subjects were divided into advanced and basic groups with the median of progression in SSE's step patterns. We used a two-way analysis of variance to examine the interaction between two groups. A significant group-by-time interaction was found only on one leg stand ( $P < 0.05$ ), with the advanced group improving their performance more than basic group. Both groups significantly improved in the following tests: sit and reach, 5-time sit-to-stand, timed-up-and-go, choice-stepping reaction time ( $P < 0.05$ ). Our findings suggest that although participants practicing basic step patterns improved their PF, participants who progressed to more complicated step patterns were more likely to improve their PF. Thus, regardless of progression, attending SSE program might be important in improving older adults' PF.

#### **AEROBIC EXERCISE AND MEMORY TRAINING: EFFECTS DIFFERENTIAL ON MEMORY DEFICITS OF ELDERLY INDIVIDUALS**

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Introduction: Advancing age may have specific negative effects upon a variety of cognitive functions. On the other hand, there are a range of extrinsic factors that may interact to modulate the impact of aging on cognition. Memory training, as it can be seen in this same literature, is one of the main strategy for minimizing such declines.

Objective: In this context, we aimed at studying the possible differential effects of two modalities of training upon episodic memory in aged individuals. Method: Sample was composed by 30 healthy older adults of both genders, selected on the basis of having memory deficits, aged 60-70 years and all living in Cataguases - MG. They were randomly divided into three groups. Group 1 performed aerobic exercise training (ATG) while the group 2 practiced an specific memory training by use of a categorization technique (MCG). The third one was a non-training group control (NTG). Results: When compared to their control, both, ATG and MCG groups showed significant improvement in the figure recognition test performance ( $p < 0.05$ ), but in the figures recall test part, the MCG had significantly better performance ( $p < 0.05$ ) than the other groups. Conclusion: Based upon the results we admitted episodic memory training strategy as capable of promoting significant improvement in mnemonic memory functions of the older individuals suffering from memory deficits. In a close, but no significant proportion, aerobic exercises training may also be a good alternative for improving this ability in older individuals.

#### **UNDERSTANDING THE WII EXERGAMES USE AMONG ASSISTED LIVING RESIDENTS**

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Objectives: The purpose of this study was to investigate the physical and psychosocial effects of the Wii exergames incorporating self-efficacy theory on assisted living residents, and the facilitators and barriers that influence residents to exercise. Methods: The study was a mixed method pre/post-test design with a controlled trial. Thirty-two participants (aged 68 to 98 years) were recruited from two facilities. Sixteen participants received an intervention combining self-efficacy theory and Wii exergames twice a week for 4 weeks. The other participants received a health education program. Physical function, fear of falling, depression, and quality of life were evaluated. T-tests were used for data analysis. Results: After the 4 week intervention, the Wii exergame group showed significant improvements in balance ( $p < .01$ ), mobility ( $p < .01$ ), and depression ( $p < .05$ ). The education group showed no significant improvement in any of the outcomes. In addition, the Wii exergames group had significant better mental-health related quality of life than the education group at post-test ( $p < .05$ ). Five themes emerged that facilitated participants' desire to exercise: (1) health and mobility; (2) increased alertness; (3) elevated mindset; (4) social interaction; and (5) structured program. Barriers to engage in exercise included (1) age- or health-related impairments to exercise; and (2) unpleasant experiences related to exercise. Conclusion and Implications: The intervention combining self-efficacy theory with the exergames resulted in physical and psychosocial benefits for older adults. Further research is needed to develop senior-friendly exergames and disseminate the exergaming programs to the clinical practice.

#### **TREATMENT EFFECTS OF WII® BALANCE BOARD IN FALLS PREVENTION FOR COMMUNITY-DWELLING OLDER ADULTS**

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Introduction: Falls are one of the major public health concerns among older adults. Objective: The purpose of the proposed study was to examine the treatment effects of Wii® Balance Board exercise programs in preventing falls for community-dwelling older adults. Methods: One group pre and post-test design was used for this study. The outcome measures of the study are functional independence, standing balance, walking endurance, and health-related quality of life. Participants are older adults who are 65 years of age and older, reside in the community, have the Mini Mental State Score ≥ 24, and are able to communicate verbally. After baseline assessment, the intervention

group will receive treatment once a week for 60 minutes each session over 6 weeks. Each session, participants will spend 40 minutes in exercises and 20 minutes on educational topics including home safety and modification, using adaptive devices, medication management, proper nutrition, and vision check. The paired-t test was used for statistical analysis. Results: Twelve women and men with an average age of 75 years of age participated in a 6-week exercise and education program. Scores indicated significant improvement in functional physical status (activities of daily living), balance, distance walked in 6 minutes, and quality of life in the physical health domain after the intervention. Conclusion: Computer-based (Wii® Balance Board) intervention provided satisfactory treatment effects in preventing falls among older adults. Contribution to OT Practice: This study provides new understanding as how occupational therapists can use computer-based intervention for community dwelling older adults in preventing falls.

### **EFFECTS OF A SIX-WEEK PROGRESSIVE RESISTANCE TRAINING INTERVENTION ON GAIT SPEED IN COMMUNITY-DWELLING SENIOR ADULTS**

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**INTRODUCTION:** Gait speed is a well-known marker of physiological health and is affected by many variables, including motor control and muscular strength. Previous research has related gait speed directly to performance of activities of daily living and quality of life; with higher gait speeds demonstrating greater functional ability and ambulation in older adults. **PURPOSE:** To examine the effects of a six-week, progressive strength-training intervention on temporal and spatial parameters of gait in senior adults. **METHODS:** Ten community-dwelling older adults (4 male, 6 female; age=66±6.25 years) participated in a six-week progressive strength-training intervention. Pre- and post-assessments were performed during a 4-meter walk using a Vicon three-dimensional motion capture system, collecting at 250Hz. The 16-marker Plug-in Gait model was utilized for lower extremities to quantify angles for hip, knee, and ankle joints, with marker data filtered at 6Hz. The strength-training intervention included six weeks of bi-weekly, 1-hour training sessions targeting all muscle groups. **STATISTICAL ANALYSIS:** Repeated measures ANOVAs (group x training status) were performed for gait speed, stride length, step time, and joint range of motion. **RESULTS:** Significant differences were found for stride length ( $p<.05$ ), step time ( $p<.05$ ), left hip extension ( $p<.05$ ), left knee extension ( $p<.05$ ), and right knee extension ( $p<.05$ ). Gait speed increased but was not significant ( $p=.06$ ). **CONCLUSION:** Influencing factors to improved gait speed included increased stride length and decreased step time, which may indicate enhanced stability and ambulation. Training length, sample size, and/or inter-subject training variations may have influenced the lack of significance in gait speed.

### **“NOT JUST ANOTHER WALKING PROGRAM” - EVERYDAY ACTIVITY SUPPORTS YOU (EASY) MODEL - PROCESS EVALUATION**

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We assessed feasibility of a lifestyle intervention designed to encourage women at retirement age to gradually increase physical activity. The Everyday Activity Supports You (EASY) feasibility RCT aimed to incorporate more daily tasks and utilitarian walking. We recruited healthy, inactive, community dwelling women aged 55-70 years who could climb a flight of stairs and walk 400 meters (N=25). The six-month EASY program consisted of: group-based education; individualized physical activity prescription; and activity monitoring (Fitbit). Control participants (N=12) received education sessions, with different

content. We adopted a knowledge to action framework and conducted a process evaluation to monitor and adapt features of program delivery based on participants' experience. Specifically, we administered feedback questionnaires and recorded participant attendance at each session, requested feedback on program satisfaction and conducted exit interviews. For intervention group participants, attendance ranged from n=6 (46%) to n=13 (100%); median (interquartile range, IQR) was 10 (3.8) participants/session. Control participants had lower attendance at education sessions [median (IQR) 6.5 (1.8) participants]. For both groups, program challenges included low attendance over the summer due to holidays and communication. Intervention successes included regular participant feedback that informed program development, and individualized sessions that instilled self-motivation, accountability and confidence. Participant feedback related to increasing physical activity included: start slow, break up activity into bite-size amounts, and monitor progress. The process evaluation was an invaluable step towards informing a lifestyle intervention that could be scaled-up and disseminated across community settings to encourage women at retirement age to sit less and move more.

### **FEASIBILITY OF 3-STEP WORKOUT FOR LIFE PROGRAM TO DECREASE ADL DISABILITY IN VULNERABLE ELDERLY**

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Alleviating or delaying late-life disability is a common goal of gerontologists. Although numerous exercise programs have shown improvement in physical fitness or physical functioning in older adults, the far transfer of exercise benefits to disability outcomes is often limited; in part, because these programs rarely directly intervene the ability to perform activities of daily living (ADL) at home. Our research team has developed the 3-Step Workout for Life program which includes ADL practice as part of the exercise intervention. The purpose of this study is test the feasibility of 3-Step Workout for Life program. Ten older adults (Mean age = 74.5 years) who showed decline in muscle strength, lived a sedentary lifestyle, and had one or more ADL difficulties were recruited. Participants received three training components—muscle strength training, functional training, and ADL training—over 10 weeks and 3 times a week. Adverse events, attendance rates, and subjective and objective change of ADL performance were evaluated. Most adverse events were related to muscle strain or joint pain. The average attendance rate was 78%. The advanced lower extremity function component of the Late Life Function and Disability Instrument was significantly improved after completing the program (Wilcoxon Signed Rank Test,  $p = .008$ ). The average change of motor scale on the Assessment of Motor and Process Skills (a performance-based ADL measure) was more than 2 standard errors, suggesting a clinically meaningful change. The study supports the feasibility of the 3-Step Workout for Life program in vulnerable older adults.

### **EFFECTS OF WATER-BASED EXERCISE ON DEMENTIA RELATED FACTORS AND CHOLESTEROL IN KOREAN OLDER WOMEN**

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**Purpose:** The aim of this pilot study was to investigate the effects of water-based exercise on the levels of dementia related factors (i.e., homocysteine and dehydroepiandrosterone sulfates [DHEAs]) and cholesterol in community-dwelling Korean older women. **Methods:** Twenty community-dwelling older women aged 65-75 years participated in this study. Ten subjects in the experimental group (EG) participated in one-hour, three days/week water-based exercise program for 12 weeks. Ten subjects were in the control group (CG). The levels of homocysteine, DHEAs, and cholesterol in all subjects were assessed before and after the program. **Results:** Mean (±SD) age of 20 subjects was 70.7 (±3.2).



The levels of homocysteine were significantly decreased after the water-based exercise program ( $p < .05$ ) in the EG compared to the CG. The levels of DHEAs were significantly increased after the program ( $p < .05$ ). In addition, there were significant differences in the levels of blood lipids. Total cholesterol level was significantly decreased after the program ( $p < .05$ ) in the EG compared to the CG. High-density lipoprotein cholesterol level was significantly increased ( $p < .05$ ) after the program. However, there was no significant difference in low-density lipoprotein level after the program in both groups. Conclusion: The findings of this study suggest that regular water-based exercise program may be effective in preventing dementia in older adults by improving cardiovascular risks and homocysteine and DHEAs levels.

### **CAN SEATED EXERCISE CONTRIBUTE TO PHYSICAL ACTIVITY REQUIREMENTS IN COMMUNITY-DWELLING OLDER ADULTS?**

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**Background:** Older adults are recommended to participate in moderate physical activity for 30 minutes at least 5 days per week. Those who show signs of frailty (slow gait speed, multiple co-morbid conditions) may have difficulty reaching this goal. The purpose was to determine whether a seated exercise program, performed in group videos and exercise classes, would be intense enough to meet recommended activity levels. **Methods:** Community-dwelling-older adults ( $n=31$ ; 71.5 yrs) were recruited from a wellness center. Participants performed a 25 minute whole body seated exercise program. Intensity of the program was measured with downloadable heart rate (HR) monitors and with the 0-10 Rating of Perceived Exertion (RPE) scale. **Results:** Mean HR for the session was 84 bpm which was within the 50%-70% of maximal HR as recommended by the CDC. However, mean RPE for the group was 2.4. Those with slow gait speed ( $< 1.0$  m/sec) had a mean RPE of 3.1 and the values were significantly higher than the values reported by those with faster gait speed. Persons with higher number of comorbid conditions ( $> 3$ ) had average RPE values of 2.8. **Conclusions:** Seated exercise programs are not intense enough to meet the CDC's recommendation for moderate intensity exercise in a general sample of older adults; however, for those with slow walking speed, seated exercise programs are appropriate for daily physical activity. **Clinical Relevance:** This study identifies a commonly used assessment tool, gait speed, to help classify older adults who may benefit from a seated exercise program.

### **EFFECTS OF HIGH-SPEED LOW-RESISTANCE BICYCLING INTERVENTION IN PARKINSON'S DISEASE**

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Bradykinesia (i.e. reductions in the speed and amplitude of a movement) is one of the symptoms of Parkinson's disease (PD) that substantially decreases mobility and increases rates of disability and health care costs. Recent studies of high-speed forced and assisted cycling have shown "speedwork" as a valuable training method addressing bradykinesia. However, there is a need for more accessible and feasible training modality as compared to existing training modalities. **Purpose:** To determine the effects of a six week high-speed, low-resistance (HS-LR) stationary recumbent cycling on the physical and cognitive functions in people with PD. **Methods:** Pre-exercise tests assessed PD severity (Unified Parkinson's Disease Rating Scale; UPDRS), dynamic (four square step test; 4SST) and static balance (functional reach test; FRT), mobility (6 m walk; 6mW, timed-up-and-go, TUG), dexterity (nine hole peg test; 9HPT), and cognition (simple and choice reaction time; SRT and CRT). These testes were again assessed following a supervised, 6-week (12 sessions), HS-LR training. Each training session included 20, 15-second bouts of fast pedaling that are nested within 30 minutes at a preferred pedaling cadence at the lowest resistance setting of the bike.

**Results:** Fourteen participants (mean(SD) age 62.6 (8.8) years; disease duration 40.1 (28.9) months) participated in the study. UPDRS, 4SST, FRT, 6mW, TUG, 9HPT, SRT significantly ( $p < .05$ ) improved after the completion of HS-LR training. **Discussion:** HS-LR training is an effective training modality that could improve physical and cognitive function in people with PD. Improvements seen in dexterity and cognitive related functions suggest central neural adaptations.

### **EFFECT OF FUNCTIONAL TRAINING OF UPPER LIMB IN DUAL TASK CONDITION IN PATIENTS WITH PARKINSON DISEASE**

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The aim of this study was to verify the effects of a dual task training on functions of upper limb and to compare these effects with a training performed at single task condition. It was performed a randomized clinical trial, composed by 14 patients with Parkinson disease, mean age of 69 (4.0) years, on stages 1 and 2 of Hoehn and Yahr scale. Patients were randomized between experimental group (EG) and control group. (CG). CG trained four functional tasks of upper limb in single task condition and the EG trained the same functions while performed verbal fluency tasks. The functional tasks were: (1) wearing a jacket; (2) combing hair; (3) taking a cup to the mouth and (4) answering a phone. Patients performed 5 sessions of training with one hour each one. Each task was trained during 15 minutes. Performance of patients on tasks was assessed in single and dual task condition (associated with a verbal fluency task) before and after training. Beside this, performance of patients on Box and Block Test (B&B) was assessed before and after training. Patients showed improvement on performance of the trained tasks, in single and dual task condition and in B&B after training without differences between groups. This study showed that both kind of training could promote improvement on upper limb function of patients with Parkinson disease.

### **NEUROMUSCULAR IMPROVEMENTS FOLLOWING A SPEED-BASED CYCLING INTERVENTION (CNS)**

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Although slow movement is obvious among older adults, little research supports the safe practice of speed-based exercise in this population. The purpose was to determine the neuromuscular effects of a 6-week speed-based exercise program in older adults. Stationary recumbent cycling was selected to minimize fall risk. Minimal resistance reduced musculoskeletal loads and cardiovascular demand. Two weekly 30-min exercise sessions consisted of interval training in which subjects pedaled at preferred cadence and with 10, 20-s fast cadence intervals. Participants ( $n=14$ , 73(7.6) years) completed pre- and post-exercise tests, and a 4 week retention test. No significant changes were observed in a subset of participants ( $n=7$ ) who served as time-controls. After training, there were improvements in rates of force development (RFD), time to peak force (TTPF), and surface electromyography rate of rise (sEMG-RER) during rapid isometric knee extension. Improvements were maintained 4 weeks after the intervention ( $p < .05$ ). A central mechanism was implicated because the lower extremity exercise elicited improvements in the untrained upper extremities (isometric elbow extension RFD, TTPF, and sEMG-RER,  $p < .05$ ). These results support a speedwork strategy which complements current exercise recommendations for older adults and potentially people with movement limitations while supporting the literature related to neural adaptations to high-speed training in older adults.

## HIGH VELOCITY QUADRICEPS EXERCISES COMPARED TO SLOW VELOCITY QUADRICEPS EXERCISES FOLLOWING TOTAL KNEE ARTHROPLASTY

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Despite improvement in pain and perceived function in patients following total knee arthroplasty (TKA), objective outcome measures of muscular impairment and ambulatory function demonstrate significant deficits. Evidence suggests that quadriceps power may play a greater role in ambulatory function than measures of strength following TKA. The purpose of this study was to compare the effect of high velocity (HV) to slow velocity (SV) quadriceps exercises on functional outcomes and quadriceps power following total knee arthroplasty (TKA). This study was a randomized controlled clinical trial conducted in a university hospital outpatient physical therapy clinic in patients following TKA. Methods: Twenty-one patients between the ages of 50 and 85 years old and four to six weeks out from a unilateral TKA were randomly assigned to a HV group or SV group. Subjects performed an evidence-based standard progressive exercise program in addition to either HV quadriceps exercises or SV quadriceps exercises. Subjects attended 2 sessions per week for 8 weeks. Before and after the 8-week exercise intervention, subjects completed a functional questionnaire, health survey, functional testing, and underwent quadriceps strength and power testing. Both groups demonstrated improvement in ambulatory outcome measures, strength, speed and power. The HV group demonstrated significantly greater improvement in distance walked and perceived physical function, compared to the SV group. Limitations: Limited subject numbers may be responsible for a Type II error. Conclusion: HV quadriceps exercises are an effective rehabilitation strategy in conjunction with a standardized progressive resistance exercise program beginning 4 to 6 weeks after total knee arthroplasty.

## BRAIN VOLUME AND CARDIORESPIRATORY FITNESS ACROSS 40 YEARS IN THE BALTIMORE LONGITUDINAL STUDY OF AGING

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Objectives: To examine whether history of cardiorespiratory fitness (CRF) predicts future brain characteristics and whether brain characteristics predict future CRF. Methods: Brain MRI was collected at 1.5 Tesla annually from 1994 to 2003 in 149 participants (mean age = 69 yrs at first MRI). Mean brain volume and atrophy were computed using all available time points. CRF was measured as peak VO<sub>2</sub> using treadmill test. Of 149 with brain MRI, 135 had at least one CRF measure between 1975 and 2000 and 73 had at least one CRF measure between 2004 and 2013. Associations of CRF over time with brain volume and atrophy were examined using mixed effects models, adjusted for age at first CRF, age at middle MRI, sex, and intracranial volume. Results: Participants in the top tertiles of occipital gray matter volume had higher peak VO<sub>2</sub> than those in the bottom tertile up to 13 years prior ( $p=.050$ ), and such difference was maintained over time ( $p>.05$ ). Participants with less atrophy ( $p=.029$ ) and in the top tertiles of middle frontal gray matter volume ( $p=.049$ ) had higher peak VO<sub>2</sub> up to 8 years later and such difference was maintained over time ( $p>.05$ ), independent of covariates. Discussion: Older individuals in their seventies with greater occipital gray matter had higher fitness 13 years prior and maintained higher fitness over time compared to those with lower volumes. Less brain atrophy and greater middle frontal gray matter predicts future higher fitness. Additional studies are needed to investigate parallel changes in fitness and brain volume.

## NFKB INHIBITION IMPROVES GLUCOSE METABOLISM, BUT ACCELERATES SARCOPENIA AND IMPAIRS EXERCISE TOLERANCE, IN AGED MICE

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Aging is characterized by impairments in glucose metabolism and muscle mass/strength. NFκB is a ubiquitous transcription factor that plays a central role in regulating inflammatory processes. Because aging is a state of low-grade inflammation, it has been hypothesized that increased signaling via NFκB could play an important role on glucose metabolism abnormalities and sarcopenia of aging, through activation of the proteasome. To test this hypothesis, we studied the effect of NFκB inhibition on aging-induced glucose intolerance, insulin resistance, and sarcopenia, in young (3-5 m), mature (12-15 m) and old (33-35 m) transgenic mice with muscle-specific inactivation of NFκB (MISR). In wild type (WT) mice, glucose tolerance (measured with I.P. GTT) and insulin sensitivity (measured with I.P. ITT and euglycemic clamp) worsened as age progressed, whereas MISR mice were protected from age-related alterations in glucose metabolism. Muscle mass, strength and function also declined with age progression in WT mice. However, MISR mice were not protected from sarcopenia; to the contrary, muscle mass (14%,  $P<0.05$ ) and strength (22%,  $P<0.05$ ) were lower in very old MISR versus WT mice. Maximal exercise capacity during treadmill running also was severely reduced in young (60%,  $P<0.05$ ) and old (51%,  $P<0.05$ ) MISR mice, compared with WT mice of the same age. Consistent with these findings, muscle proteasome activity (26S) was elevated in MISR mice (by 7-13%,  $P<0.05$ ), regardless of the age. CONCLUSIONS: Improved glucose metabolism in aged MISR mice indicates that NFκB may play a role in the glucose intolerance and insulin resistance of aging. The paradoxical finding that inhibition of NFκB accelerates age-induced sarcopenia and impairs exercise capacity suggests that inflammatory pathways may have dual roles and could help preserve muscle mass and function as age advances.

## SESSION 270 (POSTER)

### FRAILTY

#### FRAILTY AS A PREDICTOR OF OUTCOME IN SURGICAL INTENSIVE CARE PATIENTS: A PILOT STUDY

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The role that frailty plays in surgical intensive care unit (ICU) patients has not been well studied. Frailty is associated with increased age and co-morbidity and is a predictor of falls, hospitalization, and death. This pilot study examined the feasibility of using a survey instrument to assess the frailty of older adults admitted to the surgical ICU. Patients admitted to the surgical ICU at University of Maryland Medical Center who were sixty years or older at the time of admission were approached to participate in the study. Frailty was assessed by a four-question subset of a 38-item survey instrument administered either to the patient or a surrogate with knowledge of the patient. The survey was a combination of the Rand-36 and two additional questions, a format validated in surveys delivered through the mail. Outcome data were obtained from the medical record. In 37 days a total of 44 patients were screened for inclusion, and 21 consented to participate in the study. Of those 21, all 21 had a completed interview. In 14 cases the patient answered the survey questions personally, in 6 cases the survey was answered by a family member of the patient, and in one case answers from both the patient and a family member were available. In this pilot study, there was no significant difference between frail and non-frail

patients. Further study will help determine if frailty has an effect on outcome in this population. Supported in part by NIA Short-Term Training Program on Aging 1T35AG036679.

#### **OLDER PATIENT ADMITTED IN THE EMERGENCY DEPARTMENT: TRANSITIONS OF HAND GRIP STRENGTH**

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**Background:** To recognize frailty in clinical practice and begin to address how its recognition may impact clinical care it is very important. The aim was to evaluate the modifications in hand grip strength from admission to discharge in patients admitted in the emergency service. **Methods:** Data are part of the study "Elderly patients in the emergency services: Effectiveness of an educational intervention to improve health outcomes". Persons 65 years or older who were admitted to the emergency services in two General Hospitals, regardless the clinical reason, previous informed consent, were included to the study. Measurements at admission and at discharge are included. Sociodemographic data, previous use of health services, risk of pressure ulcers, depression, cognitive status, quality of life, functionality, comorbidity, medication, nutrition, grip strength, physical activity, walking speed were measured. **Results:** A total of 372 participants were admitted during the study period. From these, grip strength was measured at admission and discharge in 223 patients. 53.4% (n=119) were female, mean age was 76 years (SD=7.73). 76 patients (34.3%) were scored with 4 to 6 points in the ISAR and 56 patients (25.2) were scored with 3 point or less in the Minicog, also 148 participants (66.4% were found with depression. Diabetes (46%) and Cardiovascular disease (30.6%) were the most frequent morbidities. Mean grip strength at baseline was 10.5 (SD=9.20) and at discharge 7.0 (SD=10.12). More hours in the emergency service represents a more important decrease in the strength. **Conclusions** Emergency services are important in the loss of functionality.

#### **FRAILITY IS ASSOCIATED WITH COGNITIVE FUNCTION AMONG COMMUNITY-DWELLING OLDER PEOPLE IN JAPAN: A CROSS-SECTIONAL ANALYSIS**

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**Background:** There is an increasing interest in understanding the association between frailty and cognitive decline with respect to research focus on the correlation between physical and cognitive measures. Frailty is a reduction in the ability to response to stressors and an increased vulnerability to adverse outcomes. This study was to examine the association of frailty to cognitive function among Japanese older adults. **Methods:** Data were drawn from the baseline of Sasaguri Genkimon Study, which is an ongoing community-based longitudinal observational study of aging and 1515 community-dwelling elderly adults aged 65 and older without dementia and admission to long-term care were eligible for analysis. The frailty phenotype according to Cardiovascular Health Study criteria was operationalized. Cognitive performance was assessed with the Mini-Mental State Examination (MMSE). **Results:** The mean age of the sample was 73.21 years (SD = 5.98), with 627 men (41.39%). Overall 8.84 % of participants met frailty criteria and 44.16 % were identified as the prefrail. The frail elderly were 4 times more likely to have MMSE impairment (MMSE score <24) with odds ratio (OR) 4.04, 95% confidence interval (CI) 1.77-9.22 and the pre-frailty showed intermediate increased ORs for MMSE impairment (OR= 2.53, 95% CI 1.30-4.91), after controlling for a number of socio-demographic, health and disease characteristics, compared to

those not frail. **Conclusions.** In this community-based sample, frailty was associated with cognitive function. This association indicates its significance in terms of possibility of gerontological assessment and interventions for the prevention and management of both cognitive decline and frailty.

#### **COMPLEXITY IDENTIFIES A HIGH NUMBER OF MIDDLE-AGED AMERICANS WITH DIFFICULTY TO SELF-MANAGE COPD**

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Patients' clinical complexity can interfere with self-management of individual diseases. Our objective was to investigate for adults with COPD: (1) how many have clinical complexity likely to interfere with ability to self-manage COPD and (2) the association of complexity with health outcomes. We analyzed participants  $\geq 51$  years reporting COPD in wave 2006 of the Health and Retirement Study, a nationally-representative longitudinal health survey. We examined three mutually-exclusive groups: relatively healthy (RH) ( $\leq 2$  other diseases, normal cognition, AND dependency in  $\leq 1$  instrumental activity of daily living [IADL] or  $\leq 1$  activity of daily living [ADL]); difficulty in self-management (DSM) ( $\geq 3$  other diseases, mild cognitive impairment, severe vision impairment, OR  $\geq 1$  IADL dependencies); and potential limited benefit of interventions (LB) (dementia OR  $\geq 2$  ADL dependencies). Statistical methods included logistic regression. 1,871 participants reported COPD (representing 7.4 million nationally): RH, 51% (4.0 million); DSM, 36% (2.6 million), and LB, 13% (800,000). Analyzed by age, the prevalence of DSM and LB groups was lower among the middle-aged (51-64 years) than among the young-old (65-74 years) and the oldest-old ( $\geq 75$  years). However, the absolute number of middle-aged adults in the DSM and LB groups was comparable to those in the young-old and the oldest-old groups. In fully-adjusted models, increasing clinical complexity was associated with baseline and two-year follow-up fair/poor health status, hospital/nursing home utilization, and death. Characteristics likely to interfere with self-management are common among adults of any age with COPD. Clinical complexity needs to be assessed and accommodated in disease management plans for these patients.

#### **INFLUENCE OF FAT FREE MASS INDEX ON OVERNIGHT FLUID LOSS AND ORTHOSTATIC BLOOD PRESSURE**

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At the cellular level, muscle mass determines strength and provides a reservoir for body fluids to maintain blood volume and pressure when consumption is limited. Fat free mass index (FFMI) cutpoints have been established to evaluate risk of muscle and strength losses with age. The current study evaluated the influence of these cutpoints on hydration and blood pressure (BP). Bioelectric impedance analysis was used to evaluate lean mass and hydration in 20 women (71.8  $\pm$  1.2 years). After an overnight fast, early morning orthostatic BP was measured. FFMI was calculated as lean mass (kg)/height (m)<sup>2</sup> and cutpoints were defined as Normal ( $\geq 15.4$  kg/m<sup>2</sup>) and Low (<15.4 kg/m<sup>2</sup>). Average overnight loss in total body water was -0.7  $\pm$  0.2 L and was negatively related to FFMI (r = 0.7, p = 0.001). When orthostatic changes were evaluated, there was a trend for between-group differences in systolic BP (p = 0.08) and significant between-group differences in diastolic BP (p = 0.03). Systolic BP changes from lying to sitting were -5.75  $\pm$  7.5 mmHg (Normal) and -5.0  $\pm$  2.3 mmHg (Low), and from sitting to standing were -2.25  $\pm$  7.5 mmHg (Normal) and -16.58  $\pm$  4.9 mmHg (Low). Diastolic BP changes from lying to sitting were -0.38  $\pm$  2.0 mmHg (Normal) and -6.0  $\pm$  2.3 mmHg (Low), and from sitting to standing were +2.0  $\pm$  2.4 mmHg (Normal) and -3.17  $\pm$  2.4 mmHg (Low). FFMI may predict risk

for early morning orthostatic blood pressure changes that increase risk for falls in older women.

### DIFFERENTIAL IMPACT OF DIABETES ON FRAILTY INCIDENCE IN OLDER MEXICAN AND EUROPEAN AMERICANS

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**Background:** Diabetes has been shown to predict frailty incidence. The goal of this study was to determine whether diabetes differentially predicts frailty incidence among older Mexican Americans (MAs) compared to European Americans (EAs). **Methods:** Subjects were 198 MA and 180 EA community-dwelling older adult (65+) participants of the San Antonio Longitudinal Study of Aging (SALSA) who were non-frail at baseline and completed follow-up 1 (FU-1), an average of 7.0 years later (range: 4.4-9.7). Odd ratios (OR) for incident frailty (Fried criteria) by diabetes status (American Diabetes Association criteria) were determined using multiple logistic regression analyses stratified by ethnic group. Covariates included length of follow-up, age, sex and number of comorbid conditions (hypertension, stroke, myocardial infarction, angina, non-skin cancer, and arthritis). **Results:** Baseline diabetes prevalence was higher in MAs compared to EAs (31.2% vs. 10.6%,  $p<.001$ ). At FU-1, 37 (18.7%) MAs and 29 (16.1%) EAs had incident frailty. In unadjusted analyses, diabetes was a significant predictor of frailty in MAs (OR= 2.53, 95% confidence interval [CI]: 1.16-5.55,  $p=0.02$ ) and remained significant after adjusting for length of follow-up, age, sex, and comorbidity (OR=2.56, 95% CI: 1.12-5.85,  $p=.026$ ). Among EAs, diabetes was not a significant predictor of frailty in any analyses. **Conclusions:** Diabetes appears to play a key role in development of frailty among older MAs but not older EAs. These results suggest that, particularly in older MAs, interventions aimed at preventing diabetes may lead to reduced frailty with aging.

### THE CURRENT CONDITIONS OF AND RELATIONSHIP OF OUTING BEHAVIOR TO PHYSICAL FUNCTION IN ELDERLY

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**Objective:** The purpose of this study was to clarify the current conditions of outing behavior, and to examine relationship between physical function and outing behavior in community dwelling elderly. **Methods:** Data were from inventory survey of community dwelling elderly aged over 65 years old in Kameoka City in 2011. 13,159 individual responded. 2,055 samples were eliminated because of a condition of need for long-term care or support condition. 11,104 analyzed current conditions of outing behavior as purpose and frequency. Then 4,859 residents of 10 local areas in the city were recruited physical function test. Finally, 1,365 individuals participated in physical fitness test and analyzed relationship between outgoing behaviors and walking ability. **Results:** Incidence of outing at least once a week by age groups was 95.2% of 65-69, 92.6% of 70-74, 87.3% of 75-79, 78.8% of 80-84, and 68.3% of 85 over ( $p<0.001$ ). By sex, 91.0% of men and 85.4% women went outside once a week ( $p<0.001$ ). Comparing physical function of outing group and no-outing group, outing group showed significant higher physical function as leg strength ( $p<0.001$ ), standing chair ( $p<0.001$ ), balance ( $p<0.001$ ), timed up and go ( $p<0.001$ ) and walking speed ( $p<0.01$ ) than non-outing group even though all variables adjusted age and sex. **Conclusion:** Higher age group showed lower rate of going out. More women tend to be stay in home than men. Outing behavior maintain good physical function in elderly. Therefore outing behavior of senior citizen is important to maintain physical function in good condition and to prevent frailty.

### A REVIEW OF FRAILTY IN DEVELOPING COUNTRIES

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**Aim.** To review the evidence from developing countries on the prevalence of frailty, definition of frailty and factors associated with frailty. **Method.** A literature search was conducted via MEDLINE and EMBASE. Keywords included “frail”, “frailty”, “prevalence”, “risk factors”, “outcomes”, “developing country”, “developing world”, and names of developing countries according to the classification of the World Bank. **Results.** A total of 37 articles were reviewed from Brazil (n=13), China (n=9), Mexico (n=8), Peru (n=2), and one each from Russia, India, Lebanon, Belarus and Ecuador. Fried’s criteria were used to define frailty in the majority of studies. Seven articles from China reported Frailty Index, one from Brazil reported the Edmonton Frail Scale, one from Russia reported Steverink-Slaets and Puts score, and one from China used the Hubbard and FRAIL score. The prevalence of frailty in community-dwelling older people was 8%-31% in Brazil, 14%-33% in Mexico, 5%-48% in China, 14% in Belarus, 8% in Peru, 21% in Russia and 27% in Lebanon. The prevalence of frailty in hospitalized older patients was 46%-49% in Brazil, 32% in India and 92% in Mexico. The prevalence of frailty in geriatric outpatient clinics was 31%-71% in Brazil and 28% in Peru. Frailty was associated with increased mortality and comorbidities, decreased physical and cognitive function, and poor perception of health. **Conclusion.** The limited studies available suggest that frailty occurs frequently in the developing world and it appears to be associated with adverse outcomes. This has implications for policy and health care provision for these ageing populations.

### RESPONSE TO ANTIPLATELET DRUGS IN FRAIL AND NON-FRAIL OLDER INPATIENTS WITH ATRIAL FIBRILLATION

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**Aims.** To study the platelet function of older inpatients with atrial fibrillation (AF) taking antiplatelet drugs and explore differences between frail and non-frail patients. **Methods.** We recruited 52 inpatients with AF aged  $\geq 65$  years (mean  $86 \pm 7$ ) from a teaching hospital in Sydney, Australia. Frailty was determined using the Reported Edmonton Frail Scale. Platelet aggregation studies were performed during hospitalization using Whole Blood Impedance Aggregometry (Multiplate). The platelet agonists arachidonic acid and adenosine diphosphate were used to evaluate the response to aspirin and clopidogrel respectively. Cut-off for response to aspirin is an area under the curve (AUC)  $< 40$  units (U). The target AUC in response to clopidogrel is comprised between 20U-42U. **Results.** Amongst participants taking aspirin, mean  $\pm$  SD AUC was  $15 \pm 12$ U (n=38) overall and did not differ with frailty ( $18 \pm 14$ U frail, n=23;  $11 \pm 8$ U non-frail, n=15;  $p=0.1$ ); 2 (5%) had AUC  $> 40$ U (both frail). Amongst participants taking clopidogrel AUC was  $32 \pm 16$ U overall (n=19),  $33 \pm 19$ U in frail (n=11) and  $31 \pm 14$ U in non-frail (n=8),  $p=0.8$ ; 32% had AUC  $< 20$ U (36% frail, 25% non-frail,  $p=0.6$ ) and 21% had AUC  $> 42$ U (27% frail, 13% non-frail,  $p=0.4$ ). So far, amongst participants followed up 6 months later, 1/25 (AUC=9) reported a minor bleed on aspirin, 1/13 (AUC=39) a mild gastric bleed on clopidogrel, and none have reported strokes. **Conclusions.** Nearly all participants responded to aspirin and half were outside the therapeutic

range for clopidogrel. Platelet response did not differ between frail and non-frail older participants. More follow up data are needed to interpret the implication of these measures made in the acute setting.

#### **PREVALENCE OF LOW MUSCLE STRENGTH AND FUNCTION BASED ON DIFFERENT SARCOPENIA CRITERIA IN NONDISABLED OLDER JAPANESE**

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Background: Although there are several operational definitions for sarcopenia, it is debatable whether their cut-off values can be applied to Japanese adults. This study aimed to identify the prevalence of sarcopenia in older Japanese, as determined by muscle strength and function, using two different sets of criteria. Methods: We used pooled data of 4528 nondisabled adults 65 years or older (average 73.9 years, 2083 men, 2445 women) from six cohort studies. We defined low muscle strength and function in two ways: (1) using the European Working Group on Sarcopenia in Older People (EWGSOP) criteria (hand-grip strength (HGS) < 30 kg in men and < 20 kg in women or usual gait speed (UGS) ≤ 0.8 m/s); and (2) using the Asian Working Group for Sarcopenia (AWGS) criteria (HGS < 26 kg in men and < 18 kg in women and/or UGS ≤ 0.8 m/s). We also classified low muscle strength and function as the 20th percentiles of sex-specific distributions of HGS and UGS in our population. Results: Using the EWGSOP and AWGS criteria, 37.4% and 18.2% of men, respectively, and 41.8% and 27.4% of women, respectively, had low muscle strength. Using both criteria, 3.2% of men and 6.3% of women had low muscle function. The 20th percentile cut-off values for low muscle strength and function were 26.0 kg and 1.11 m/s, respectively, in men, and 16.0 kg and 1.04 m/s, respectively, in women. Conclusion: Although the AWGS muscle strength cut-off value may be suitable for older Japanese, the low muscle function cut-off value may need revision.

#### **SESSION 275 (POSTER)**

#### **AGING-RELATED POLICY, FINANCIAL ISSUES AND ECONOMIC WELL-BEING**

##### **THE ADEQUACY OF INFORMATIONAL MATERIALS PROVIDED TO MEDICAID BENEFICIARIES TRANSITIONING INTO MANAGED LONG-TERM CARE IN FLORIDA: A CONTENT ANALYSIS**

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In August 2013, Florida began mandatory enrollment of 86,000 frail older and disabled adults into a Medicaid Managed Long-Term Care program (MMLTC). The state is transferring its risk for Medicaid long-term care costs and services to seven private managed care organizations (MCOs), which are receiving capitated per-beneficiary payments to administer these services. Under this program, beneficiaries have a new role as consumers expected to choose the private long-term care plan that best meets their needs, based on information provided by Florida's Medicaid unit. This study evaluates these print and website materials using guidelines for presenting health care information in a manner that enhances older adults' ability to make appropriate choices and decisions. Included in the criteria are five content elements (e.g., reading level, information clarity, and cognitive demand) and four web site usability elements (e.g., design and organization of information). Results show that the materials are presented in a way that minimizes cognitive complexity, but do not clearly explain the new managed care system. Further, the materials fail to provide beneficiaries with information needed to comprehend key aspects of their choices. Clearly

communicating these and other aspects of moving into managed care is critical for the well-being of these beneficiaries, given that they are moving from a public to a privately administered program, and under this program, MCOs will have the power to determine the services beneficiaries receive. The lessons learned in Florida as it transitions to this new system will be instructive to other states adopting managed long-term care.

#### **INCREASING THE ECONOMIC LEVERAGE OF HOME HEALTH AIDES**

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Over the last few decades, a consensus among policy makers, health-care practitioners and health researchers concerning the benefits of aging at home in a community setting. Home health aides, whose assistance enables older Americans to stay in their homes, are a major component of this transition away from institutionalization. Home health aides provide basic medical services, assist with mobility constraints, and help with residence upkeep. Despite their increasingly important role in the healthcare system, home health aides endure socioeconomic hardships; low wages and challenging working conditions result in a high turnover rate. The CDC's 2007 National Home Health Aide Survey outlines these challenging conditions—but it offers the caveat that those who stick with the profession find in it great satisfaction; also, some training, even if not much, will even further increase this gratification. The BLS's 2014-15 Occupational Outlook Handbook describes a profession that, even while experiencing explosive growth, is poorly compensated by the standards of medical assistance professions. The objective of this poster is to examine possible ways that the socioeconomic status of home health aides can be improved; particularly how instituting a more meticulous training and licensure regime that aims to increase home health aides' economic leverage. Using data from the aforementioned sources, I argue that the market for home health aides is expanding rapidly enough to accommodate substantial wage increases if the home health aides were able to alter the notion that their profession is unskilled by increasing the rigor and level of their training.

#### **A STUDY OF FACTORS AFFECTING SERVICE USERS OF PENSION-LINKED LOAN SYSTEM IN JAPAN: BASED ON ANALYSES OF DIFFERENCES AMONG THREE TYPES OF PENSIONS**

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Japan has had a State-run Social Security program since 1942 and has employed a Pension-Linked Loan System (PLLS) since 1974 permitting pensioners to guarantee a loan using their pensions as collateral. Whether to legally abolish this practice has been being under review. The main purpose of this study was to explore differences among users of PLLS based on pension types he/she borrowed against (Old-age, Survivors' or Disability Pension) and factors relating borrowing requests. Study findings were used to make policy recommendations to fit different types of PLLS users if this practice is discontinued. Data for this study was collected in a nationwide survey of PLLS users by mail in August, 2013. Structured questionnaires were sent to 5,000 randomly selected PLLS users. A total of 1,342 completed surveys were returned (response rate of 26.8%). Out of the 1,342 respondents, 851 (63.4%) were Old-age pensioners, 264 (19.7%) were Survivors' and 227 (16.9%) were Disability pensioners. Preliminary analyses revealed statistically significant differences among loan users based on pension types borrowed against. Disability Pension loan users were statistically younger (average age 54.9) than Old-age and Survivors' pension loan users (71.6 and 72.8). Moreover, loan purposes were different among the three groups of borrowers. Disability pensioners were more likely to

obtain the loan to support living expenses and future economic security, Old-age pensioners for home renovations and debt consolidations, and Survivors' pensioners for their child/grandchildren, hospitalization, or ceremonial purposes. Based on study findings, it is recommended that revised PLLS approaches should be tailored to loan user groups.

### **IMPACT OF LIFE SPAN FINANCIAL HARDSHIP ON THE HEALTH OF ELDERLY JAPANESE**

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Several studies conducted in western societies have shown that financial hardship over the life span has a significant impact on the health of elderly people. Japan has a highly accessible health care system, and as such, could findings in western societies also be valid in Japan? Few studies have examined the effects of financial hardship over the life span on the health of elderly Japanese. Therefore, an interview survey was conducted with a representative sample in Japan (N = 2500, age 60 years and older) with an effective sample of 1,324 participants. Four indicators were used to evaluate participants' health status: self-rated health, number of serious chronic illnesses, daily living activities, and symptoms of depression. Financial hardship over the life span was evaluated by three indicators including the period when respondents felt financial hardship ("less than 18 years old," "between 25-35 years old", and "between 35-50 years old"), cumulative number of the period of hardship, and trajectory of financial hardship prior to age 60. The effects of financial hardship on health were examined by controlling for current financial hardship, annual income, and educational attainment. Results indicated that cumulative periods of hardship had a significant effect on certain health indicators. As participants approached old age, effects of each period with financial hardship on health did not increase. The trajectory of financial hardship had only a weak effect on all health indicators. These results suggest a weak relationship between financial hardship and health of elderly Japanese, possible because of accessible health care.

### **ACTUAL AND SELF-ASSESSED FINANCIAL AND MATH KNOWLEDGE AND THEIR RELATIONSHIP TO FINANCIAL BEHAVIORS**

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**Problem:** Americans generally have low levels of financial literacy; that is, a lack of basic knowledge about inflation, interest rates, mortgages, financial markets, investments, etc. Research has shown that low levels of financial literacy are associated with negative financial behaviors and poor outcomes, but often the links established have not been particularly strong. Recent studies have suggested that self-assessed financial knowledge or competence is more connected to financial behaviors and outcomes than actual financial knowledge. In this research we investigate self-assessed and actual financial and math knowledge together in relation to high-cost borrowing behavior (such as the use of payday loans). We are interested in whether low self-assessment is more or less related to high-cost borrowing than actual knowledge, and whether over-confidence in self-assessment is associated with more negative behaviors. **Methods:** Data are drawn from the 2009 (N>28,000) and 2012 (N>25,000) National Financial Capability Study. Measures include financial literacy, self-assessed financial and math knowledge, and a variety of financial behaviors and outcomes. **Findings:** Analyses reveal: (1). Actual financial and math knowledge are more strongly related to the use of high-cost borrowing than self-assessed abilities. (2). Over-confidence in financial competence and in math ability was related to greater use of high-cost borrowing. (3) Older adults (65+) scored higher in financial literacy but were slightly lower in self-assessed knowledge than younger groups. **Discussion:** Finan-

cial literacy among Americans remains low but self-assessments of financial knowledge and math ability are high. Dissonance between self-assessed and actual knowledge is associated with more negative financial behaviors.

### **DOES ADMINISTRATIVE RISK-TAKING AND PROACTIVE BEHAVIORS LEAD TO BETTER NURSING HOME FINANCIAL PERFORMANCE?**

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Understanding the business philosophy underpinning management behaviors should reveal the corporate ideologies or principles that guide internal and external activities. Exploring the entrepreneurial orientation (EO) of the nursing home administrator may further help us to understand managerial philosophy. The purpose of this study is to determine whether two components of EO, risk-taking and proactiveness, leads to improved nursing home financial performance. We hypothesize that proactiveness will be associated with better financial performance, but risk-taking will not improve performance. The data for this study comes from the 2009 Online Survey Certification and Reporting system and the 2010 Medicare Cost Reports. Risk-taking is operationalized using the industry adjusted return on assets and proactiveness is measured using the capital expenditures minus depreciation ratio. Finally, financial performance is measured using facility total margins. There were 12,060 nursing homes included in the sample once cases with missing or erroneous data were removed. The results reveal support for our proactiveness hypothesis in that as nursing homes invested in proactive behaviors, their relative total margins also increased. However, the findings did not support our second hypothesis. Rather, we found that nursing homes engaged in risk-taking also had better financial performance. Both findings are consistent with the broader finding from other industries. Thus, nursing homes that engage in these two entrepreneurial practices will be rewarded with better performance. Given the tumultuous nature of the nursing home industry and the challenges posed by ever decreasing reimbursement, administrators should seek new avenues by which to improve overall financial performance.

### **SUB-ETHNIC DIFFERENCES IN OUT-OF-POCKET PREMIUMS FOR PRIVATE HEALTH INSURANCE AMONG NEAR-RETIREMENT AGED ASIAN INDIVIDUALS**

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**Objective:** With the implementation of the Affordable Care Act, it becomes more important to understand private health insurance status and the financial burden among pre-retirement aged individuals who are not yet covered by Medicare. This study examined this topic by comparing six sub-ethnic groups of Asian Americans in the U.S., whose heterogeneity is often overlooked with the aggregated data that represent the whole Asian group. **Methods:** The 2007-2011 National Health Interview Survey were analyzed for 4,628 Asian Americans (ages 50-64), including 697 Asian Indian, 1,125 Chinese, 1,393 Filipino, 434 Japanese, 524 Korean, and 455 Vietnamese individuals. Non-Hispanic Whites were included as a comparison group (n=19,236). The STATA SVY procedures were used to account for the complex sampling design. **Results:** Overall, 67.9% of pre-retirement aged Asian Americans had private health insurance, while the rates varied from 55.4% among Koreans to 83.8% among Japanese. Among non-Hispanic Whites, 78.4% had private insurance. Among those with private insurance, 8.6% of Asians and 7.3% of non-Hispanic Whites privately purchased their coverage, not through their employment. However, the rates also varied from 4.0% among Filipinos to 21.5% among Koreans. In terms of the annual out-of-pocket premiums, while Asian Americans (\$4,093, in 2011 dollars) and non-Hispanic Whites (\$4,058) with private insurance paid similar amounts, there were significant subgroup differences: from \$3,253

among Vietnamese to \$4,876 among Asian Indians. Conclusion: This study demonstrates the importance of examining within-group heterogeneity among Asian Americans in the U.S. in understanding their access to and the burden of private health insurance coverage.

#### **OLDER ADULTS' FINANCIAL PLANNING BEHAVIOR: DOES PERSONALITY MATTER?**

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One consequence of the gains in human life expectancy is that adults may live for decades after retirement. Thus, the need for financial preparedness for this is critical. This study investigated if the expectation to live to age 75 or older was associated with retirement financial preparation. Financial preparation measures included: knowledge of current Social Security benefits, ownership of a life and/or long-term care insurance policy, and having a current draft of a will. This research also examined how personality influenced financial preparedness for late-life. Data from the Health and Retirement Study (2010 wave) were analyzed. Inclusion criteria were: age less than 65 and not retired (N=1,997). The sample consisted primarily of white, college educated women (58%) ages 30 to 64 (mean 56). Logistic regression results showed that most participants expected to live to age 75 or older (85%), but this expectation was not a significant predictor of planning for retirement. Surprisingly, it was negatively associated with the purchase of life insurance (OR=0.53). Similarly, none of the personality traits had a significant influence on late-life planning except for neuroticism, which had a negative effect (OR=0.75) on the purchase of life insurance. Results indicate adults who felt financially prepared, were married, widowed, or who had higher incomes were amongst those who were most financially prepared for late life. These results tell of a need to develop policy interventions aimed at helping those who are most vulnerable to ensure that they are financially prepared enough for life after retirement.

#### **PEAK 2.0: A MEDICAID PAY-FOR-PERFORMANCE INCENTIVE FOR NURSING HOMES ADOPTING PERSON-CENTERED CARE**

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In 2012 the Kansas Department on Aging and Disability Services (KDADS), under the direction of Secretary Shawn Sullivan, implemented a pay-for-performance program to reward nursing homes that were implementing person-centered care (PCC). While Kansas had been generally believed to be a forerunner in changing the culture of long-term care, implementation of PCC had been sporadic and frequently superficial. KDADS developed an incentive payment rubric and then used the Kansas Culture Change Instrument (KCCI) to assess levels of performance in the more than 125 enrolling in the program. Site visits were made to confirm survey results and 6 homes were selected to enter at the highest level, mentor, earning \$4.00 per diem per Medicaid resident. The rest of the homes were asked to write action plans demonstrating how they expected to improve. In the time since the initiation of the program the Kansas State University Center on Aging has been selected to administer the program, providing services for application, education and evaluation. This session details the process used to implement the program including the barriers and prods that have been encountered along the way. Preliminary research highlighting the characteristics of the homes most likely to enroll in the program will be shared. Also included will be information gathered from the KCCI related to the domains of person-centered care most or least frequently adopted.

#### **A MIXED METHODS EXAMINATION OF NURSING HOME CULTURE CHANGE AND COMPETITION FOR MEDICARE RESIDENTS**

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Artifacts of nursing home culture change include person-centeredness, staff empowerment, and environmental homelikeness, but these conditions also may be found in traditional nursing homes. Studies show that financially incentivized competition for higher paying residents influences nursing home practices and management decisions. We used mixed methods, including a national survey of nursing home administrators and follow-up interviews with a sub-sample of 64 administrators, to explore the presence person-centeredness, staff empowerment, and environmental homelikeness in the context of nursing home payment policy. Utilizing an explanatory sequential design, survey data were initially examined and the interview participant sample was based on preliminary findings from survey analysis (e.g., given our interest in culture change, interviews were conducted only with administrators of nursing homes where culture change artifacts were evident per survey findings). Survey data were linked to Centers for Medicare and Medicaid Services Online Survey and Certification and Reporting data from annual nursing home inspections to determine how the presence of culture change artifacts in a nursing home relates to the prevalence of Medicare residents. We qualitatively delineate how payment policy influences diffusion of these culture change artifacts, and quantitatively examine how payment policy relates to their prevalence. We find payment policy influences culture change implementation, with competition for Medicare residents promoting spread of select environmental and food service artifacts, and heightening the likelihood of environmental artifacts in nursing homes with more Medicare residents. Implications for culture change, payment policy, and measurement are discussed.

#### **CHANGING THE CULTURE MAY NOT CHANGE WHAT MATTERS: CULTURE CHANGE AND NURSING HOME SATISFACTION**

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The culture change initiative has driven change in nursing home design, organization, and care practices for nearly two decades. Despite the overwhelming acceptance of change on the part of nursing homes, and the presence of national initiatives such as Advancing Excellence, only recently has research begun to assess the extent to which culture change practices impact outcomes such as quality of life, quality of care, or satisfaction. This paper reports on a study that combines information about the extent of culture change practices in Ohio nursing homes with statewide data on resident and family satisfaction. In 2012 900 Ohio nursing homes completed a survey module on culture change as part of the statewide Biennial Survey of Long-Term Care Facilities. Statewide data on resident satisfaction from 2011 (n=888) and family satisfaction from 2012 (n=881) were combined with culture change data to assess the extent to which overall culture change or particular culture change practices are related (or not) to resident and family satisfaction. Overall family and resident satisfaction scores show a small but significant correlation (.357\*\*\*). Overall satisfaction for both groups shows an even smaller relationship (e.g. .180\*\*\*) with the extent of overall culture change in facilities. Exploring the different domains of culture change finds culture change to be related only to specific areas of consumer satisfaction. For example, the extent of culture change in community integration is the area most positively related to family satisfaction. Implications for practice and research will be presented.

## **AGING AND DISABILITY RESOURCE CENTERS: THE CHALLENGES OF BRINGING TOGETHER THE DIFFERENT SERVICE LOGIC MODELS OF THE AGING AND DISABILITIES WORLDS**

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Our aging society is well known as people live longer with chronic illness and disabilities. Less well known is that services for older adults and younger people with disabilities – historically separated by different funding streams, service systems, and workforces – have merged. The movement to combine services for older adults and younger persons with disabilities is reflected in the creation of Aging and Disability Resource Centers (ADRCs) designed to serve both populations. Using ADRCs to combine aging and disability services has proven challenging, primarily because these two fields have different histories and philosophies. Independent living centers, who serve people of all ages with disabilities, have a service philosophy of consumer control and peer mentoring. The aging service delivery philosophy is based on a medical model where care plans are developed by professionals to protect older adults. Using institutional logics theory and mixed-methods design, I explored whether a unified service logic model for ADRCs was emerging or if these organizations continue to have disparate logic models and whether staff training in aging agencies increased understanding of consumer control. Based on focus groups with directors from disability organizations (n=14), aging organizations (n=8), and Options Counselors located in either organization (n=27), findings revealed that at both director and direct service levels competing service philosophies continue to operate. Through a statewide training on consumer control delivered to 115 Options Counselors in both settings, I found increased understanding of consumer control and better management of the co-existence of logics from these two different service systems.

## **MANAGED LONG TERM SERVICES AND SUPPORTS IN INDIAN COUNTRY: EMERGING ISSUES**

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As states move toward managed care approaches to funding and delivering long term services and supports (LTSS), direct service providers are faced with the challenge of whether and how to contract as providers with managed care entities in their states. For the 562 federally recognized American Indian and Alaska Native tribal governments and communities in the U.S., this challenge has unique implications. How are tribes positioned to engage in managed LTSS (MLTSS) in terms of awareness, interest, readiness, and potential impact? A study by Scripps Gerontology Center for the Administration for Community Living identified issues, challenges, and opportunities using key informant interviews and documents review. Key informants included policy analysts and program officers from federal and state agencies; representatives of tribal organizations; tribal leaders and providers; advocates and scholars. Wide disparities in availability, adequacy, and organization of LTSS across Indian communities underlie the findings. Recent legislative authorities have created new opportunities for LTSS and MLTSS in Indian Country, but issues of capacity and infrastructure represent barriers to readiness for MLTSS. Intergovernmental issues are of particular significance. The contractual relationships between states, managed care organizations and providers are especially problematic for tribes and the terms of contracts are often prohibitive or inappropriate for tribal communities. Finally, many tribal communities have had very negative experiences with managed health care systems and/or associated state politics; inaccessibility, cultural inappropriateness, and threats to choice have created a climate of resistance to MLTSS in some areas. The study identifies strategies for MLTSS readiness in Indian Country.

## **DO SMALL ECONOMIC INCENTIVES ENCOURAGE SOCIAL PARTICIPATION IN OLD AGE?**

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**Purposes:** The purpose of this study was to examine whether small economic incentives can encourage social participation in old age. **Backgrounds:** Yokohama city in Japan established incentive program for the elderly to join nursing care volunteer from 2010. The program allows elderly residents to accumulate point which can be exchange for money by conducting volunteer activities at a nursing care facility or other location. The program is based on the premise that economic incentives encourage elderly volunteers. However, there is no evidence about the relation. **Methods:** Data were drawn from a sample of 3,345 elderly individuals from Japan in 2013. I divided respondent into 3 types; “volunteer before the start of the program”, “volunteer after the start of the program”, and people do not participate the program. Multinomial logistic regression separately by sex is used to compare these types and to examine the relationship between participation and independent variables which are SES (household income, education, and class of workers) and participation of various group activities. **Results:** The result on volunteer before the start is that income is not significant. In contrast, the result on volunteer after the start of the program is that income is significant negatively. Other factors seem similar effect between before and after the start. **Implications:** The small economic incentives have effect to participate as nursing care volunteer. However the incentives of the program are not a lot of money. The incentives do not function economically but as visible symbol of their activities.

## **ETHNICITY AND OCCUPATIONAL PENSION MEMBERSHIP IN THE UK**

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Reflecting a relatively low-value Basic State Pension, occupational pensions have historically been a key aspect of pension protection within Britain. Existing research shows that minority ethnic groups are less likely to benefit from such pensions and are more likely to face poverty in later life, as a result of the interaction of their labour market participation and pension membership patterns. However, the lack of adequate data on ethnic minorities has so far prevented the direct comparison of different ethnic groups, as well as their comparison to the White British group. Using data from the UK Household Longitudinal Study, this paper explores patterns of employment and the determinants of membership in an employer’s pension scheme among working-age individuals from minority ethnic groups and the White British population. The analysis provides clear evidence that, after controlling for key demographic, health and socio-economic characteristics, ethnicity remains a strong determinant of one’s pension protection prospects through being in paid work, being an employee and working for an employer who offers a pension scheme. However, once an individual is working for an employer offering a pension scheme, the effect of ethnicity on their odds of being a member of that scheme reduces.

## **THE BABY BOOM GENERATION: FOUR STATISTICALLY SIGNIFICANT COHORTS IN NEED OF UNDERSTANDING**

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**Abstract** The joint influences of the Great Depression and the call-up of American men to fight in World War II resulted in a low birth rate in American society for a number of years. Upon resumption of what we would call normal family functioning following the WWII, the birth rates between 1946 and 1964 soared to heights not seen before or



since. From enlarging school systems to employing and training Baby Boomers (a term which originated in the popular media in the 1970s), American society has taken pains to acclimate itself to accommodate this group of 76 million individuals. The downside of applying the Baby Boom sobriquet unilaterally to people with birthdays in 1946 through 1964 denies the effects of social and historical contexts that affected their upbringing differentially, a particularly dangerous mindset given the mighty social changes that occurred within this extended timeframe. This study examines the period effects of changing family conditions through the Generation's birth years and the years in which they reached adulthood (1964-1982). Applying logistic regression to a cross-cultural sample of females from three waves of the National Survey of Family Growth produced four statistically significant birth cohorts. The existence of subgroups within the Generation has policy implications for the future, particularly regarding elder care and financial well-being, with social entitlement programs playing a more critical role for some parts of the Generation than for others.

## **SESSION 280 (POSTER)**

### **ELDER SERVICES, TRANSPORTATION ASSISTANCE, AND APPLIED TECHNOLOGY**

#### **COMMUNITY-DWELLING OLDER ADULT PERSPECTIVES' ON WHAT MATTERS MOST: FINDINGS FROM AN EXPLORATORY INQUIRY**

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Communities across the nation are currently grappling with unprecedented increases among their older adult populations, and bracing for even greater growth in the decades ahead. The study utilized multiple methods of qualitative inquiry to explore what matters most to older adults aging in a community where approximately one-third of the residents are age 65 or older. Findings suggest five key themes: (1) Preserving and promoting health and well-being; (2) Continuing living arrangement and lifestyle; (3) Maintaining autonomy and independence; (4) Engaging in meaningful social opportunities; and (5) Accommodating community assets. Implications for community-based programs serving older adults are discussed.

#### **ADDRESSING THE SUPPORTIVE TRANSPORTATION CHALLENGES OF COMMUNITY-RESIDING OLDER ADULTS**

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The ability to get to where you want to go, when you want to go there is a key factor for aging-in-place in our communities. It is often taken for granted until that ability is compromised. The informal network of family and friends, if it exists, is not likely to be a sustainable transportation alternative for persons with cognitive impairment or for older adults with limitations that may not fit eligibility criteria for senior transportation services, where they exist. The purpose of this study was to investigate the potential of communities to address the specialized supportive mobility needs of community-residing older adults. The goal of the research is to inform strategies for practice and policy. Key informant interviews were conducted in 2012 with 32 subjects who were policy leaders from national transportation and aging organizations in the United States, transportation providers, or transportation and aging researchers. These interviews were further analyzed in 2014 through a secondary review of audiotapes and transcripts by the domains of challenges, strategies, and policies. Sub-themes included levels of assistance provided or needed, the role of paid and volunteer escorts, and special assistance related to persons with cognitive impairment. Several informants called for a national policy on senior mobility. Others presented

the concept of person-centered mobility. A major conclusion to emerge from the research is the connection of mobility to health care outcomes.

### **RISK FACTORS FOR DRIVING UNDER THE INFLUENCE OF ALCOHOL AND/OR ILLICIT DRUGS AMONG OLDER ADULTS**

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Despite increasing substance use among older adults, there is a paucity of research on alcohol- and drug-related driving safety issues among older drivers. This study (1) examined risk factors for driving under the influence of alcohol and/or illicit drugs (DUI) among older adults, focusing on their substance use patterns and psychosocial vulnerabilities, and (2) discerned differences between those aged 50-64 and those aged 65+. Data came from the public use files of the 2008 to 2012 National Survey on Drug Use and Health. This study focused on the 29,634 respondents aged 50+. Descriptive statistics were used to present past year substance use and self-reported DUI status by age group (50-64 and 65+). Binary logistic regression analysis was used to identify risk factors for DUI. The results show that 69.56% of the 50-64 age group and 52.19% of the 65+ age group used alcohol and/or illicit drugs in the preceding 12 months, and 14.54% and 6.19% of substance users in the 50-64 age group and the 65+ age group, respectively, self-reported DUI. Higher frequency alcohol use, binge drinking, marijuana use, and major depressive episode significantly increased the odds of DUI in both age groups. In addition, lifetime arrest history was a predictor in the 65+ age group only. The findings underscore the need to pay more attention to the treatment needs of older adult who suffer from substance use problems and comorbid mental health problems. Recommendations to reduce substance use and DUI among older adults are discussed.

### **BRIDGING THE GAP BETWEEN TRANSPORTATION AND HEALTH CARE: DOOR-THROUGH-DOOR VOLUNTEER ESCORTS**

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Unsuitable transportation options, confusing medical campuses and hazardous sidewalks are just some of the barriers older adults face when accessing health care. Moreover, access is only part of the healthy aging puzzle. The presence of family, friends or caregivers at appointments has been shown to benefit older adults' comprehension of and adherence to care plans. This evaluation of the FriendshipWorks Medical Escort program highlights the impact of door-through-door services on health care among older and disabled adults. Findings based on 18 volunteer and 60 recipient surveys suggest the program is serving a disadvantaged elder population who are low-income (62%), living alone (86%) and disabled (48%). Sixty-eight percent of elders said it was unlikely they could have attended their appointments without door-through-door assistance. Before finding this service, an alarming 60 percent of elders reported they were unable to schedule procedures and 48 percent said they had missed appointments because of inadequate transportation options. Emotional stress related to obtaining transportation was reported by over half of participants. Volunteers not only assist with transportation needs, but are communicating with medical staff on behalf of the patient (89%), helping pick up prescriptions (77%) and scheduling follow-ups (72%). For all older adults to age well, the society has to encourage and improve medical volunteer services, and address the growing barriers to obtaining medical care.

## ASSESSING AND CONTEXTUALIZING LIVABLE COMMUNITIES AND HOUSING FOR OLDER ADULTS

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Livable communities contribute to successful aging, but what exactly is livable? Using amenity proximity and transportation data, we model five examples of housing for older adults in the state of Utah with a newly developed livability index tool. We demonstrate that contextualizing housing within the neighborhood setting gets us closer to visualizing livability. According to AARP's age-friendly cities agenda, livable communities increase opportunities for community engagement and contribute to successful living. Affordable and accessible housing is a critical component of livability. Understanding the measures of livable communities and affordable, accessible housing contextualizes successful living for researchers, community planners and designers, caregivers, and health care professionals. We demonstrate a holistic approach to assessing community livability using two newly developed tools. One is a brochure that identifies, defines, and organizes older adult housing options cross-referenced with levels of care using examples located in Utah and referencing Utah land-use policies. The other is a newly-commissioned livability index that employs concrete, measurable neighborhood-scale indicators. Using the livability index with the housing brochure provides an approach to comprehensive site-and-setting evaluation of housing options. Applying the Utah-specific housing brochure to the livability index provides local examples for case study and analysis. Planners, designers and other policy makers can find policy foci to amplify the development of livable communities and affordable, accessible housing for older adults. These tools, individually and together, provide meaningful, accessible information for decision-making by caretakers, health professionals, and families.

## CLASSIFYING AND DETERMINING THE NUMBER OF AMENITY MOVES USING THE HEALTH AND RETIREMENT STUDY

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Studies have varied on the types of relocation that are classified as an amenity move among older adults, creating a lack of information about this motive for relocation. Amenity moves are primarily those undertaken voluntarily in search of lifestyle features such as weather, activities, or lower-cost of living. The Health and Retirement Study (HRS) offered the ability to classify over 40 reasons for relocation, of which 18 reasons were classified as an amenity move. This amenity move relocation typology was applied to both the 2008 and 2010 HRS samples. Approximately 3.2 percent of the 2008 respondents and 2.8 percent of the 2010 respondents relocated due to an amenity reason. This typology system is novel and permits a nationally representative estimate on the number of amenity migrants. Extrapolating to the population ages 50 to 84, potentially 3.6 million persons make an amenity move in a two-year period, affecting communities at the origins and destinations of the moves. A better understanding of the number of older adults who engage in amenity relocation gives senior housing developers and destination community governments a better idea about the demand for products and services. Alternatively, this approximation also provides community service providers with an understanding of the demand for aging in place.

## A SYSTEMATIC REVIEW OF THE EFFECTIVENESS OF TELEHEALTH INTERVENTIONS ON MENTAL HEALTH OUTCOMES AMONG OLDER ADULTS

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Telehealth is an innovative health service that uses electronic mediums such as telephone, video, internet, mobile, tablets, and monitoring devices. This systematic review examined the effectiveness of interventions and quality of studies using telehealth interventions. The search was limited to peer-reviewed journal articles published between January 2001 and July 2013 from six databases. Articles met the following criteria: 1) randomized controlled trial; 2) participants' mean age of 60 years or older; 3) telehealth intervention; 4) depression, anxiety/distress, health-related quality of life; and 5) patient self-efficacy of disease management. Eleven studies were assessed using the Review Handbook of Cochrane Collaboration Review of Randomized Controlled Trials. Standardized effect sizes (Hedges) for mean differences in clinical outcomes were calculated to determine relative effectiveness of telehealth interventions. The reports reviewed showed moderate methodological quality (Mean: 5.5 out of 10) with slightly more than half scoring at least 6 out of 10 on the study methods quality scale. Telemonitoring interventions had the highest mean quality scores while telephonic interventions had the lowest. About 90% of reviewed studies included an intervention protocol while 73% described the random allocation process. However, only one study explained methods for addressing performance bias. Overall, telehealth interventions were more effective in improving depression, anxiety/distress, quality of life and self-efficacy in disease management than control interventions. Specifically, 6 out of 9 studies favored telehealth over controls on depression measures. Findings of this systematic review can assist health professionals in considering telehealth interventions for improving mental health among older adults.

## ALZHEIMER'S FAMILY CAREGIVERS' IMPRESSIONS OF A PROTOTYPE DESIGN FOR A COACHING DEVICE TO GUIDE DRESSING

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Prior research indicates that dressing is the most common daily concern for family caregivers of persons in late early to mid-stage Alzheimer's disease (AD). The purpose of this study was to obtain AD family caregivers' reactions to the feasibility of using context aware technologies to provide customized prompting to sustain dressing abilities while providing caregivers a respite break. Methodology: Qualitative grounded theory approach was employed with primary family caregivers, who helped to dress and undress relatives with AD on a daily basis at home, to explore their impressions. Caregivers were recruited from MA over a six month period. Three focus groups were conducted using a semi-structured probative discussion format. Conversations were recorded, transcribed, and verified. The PI moderated each session and analyzed data with a second reader following content analysis procedures to ensure rigor. Results: Participants (n=25) on average were 63 years old (39-83 yo) and had been helping with dressing for 3 years (1-9 yrs). They desired help to reduce their cueing time while respecting their family members' pride and dignity. The majority (24) viewed the proposed technology as an innovative means to attain this and desirable to try (20). Positive technology related themes were Empowering, Reassuring, Customizing, and Privacy Promoting; Impersonal and The Unknown arose as negatives. The adult children were most enthusiastic expressing discomfort when dressing their parents of the opposite gender. Conclusions: Developing a dressing device for the Alzheimer's

caregiver-care recipient dyad is highly desirable to “loosen the leash on the caregiver” and buttress role tensions.

### **NEVER TOO OLD FOR FACEBOOK: OLDER ADULTS’ DESIRE FOR EDUCATION ABOUT TECHNOLOGY AND IDENTITY THEFT**

P. Huffman-Oh, B. Hass, *University of Massachusetts, Boston, Boston, Massachusetts*

Technology is increasingly viewed as a vehicle to support positive aging. The benefits of technology adoption, however, are accompanied by the need for information about using technology and preventing identity theft. Little is known about older adults’ perception of the need for training to use technology safely, efficiently, and comfortably. Our objective was to explore the desire for technology training among members of the Osher Lifelong Learning Institutes at U-Mass Boston using an online and paper-based survey distributed to all members. The completion rate was 45% (n=446). Descriptive, bivariate and multivariate analyses were conducted. The majority used email (94.4%), conducted online research (78.3%), and engaged in social networking (51%). Respondents were most interested in trainings about photo management (63.8%), online research (58.7%), video calls (55.7%), and e-commerce (46.0%). Among respondents, 21.9% indicated they were the victims of identity theft. Logistic regression showed that victimization was positively associated with the number of technologies used (computer, tablet, mobile phone, smart TV) (OR 1.35; CI 1.15-1.58,  $p \leq .001$ ) and the number of Internet applications used (email, social networking, e-commerce, and research) (OR 1.23; CI 1.06-1.44,  $p \leq .01$ ). Interest in training about cyber-security was positively associated with knowing a victim of ID-theft (OR 1.96; CI 1.03-3.76,  $p \leq .05$ ) and negatively associated with the number of Internet applications used (OR 0.77; CI 0.67-0.93,  $p \leq .01$ ). These findings underscore the critical need for educations that is geared toward the needs and interests of older adults about cyber-security and other technology topics.

### **COMMUNITY INVOLVEMENT AND NEIGHBORHOOD COHESION: ARE THEY RELATED TO SELF-PERCEPTIONS OF AGING?**

P. Huffman-Oh, *University of Massachusetts, Boston, Boston, Massachusetts*

Increasingly, Positive self-perceptions of aging is recognized as an important contributor to health behaviors that support aging in place. While the influence of individual attributes on perceptions of aging has been established, little is known about factors in the social environment associated with positive self-perceptions of aging. This study aimed to examine whether community involvement (volunteering, participation in voluntary associations, attending religious services with friends, and socializing with neighbors) and perceived neighborhood cohesion are associated with positive SPA. Data is drawn from participants in the nationally representative 2008 Health and Retirement Study (n = 5645; mean age = 69.1; age range: 50-104) who responded to questions in the leave-behind questionnaire about self-perception of aging, community integration, and neighborhood cohesion. Descriptive, bivariate and multivariate analyses were conducted. The fully adjusted model controlled for demographic (age, gender, race/ethnicity, education, household income, marital status, self-rated health, ADL limitations, and metropolitan residence) and psycho-social variables (neuroticism and loneliness). Volunteering (B = 0.15; CI 0.10-0.21;  $p \leq .001$ ), socializing with neighbors (F(2,55)=3.42,  $p \leq .05$ ), attending voluntary associations (B = 0.08; CI 0.02-0.13;  $p \leq .01$ ), and positively evaluating neighborhood cohesion (B = 0.10; CI 0.08-0.12;  $p \leq .001$ ) were associated with positive SPA scores. No statistically significant association was observed for attending religious services with friends. This study demonstrates that community involvement and neighborhood cohesion add unique contributions to the prediction of positive perceptions of aging.

### **OLDER ADULTS’ DIGITAL INFORMATION PROCESSING: A TEST OF REDUNDANCY PRINCIPLE**

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The redundancy principle of multimedia learning posits that information presented simultaneously through animation, audio and text can cause cognitive overload (Mayer, 2001). However, the common causes hypothesis suggests multiple information sources are needed for older adults to effectively process information. To test the effects of the redundancy principle on older adults’ digital information processing, this study compared the effects of redundancy and non-redundancy on youth and older adults’ information processing in a digital learning environment. The study employed a 2 x 2 factorial randomization design with group (youth vs. older adults) and condition (caption vs. non-caption) as Independent Variables. Dependent Variables included recall and transfer answers. Pre-knowledge was entered as a covariant. Ninety-two subjects were recruited (youth: 44, older adults: 48). Participants learned caregiving content through videos in an online environment. No significant results were found for recall for either group. However, the result of caption and non-caption conditions for transfer was significant for older adults with the caption condition outperforming the non-caption condition. Interestingly, no significant difference was found between caption and non-caption conditions for young people in transfer. Pre-knowledge as a covariant was significant. Findings confirmed our common causes hypothesis that older adults need multiple sources to process information. Additionally, pre-knowledge may influence performance in digital learning environments. Factors identified in this study have significant implications for the design and development of web-based applications for older adults.

### **OLDER ADULT PERCEPTIONS AND SUPPORT FOR IMPROVING WALKING AND PUBLIC TRANSIT INFRASTRUCTURE IN LOS ANGELES COUNTY**

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Introduction: In recent years, federal and local initiatives have applied “aging in place” concepts to promote healthy aging among U.S. populations. However, to effectively operationalize these concepts, the process requires a deeper understanding of public knowledge and support for built environment strategies that are generally less characterized in the literature. This study presents results from a field survey that addresses this evidence gap. Methods: A telephone survey of registered voters in Los Angeles County was conducted in English and Spanish among a registration-based-RDD sample of eligible adults. Interviews using a CATI system were conducted during September-October, 2013. The ~15 minute interviews included questions on participant knowledge, attitudes and views about active transportation, community planning, and socio-demographics. Results: A total of 1,005 interviews were completed for a survey cooperation rate of 54%. Overall, 18.3% (n=184) were aged 65+; of this group, 51.1% (n=94) were female, 26.1% non-whites (n=48), 28.3% (n=52) overweight/obese, and 52.7% (n=97) reported being in very good/excellent health. More than 70% of older adults (aged>65) reported being supportive of improving or expanding public transit services, sidewalks, and transportation for the elderly. Compared to younger adults (age<65), older adults were much less supportive of bike and walking paths/trails ( $p<.001$ ). Discussion: In Los Angeles County, older adult voters were supportive of age-friendly environments and view them as important features of community planning. While much emphasis in the built environment literature to date has focused on child obesity, increased consideration should be given to adding age-friendly interventions in the planning process.

## THE NEED AND PROVISION OF COMMUNITY HEALTH AND SOCIAL SERVICES IN MONTGOMERY COUNTY, VIRGINIA

Y. Liu, *Virginia Polytechnic Institute and State University, Blacksburg, Virginia*

Community resources are significant predictors of independent living among older adults. Based on previous research showing that rural seniors, compared to urban seniors, have limited access to community services, the study explored the needs and provision of community health and social services by examining the spatial distribution of older population and service organizations for older adults in Montgomery County. Zip code-level demographic data was obtained from the county office. Researcher used Geographic information system (GIS) software to identify and explain service utilization patterns by comparing older adults using services and layering with resources available to the older adults. Six 50-minute face-to-face interviews with service providers and onsite visits of health and social service facilities were conducted to explore the service programs. Results from the GIS maps indicated that the number of aging population in this area increased in the last decade, and the available services included adult day services, rehabilitation services, independent living, and long term care. However, certain areas were under-served. The providers also indicated the need of mental health and in-home services for older adults. Findings point to the need of health and social services among rural seniors. The local area agency on aging is a unique organization among health and social service agencies in Montgomery County, and it may serve unmet need in areas that are under-served by healthcare organizations in this region. Active role of local continuum care village coordinating and providing services open to the county residents is also highlighted.

## RACE, LIFE-SPACE, AND USE OF COMMUNITY-BASED SERVICES: IMPLICATIONS FOR POLICY AND PROGRAMMING

L.L. Lien<sup>1</sup>, L. Bakk<sup>2</sup>, *1. Rehabilitation Science, University at Buffalo, Buffalo, New York, 2. University at Buffalo, Buffalo, New York*

In older age, declines in health can result in reduced mobility, thereby impacting one's "life-space" and need for supportive community-based services to maintain independence. Although empirical data supports associations between functional capacity, sociodemographic variables, and mobility, little is known about the relationship between race, life-space, and subsequent utilization of community-based services. Examining such associations can help identify communities of greatest need for supportive services, policies, and programs aimed at reducing health disparities and maintaining independence among older adult residents. In response, this cross-sectional study used a life-space approach to examine the relationship between race and mobility, health status, sociodemographics, and use of community-based services. Data from the 2012 wave of the Health and Retirement Study were used, consisting of 1,542 U.S. respondents aged 50 and older. Multivariate logistic regressions indicated that older Blacks were significantly less likely to travel outside their neighborhood or town, and significantly more likely to utilize congregate meals and transportation services as compared to older Whites. Controlling for sex, age, number of morbidities, annual household income, ADLs, and IADLs had little impact on these associations. While our findings support an already established association between race and reduced mobility, it further indicates higher utilization and therefore potential need for community-based supportive services among this demographic. Future studies are needed that employ multiple methods to further examine why racial inequities in mobility exist. Similarly, exploration of the impact of increased need for supportive services on communities who house a higher percentage of disadvantaged older adults is warranted.

## SOCIAL ENGAGEMENT AMONG RESIDENTS LIVING IN LTC FACILITIES IN TAIWAN: ANALYZING THE SIGNIFICANCE OF ENVIRONMENTAL BARRIERS

S. Chao, P. Lu, *Department of Social Work, National Taiwan University, Taipei, Taiwan*

Background: The connection between environment and older individuals' well-being has received much attention recently. Social isolation and loneliness are frequently reported by older adults living in LTC facilities. This study explores elderly residents' experiences of environmental barriers to access social engagement in LTC settings. Methods: Eight focus groups were conducted in LTC institutions with different sizes, ownerships and in different locations in 2013. The 44 participants were selected to reflect diversity in age, sex, and length of admission. Data were analyzed using NVIVO version 8.0. Findings: Environmental features that influenced residents' social engagement patterns including: 1. Physical barriers: no private space to host visitors, and lack of barrier-free environment in the community. 2. Social barriers: unable to communicate with other residents because of their cognitive status and language issues, and unable to develop a close relationship with staff due to their busy work schedule. 3. Attitudinal barriers: self-stigmatization such as felt ashamed for living in LTC, and viewed institutions as a place for recovery rather than making friends. Conclusions and Implications: Residents in LTC facilities experienced internal and external barriers that impeded them from maintaining existing social engagement and developing new social relationships within and outside the institutions. Interventions should be targeted to combat physical, social and attitudinal barriers in order to promote social engagement among residents living in LTC.

## GENDER DIFFERENCES IN THE IMPACT OF NEIGHBORHOOD CONTEXT AND SOCIAL NETWORK CHARACTERISTICS ON THE DRIVING BEHAVIOR OF OLDER ADULTS

K. Barton, *1. Gerontology, University of Massachusetts Boston, Boston, Massachusetts, 2. University of Missouri Kansas City Institute for Human Development, Kansas City, Missouri*

Several socio-demographic and mental and physical health variables have been demonstrated to impact older adults' driving behavior, however, fewer studies have considered whether social factors influence driving behavior. The purpose of this study was to explore the impact of neighborhood context and social network characteristics (quantity and quality of relationships) on the driving status of older adults by gender. This investigation utilizes data from the Health and Retirement Study (HRS), a longitudinal, nationally representative survey conducted biannually. Three waves of HRS data were used in this analysis—2006, 2008, and 2010. The analytic sample included 5,740 older adults (52.8% female) age 65 or older ( $M=74.2$ ). Preliminary logistic regression analyses revealed that—after controlling for key variables—for females, positive social support from adult children predicted an increased likelihood of driving cessation ( $OR=1.51, p=.01$ ), whereas positive social support from other family members resulted in a decreased likelihood of driving cessation ( $OR=0.71, p=.02$ ). No similar relationship between either number of social contacts or quality of social support and driving behavior was demonstrated for males. Neighborhood context was not a significant predictor of driving cessation for either group. These findings suggest that, for females, social network characteristics may influence decisions about driving. For example, for females, adult children may be a source of emotional and/or transportation support for driving cessation, when a positive relationship exists. Research to explore these findings is underway. Findings from this research can be used to better understand ways to promote continued safe driving or cessation from unsafe driving.

## **DIFFERENCES BETWEEN TOUCH PANEL AND MOUSE USE BY OLDER ADULTS**

A. Steinert, M. Haesner, J. O'Sullivan, E. Steinhagen-Thiessen, *Geriatrics Research Group, Charité - Universitätsmedizin Berlin, Berlin, Germany*

Background: The use of touch interfaces is seen as a good opportunity for older adults to interact with computers or other gadgets (Murata, Iwase 2005). However, similar to the use of mouse and keyboard, touch interfaces can also cause usability problems for older adults. To date, differences between PC and tablet usage of an online platform by older adults have not yet been evaluated. Methods: A total of 50 participants took part in a pilot study. The sample consisted of mostly healthy, well-educated seniors from an urban environment. On average, participants were 71 years old (Range: 61 -93 years). After a randomization, the participants were asked to perform six tasks both on tablet and PC. The success rate and the amount of time required to solve the tasks were documented in a standardized manner. Results: The older adults made fewer mistakes and needed less time when using the PC compared to using the tablet. There were significant differences in success rate and time needed within individual tasks. The main advantage of the tablet was seen in the portability of the gadget. The main advantage of the PC was the greater size of the screen in contrast to the tablet. Conclusion: Especially for older adults who use a PC regularly it might be easier to interact with mouse and keyboard. Adequate and senior specific training are of great importance among this target audience.

## **SERVICE LEARNING PROJECT: BUILDING A RURAL COMMUNITY CENTER FROM SCRATCH**

R. Maiden, D. Gagne, *Psychology, Alfred University, Alfred, New York*

Twenty-four students in an Adult Development & Aging class engaged in a service-learning project in collaboration with the Allegany County (New York) Office For the Aging. Students designed and co-led focus groups with community leaders and local elderly residents to address questions regarding (1) declining participation at a established senior center with the county, (2) the actual social and activity needs of senior community residents, and (3) considerations for building a new, centrally located community center. Students visited a successful senior center and helped to create a survey, which was then distributed to convenience sample of 109 older adults. Subsequently, 1,000 surveys were distributed to a randomly selected sample of registered voters in the county aged 50 and over. In total, 318 surveys were returned from community members ranging in age from 50 to 98 ( $M = 69.8$ ). Overall, the "typical" community resident was female, married or widowed, retired, and living in her own home (but not by herself). Approximately 25% reported income levels less than \$15,000 in the previous year. Of the older adults surveyed, an average of 30% indicated that they would be willing to participate in activities at a senior center. They were most interested in attending box-office and cultural events, pre-arranged trips, card games, writing, and gardening. They also expressed a strong interest in assorted health screenings and organized fitness activities, particularly hydro aerobics. They also expressed desires for general function rooms and volunteer opportunities. The importance of these findings for the community is discussed further.

## **AGE-FRIENDLY NYC: REACHING A TIPPING POINT FOR AN AGE-FRIENDLY NEW YORK CITY**

D. Block, C. Smith, *The New York Academy of Medicine, New York, New York*

Age-friendly NYC is a partnership between the Office of the Mayor, the New York City Council, and the New York Academy of Medicine (NYAM). In 2013, Age-friendly NYC was named the Best Existing Age-friendly Initiative in the World by the International Federation on Aging and received APHA's Archstone Foundation Award for Excellence in Program Innovation. Now in its 6th year, the initiative asks pub-

lic agencies, businesses, cultural, educational and religious institutions, community groups, and individuals to consider how changes to policy and practice can create a better city for older adults. Through strategic planning and partnering, Age-friendly NYC has endured despite major political transition, including a new Mayor for the first time in 12 years and 21 new City Council members. Now, Age-friendly NYC seeks to achieve a tipping point by making it the norm rather than extraordinary practice to consider older people in the course of daily business. Over the next three years, Age-friendly NYC aims to have initiatives in 50% of the city's neighborhoods and demonstrated improvements by 1,000 partners. New efforts have also focused more closely on employment, housing and disaster preparedness. This presentation will focus on how to bring an initiative which begins with demonstration to city-wide scale and how to ensure that there are appropriate metrics to track progress.

## **GETTING SENIORS ONLINE: WHAT MAKES A DIFFERENCE?**

B. Harootyan, *Research, Senior Service America, Inc., Silver Spring, Maryland*

Currently, 40% of seniors remain offline. Most are unmotivated to learn computers, believing that the Internet has little relevance for them, computers are too costly and complex, and/or they can't learn to use computers. Offline seniors tend to be over 70, minorities, low-income, and less educated. Senior Service America, Inc. (SSAI) conducts special projects to overcome this senior digital divide. SSAI's Digital Inclusion Initiative (DII) provided free computer coaching sessions at 350 sites. SCSEP (Title V, OAA) participants were Peer Coaches who assisted >26,000 senior learners using a self-paced tutorial program. Results: High 'graduation' rate. Logit regressions showed significant improvement in graduates' computer confidence/skills, while pair-wise analysis indicated significantly improved psychological well-being. SSAI's new "DII-2" pilots specifically target offline seniors through group 'Taste of the Internet' sessions that demonstrate the relative ease of using computers/Internet. Preliminary results: Tastings are effective, characterized by non-threatening peer group interaction and mentors who provide hands-on assistance to only 1-2 seniors at a time. 'Tastings' are followed by individual sessions that provide more specific guidance, demonstrating the Internet's relevance to each senior's interests (most commonly: communicating with family members, especially grandchildren - including videos/photos; accessing news from "home"; playing games; and getting healthcare and other consumer information. Although providing offline seniors with a 'Taste' is not expensive, it is labor- and time-intensive. But after such Tastings, most offline seniors become dedicated learners in basic computer-skills training programs (e.g., libraries), especially those with age-appropriate learning methods. The seniors are also informed about possible Internet discount services.

## **THE CORRECTIONAL AND COMMUNITY LANDSCAPE FOR OLDER ADULTS IN NEW YORK: A CALL FOR THE AGING COMMUNITY TO EXTEND ELDER JUSTICE BEHIND BARS**

T.M. Maschi<sup>1</sup>, K. Morgen<sup>2</sup>, *1. Graduate School of Social Service, Fordham University, New York, New Jersey, 2. Centenary College, Hackettstown, New York*

The adult prison population is rapidly greying and current programmatic and psychosocial services are ill-equipped to handle these men in women within the prison, re-entry, and aging service systems. Data (2012-2013) from the New York State Correctional system of prisoners ages 50 and older ( $N=9,188$ ) found a prison population that were mostly ages 50-59 (77.3%) followed by ages 60-64 ( $n=1151$ ), and 65-95 ( $n=939$ ). Most of the incarcerated older population committed their first convicted crime between the ages of 15 and 49, and were male (96.4%), black (50.2%) and were convicted of a violent offense (73%). Sentence lengths ranged from 3 months to 50 years with an average of 10 years served. The majority of incarcerated older adults had mental

health and/o substance use issues (52.8%), vocational training needs (61%), and (most importantly) with a reported earliest release date within the next two years (59.9%). Thus, older adults poised for reentry unique psychosocial, employment, and mental health/addiction needs of the older adult. A sub-set of these data that reflects 2012 recidivism (n=1,068) further add to the alarming story. Of those who recidivated, most did not have a high school diploma or GED (40.1%), had a prior prison term (48.9%), were on parole at time of recidivism (47.9%), and were primarily from the boroughs of New York City (54.5%). Of note, a good number of the recidivism offenses were substance-related: drug sale (19.9%), drug possession (8.7%), or driving intoxicated (5.1%). In sum, these data underscore the need for major revisions in how we work with older adult in the prison, re-entry, and aging care systems. Recommendations for the aging community to expand services to justice involved elders in prison and the community are addressed.

#### **PERCEPTION ON THE EFFECT OF NOISE IN OLDER ADULTS IN A RURAL AREA OF PUERTO RICO**

N. Labault-Cabeza, V.E. Reyes-Ortiz, *University of Puerto Rico-Public Health, San Juan, Puerto Rico*

The ability to deal with the noise decreases in the population of older adults, putting them at greater risk of affecting their health in multiple areas and not just in the hearing. Purpose: Explore the knowledge and attitudes of adults 60 years and older towards noise in two communities in a rural area of Puerto Rico. Determine how older adults perceive that noise impact their health. Methodology: A study with a cross-sectional epidemiological design and mixed methodology. Results: Results from our sample differ significantly with a study conducted in 2007 with Puerto Rico's general population. 78.57% considered noise as the most important environmental problem; and 61.90% considered it as the most important environmental pollutant in their community. Noise generated feelings of nervousness (66.67%); being mad and annoyed (45.24%), tension, anxiety (42.86%); and depression (26.19%). Participants demonstrated lack of knowledge of legislation and existing agencies in charge of noise control; and perceived as poor the governmental management to deal with the noise as a contaminant. Implications: This information will help to lay the groundwork to establish revision of existing public policy and development of prevention strategies and awareness-raising programs for this vulnerable segment.

#### **FUTURE DIRECTIONS FOR DIFFERENT TYPES OF SENIOR CENTERS SERVING A METROPOLITAN AREA**

M. Cannon, *Institute on Aging, Portland State University, Portland, Oregon*

Senior centers have traditionally served as community focal points representing two models: the social agency model that primarily serves low-income and socially isolated older adults, and the voluntary organization model that is designed for active older adults who have strong community attachments. This poster presents findings from a multiple-case study of five senior centers located throughout the Portland metropolitan area in Oregon. Each traditional model of senior center is represented by two cases, and the fifth case was selected for its unique status as a nationally accredited center. Like most senior centers, the cases in this study operate under the jurisdiction of local governments or as non-profit agencies, and vary in many aspects such as the range of services and programs offered, staffing, technology, access to resources and cultural diversity. This research aimed to better understand challenges, changing conditions and future directions for different types of senior centers serving a metropolitan area. Data collection at each site included interviews with staff as well as focus groups and surveys of senior center participants. Interviews with key informants enriched the data and provided outside perspectives. Data analysis revealed challenges and changing conditions that were both unique to and similar across the different types of senior centers in the metropolitan area, and potential opportunities for growth and resilience to these issues.

Recommendations were developed for communities to capitalize on these opportunities and provide mechanisms of support to facilitate the continuation and growth of senior centers in metropolitan areas.

#### **PARTICIPATION RESTRICTIONS, PERCEIVED NEIGHBORHOOD ENVIRONMENT, AND PSYCHOLOGICAL DISTRESS AMONG OLDER ADULTS: DIFFERENCES AMONG RACIAL AND ETHNIC GROUPS**

K. Kim<sup>1</sup>, H. Yoon<sup>2</sup>, S. Kim<sup>3</sup>, *1. University of Maryland, Baltimore, Maryland, 2. University of Texas, Austin, Texas, 3. Columbia, New York, New York*

This study addresses the issues of limited literature regarding the relationship among participation restrictions, perceived neighborhood environment, and psychological distress among racial and ethnic older adults. We used the first wave of National Health and Aging Trends Study, a nationally-representative panel study. The study includes 4,097 White, 1,203 Black, and 306 Hispanic older adults. Using a hierarchical logistic regression, we examined how sociodemographic (age, gender, living arrangement, education, income, length of neighborhood residence), health status (chronic diseases, self-rated health, and self-rated memory conditions), interpersonal relationships (social network and participation restrictions on valued activities), and perceived neighborhood environment (perceived neighborhood conditions and social cohesion) are predictive of psychological distress among each racial and ethnic groups. Fewer participation restrictions on valued activities decreased the odds of having psychological distress among all racial and ethnic groups, controlling for all other variables. Higher levels of social cohesion decreased the odds of having psychological distress among White and Black older adults, whereas there was no relationship among Hispanic older adults. In addition, there was no relationship between perceived neighborhood conditions and psychological distress among all racial and ethnic groups. The finding suggests that policy makers and practitioners should plan and provide mental health services to remove participation restrictions on valued social activities to improve psychological distress regardless of racial and ethnic groups. Considering differences in the relationship between perceived neighborhood environment and psychological distress among racial and ethnic groups, implications for future research and practice will be discussed.

#### **FROM KATRINA TO SANDY: WHAT HAVE WE LEARNED ABOUT NURSING HOME DISASTER MANAGEMENT?**

A.S. McIlwain, M. Mileski, A.E. Sokan, *Texas State University, San Marcos, Texas*

Disaster management for vulnerable populations represents a major element of community emergency planning yet remains an area wherein guidance is limited and misdirected. For this study, we considered hurricane disaster planning and management in nursing homes. Specifically, we asked if there have been improvements in disaster management since 2005, i.e., Hurricane Katrina. In the event of an impending hurricane, and barring mandatory universal evacuation of facilities, administrators are faced with two options: voluntary evacuation or sheltering in place. Both pose viable threats to nursing home residents, as evidenced by extant scholarship and the highly publicized deaths of frail, older residents in the wake of Hurricanes Katrina and Sandy. To examine this issue, we conducted a two-phase comparative study. Phase one included a systematic review of research articles on nursing home disaster management, field reports, industry reports, and public policies. Phase two included a content analysis of media reports and other news items. Due to variance in focus, scope, and scientific rigor among these sources, we applied a basic analytical methodology. Using standard emergency management concepts, we developed a set of best practices in hurricane disaster planning and management. We also found that not much has changed and that disconnect exists between identified best practices and long term care management practices. As we move forward, our goal is to establish a dialogue on evidence-based disaster management

in long term care administration in order to foster improvement in this management area.

## SESSION 285 (SYMPOSIUM)

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### THE COLLAPSE OF PROTEOSTASIS: THE WHY, WHERE, AND HOW

**Chair:** L.V. Thompson, *University of Minnesota, Minneapolis, Minnesota*

**Discussant:** A. Cuervo, *Albert Einstein, Bronx, New York*

**Discussant:** A. Gitler, *Stanford University, Stanford, California*

An imbalance in protein homeostasis results in the accumulation of misfolded and aggregation-prone proteins that are poorly degraded, often accumulating as post-translationally modified proteins and aggregates in different subcellular compartments. These events are hallmarks of human aging and genetic diseases (e.g., amyotrophic lateral sclerosis, Huntington's disease, Parkinson's disease). Understanding cellular processes that lead to the appearance of modifiable, aggregation-prone proteins may lead to the development of strategies to extend healthspan/lifespan and could also delay the onset of aging-related diseases. Specifically, Dr. LaDora Thompson's presentation will discuss how post-translationally modified proteins play a role in age-related skeletal muscle weakness. Dr. Ana Maria Cuervo's presentation will emphasize the importance of cellular quality controls systems, and in particular autophagy in the maintenance of proteostasis. Dr. Aaron Gitler's presentation will discuss how understanding, at a mechanistic level, the cellular consequences of protein misfolding will help to suggest potential strategies for therapeutic intervention. The presentations will highlight novel model systems and experimental approaches that are being used to identify the critical genes, cellular pathways and tissue function affected by poor preservation of the proteome.

### HIGH-THROUGHPUT GENETIC SCREENS TO DEFINE MECHANISMS OF NEURODEGENERATIVE DISEASES

A. Gitler, *Stanford University, Stanford, California*

As our population continues to age, neurodegenerative diseases are becoming more prevalent. These devastating human diseases include Alzheimer's disease, Parkinson's disease and amyotrophic lateral sclerosis (ALS). These diseases share a common feature in protein misfolding and aggregation. We use the baker's yeast, *Saccharomyces cerevisiae*, as a simple, yet powerful, model system to study the cell biology underpinning protein-misfolding diseases. Our goal is to identify the critical genes and cellular pathways affected by misfolded human disease proteins. We have focused on the ALS disease proteins TDP-43 and FUS/TLS and have used yeast models to define novel disease mechanisms and have extended our findings into animal models and even recently into human patients. We recently discovered mutations in one of the human homologs of a hit from our yeast TDP-43 modifier screen as a genetic risk factor for ALS. This underscores the power of such simple model systems to help reveal novel insight into human disease. These screens are also providing new and completely unexpected potential drug targets – another hit from one the TDP-43 modifier screens is a gene encoding lariat debranching enzyme and we discovered that inhibiting this enzyme potently suppresses TDP-43 toxicity in yeast and in mammalian neurons. Launching from these studies in yeast to test known ALS disease genes, we have also been using yeast as a discovery platform to predict novel ALS disease genes based on functional properties (for example, the presence of a prion-like domain) and to combine this approach with human genetics and next generation sequencing to further define the complex genetic landscape of ALS. We anticipate that our approach will be broadly applicable to other human diseases, many of which are deeply rooted in basic biology.

## THE ROLE OF PROTEIN DAMAGE IN AGE-RELATED MUSCLE WEAKNESS

L.V. Thompson, *University of Minnesota, Minneapolis, Minnesota*

Damage to cellular macromolecules has long been implicated in the aging process. The accumulation of damaged macromolecules is postulated to decrease the cell's ability to perform its functions, leading to functional deficits, lower adaptability, and increased pathology/disease, all observed with increasing age. Skeletal muscle is particularly vulnerable to damage, in part, due to the rapid and coordinated changes in energy supply and oxygen flux that occur during contraction. With aging, there is a general decline in muscle function. One possible mechanism for the decline in muscle function is there are defects in the myofibrillar proteins responsible for force generation and contraction speed, and defects in the enzymes responsible for metabolism. This presentation will highlight physiological, biochemical, structural, and chemical analyses of key muscle proteins that likely explain the underlying mechanisms for age-related reductions in muscle function.

### SELECTIVE AUTOPHAGY IN THE FIGHT AGAINST PROTEOTOXICITY IN AGING

A. Cuervo, *Albert Einstein College of Medicine, Bronx, New York*

Our interest is on autophagy, a conserved pathway for degradation of intracellular components in lysosomes and an essential component of the cellular response against proteotoxicity. In this talk I discuss some of the consequences of the failure of autophagy with age. We have recently generated animal models in which we can modulate the autophagic activity and have learnt that: 1. Toxicity results from a combination of the inability to eliminate damaged proteins and of a gain of function from those proteins that fail to be degraded; 2. The consequences associated to loss of autophagy are tissue dependent; 3. Autophagic pathways can compensate for each other in vivo and 4. Compensatory abilities decrease with age. I will also comment on our current efforts to chemically modulate autophagic activity to enhance the cellular response to proteotoxicity. This work was supported by grants AG021904, AG031782, AG038072 and a Paul Glenn Grant.

## SESSION 290 (SYMPOSIUM)

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### A NEW HORIZON OF PSYCHOSOCIAL ADAPTATION: FROM SUCCESSFUL AGING TOWARD MATURED AGING

**Chair:** M. Takayama, *Keio University, Yokohama, Kanagawa, Japan*

**Co-Chair:** Y. Gondo, *Osaka University, Osaka, Japan*

**Discussant:** P. Martin, *Iowa State University, Ames, Iowa*

The population of the oldest-old is growing faster than any younger segment of the older population in most countries all over the world (United Nations, 2009). This is also the age when more people require care because of illness and frailty which may constrain the potential for well-being at the end of life. However, interestingly, some studies report that well-being of the oldest old is not necessarily lower comparing to the younger elderly people. These facts lead us to a possibility that there is a different mechanism for the oldest old to maintain personal well-being compared to the younger old. In this symposium, we will focus on subjective well-being among the oldest old and the mechanism of psychological adaptation for the oldest old to maintain well-being. Dr. Gondo will talk about age differences of gerotranscendence and selectivity, optimization, and compensation as psychological adaptation among septuagenarians, octogenarians, and nonagenarians. Secondly, Dr. Masui will talk about the path from gerotranscendence to psychological adaptation. Next, Dr. Takayama will focus on two aspects of well-being: feeling active and feeling calm during the last phase of life. Finally, Dr. Cho will talk about agreement between self- and proxy reports on well-being and psychosocial resources. The discussant, Dr. Peter Martin, will discuss subjective well-being from the viewpoint of age and cultural differences.

## SHIFT OF PSYCHOLOGICAL ADAPTION MECHANISM FROM YOUNG-OLD TO OLDEST-OLD

Y. Gondo<sup>1</sup>, Y. Masui<sup>2</sup>, T. Nakagawa<sup>1</sup>, Y. Arai<sup>3</sup>, K. Ikebe<sup>1</sup>, K. Kamide<sup>1</sup>, T. Ishizaki<sup>2</sup>, R. Takahashi<sup>1</sup>, *1. Human sciences, Osaka University, Suita, Japan, 2. Tokyo metropolitan institute of gerontology, Tokyo, Japan, 3. Keio University School of Medicine, Tokyo, Japan*

The oldest-old are at increased risk of ill health and disability. Recent studies however, indicated that centenarians and oldest-old maintain moderate to high psychological well-being, regardless of decline of functions in wide-ranged domains. We hypothesized that shift of adaptation mechanism from cognitive loaded intentional based one to unintentional based one according to age as a cause of this phenomenon. To test this hypothesis, WHO-5 mental health questionnaire as dependent variable and two adaptation mechanisms, Selection, Optimization, Compensation (SOC), Gerotranscendence (GT) and cognitive function (MOCA) were collected as independent variable from community dwelling young-old, old-old, and oldest-old. Separate multiple regression analysis for each age group showed that both SOC and GT were consistently associated with WHO-5 in young-old and old-old. However, only GT was associated with WHO-5 in the oldest-old. MOCA showed association only in the old-old. These results partially support the hypothesis that shift of adaptation mechanism along with aging.

## THE PATH FROM GERONTRANSCENDENCE TO PSYCHOLOGICAL ADAPTATION FROM THE THIRD AGE TO THE FOURTH AGE

Y. Masui<sup>1</sup>, Y. Gondo<sup>2</sup>, T. Nakagawa<sup>2</sup>, M. Ogawa<sup>4</sup>, Y. Arai<sup>3</sup>, K. Ikebe<sup>2</sup>, K. Kamide<sup>2</sup>, R. Takahashi<sup>1</sup>, *1. Tokyo Metropolitan Institute of Gerontology, itabashi-ku, Tokyo, Japan, 2. Osaka University, Suita, Osaka, Japan, 3. Keio University, Shinjyuku-ku, Tokyo, Japan, 4. Hokkaido University, Sapporo, Hokkaido, Japan*

The theory of gerotranscendence proposes that in old age an individual's meta-perspective shifts from a materialistic and rational view of the world to a more cosmic and transcendent one. It has been hypothesized that gerotranscendence is important for maintaining or improving psychological adaptation in older age. The present study examined the dimensions of psychological well-being that are associated with gerotranscendence. A questionnaire survey was administered to 2,245 septuagenarians, octogenarians and nonagenarians in Japan to assess gerotranscendence, and positive and negative emotional well-being. The results showed that positive emotional well-being was associated with "gratitude for others" and "affirmation of one's past" as subordinate factors of gerotranscendence, whereas negative emotional well-being was associated with "letting go of self-regard" and "acceptance of everything as it is" as subordinate factors, while controlling for another factors. These results suggest that the influence path from gerotranscendence to psychological adaptation comprises a number of different subordinate paths.

## WELL-BEING AMONG THE OLDEST OLD IN JAPAN: FROM THE VIEWPOINT OF FEELING ACTIVE AND FEELING CALM

M. Takayama<sup>1</sup>, H. Akiyama<sup>2</sup>, *1. Keio University, Yokohama, Kanagawa, Japan, 2. University of Tokyo, Tokyo, Japan*

In this study, we focus on two aspects of well-being: feeling active and feeling calm among the oldest old. For the oldest old who tend to require care because of illness and frailty, feeling calm as well as feeling calm active is important for subjective well being. Firstly, we examined how feeling active and feeling calm change during the last phase of life, using longitudinal data from the representative study of the oldest old in Tokyo, Japan (N=663). Secondly we investigated the similarities and differences between resources of feeling active and feeling calm. Results showed that both aspects of well-being decreased significantly, but very slowly. Physical functional limitations were risks for feeling

active, whereas these limitations were not risks for feeling calm, but financial strains and negative relations were risks. Moreover, results revealed that mastery beliefs and providing support contributed to both aspects of well-being among the oldest old.

## AGREEMENT BETWEEN PROXY AND SELF-REPORTS ON PSYCHOSOCIAL RESOURCES IN OLDEST-OLD ADULTS

J. Cho<sup>1,2</sup>, P. Martin<sup>3</sup>, M. MacDonald<sup>5</sup>, L. Poon<sup>4</sup>, *1. Scott & White Healthcare, Temple, Texas, 2. TAMHSC School of Rural Public Health, College Station, Texas, 3. Iowa State University, Ames, Iowa, 4. University of Georgia, Athens, Georgia, 5. Kansas State University, Manhattan, Kansas*

Obtaining information from oldest-old adults is not always easy or feasible. This study examined whether cognitive functioning explains discrepancies between self- and proxy-reported psychosocial resources among 192 dyads from the Georgia Centenarians Study. After applying the False Discovery Rate to *p*-values, mean comparisons and intra-class correlations between self- and proxy-reports showed agreements in fatigue, extraversion, social resources, and activities of daily living; significant discrepancies were obtained in positive and negative affect, loneliness, well-being, perceived economic status, social provisions, neuroticism, and fatigue. Additional regression analyses showed that the cognitive functioning was a significant predictor for discrepancies between both reports in loneliness, reduced motivation, and fatigue. The findings suggest that although discrepancies between self- and proxy ratings might exist in psychosocial resources, both ratings are significantly related to each other. Furthermore, cognitive functioning in extremely old age does not account for disagreements between self- and informant reports in psychosocial resources.

## SESSION 295 (SYMPOSIUM)

### NAVIGATING THE COMPLEXITY OF DAILY LIFE: THE INTERPLAY OF EMOTIONAL, HEALTH, INTERPERSONAL, AND COGNITIVE PROCESSES

**Chair:** S. Mejia, *School of Social and Behavioral Health Sciences, Oregon State University, Corvallis, Oregon*

**Co-Chair:** H. Chui, *University of Bradford, Bradford, Yorkshire, United Kingdom*

**Discussant:** N. Ram, *Pennsylvania State University, State College, Pennsylvania*

Action theories of life-span development assume individuals' capacity to simultaneously regulate multiple life domains. Successfully regulating affect, health, and relationships, however, hinges on the ability to integrate complex information from multiple sources, and to transform that knowledge into action. This symposium brings together a collection of papers that exemplify the interplay of health, emotions, and decision-making across the lifespan. The session begins by illustrating how positive and negative affect are intertwined with one's own and spouse's daily physical symptoms. Chui and Diehl explore themes of risk and resiliency by examining age-related change in the coupling of daily reports of physical symptoms and self-esteem with negative affect across 7 days. Ho, Michalowski, Gerstorf, and Hoppmann consider the interpersonal dynamics of health and emotions. Their paper examines the dyadic coupling of affect, physical symptoms, and spousal support of couples across 27 measurements over 9 days. The second half of the symposium considers aspects of decision-making, beginning with interpreting visualizations of data that represent progress towards health and social goals. Mejia, Oscar, Allen, Hooker, and Metoyer examine age-related differences in the cost and benefit of matching and mismatching the complexity data visualizations to the complexity of inquiries. Gonzalez, Smith, and Ryan then connect health, emotions, and decision-making by building on their model of daily activity selection, where the selection of daily activities is framed as a decision problem, to predict physical and mental health outcomes. Nilam Ram integrates



the papers by leading a discussion on the interplay of within-person processes and feedback loops.

### **SELF-ESTEEM BUFFERS THE EFFECT OF PHYSICAL SYMPTOMS ON NEGATIVE AFFECT LESS IN OLDER ADULTS**

H. Chui<sup>1</sup>, M.K. Diehl<sup>2</sup>, *1. Psychology, University of Bradford, Bradford, United Kingdom, 2. Colorado State University, Fort Collins, Colorado*

Models of coping and stress emphasize that both risk and resilience factors influence how individuals deal with stressors. The present study focused on physical symptoms as a risk factor and self-esteem as a resilience factor, using data from a daily diary study over 7 days. The sample consisted of young, middle-aged, and older adults ( $n = 128$ ;  $M$  age = 56.72 years; range = 24-90). Results indicated that more daily physical symptoms were associated with higher negative affect (NA). In addition, higher daily self-esteem was associated with lower NA. However, the protective effect of self-esteem diminished with increasing age. That is, controlling for daily self-esteem, the association between physical symptoms and NA was stronger for older adults. These results suggest that although older age is associated with lower NA in general, the buffering effect of self-esteem on the association between physical symptoms and daily NA is reduced in older adults.

### **PARTNER SYMPTOMS ARE ONLY LINKED WITH DECREASED DAILY AFFECT WHEN THERE IS HIGH SPOUSAL SUPPORT**

A. Ho<sup>1</sup>, V. Michalowski<sup>1</sup>, D. Gerstorff<sup>2</sup>, C.A. Hoppmann<sup>1</sup>, *1. University of British Columbia, Vancouver, British Columbia, Canada, 2. Humboldt University, Berlin, Germany*

Spousal support is an important social resource in old age, particularly when one or both partners suffer from health problems. Yet, little is known about how spousal support moderates the way physical symptoms one's partner experiences undermine one's own affect quality. By taking 27 simultaneous daily life assessments from 49 older adult couples ( $M$  age = 72 years;  $M$  relationship duration = 42 years), this study replicates past research by showing that spousal support is associated with high overall positive affect and low overall negative affect. Importantly, time-varying spousal physical symptoms are associated with concurrent reductions in own affect quality but only in spouses who report high spousal support. Taken together, findings indicate that high spousal support has benefits for overall affect quality in old age, but that spouses who support each other are also more affected by each others' physical symptoms than spouses who report little spousal support.

### **AGE DIFFERENCES IN THE COST AND BENEFIT OF VISUALIZATIONS THAT (MIS)MATCH THE COMPLEXITY OF INQUIRY**

S. Mejia<sup>1</sup>, N. Oscar<sup>2</sup>, P.M. Allen<sup>1</sup>, K. Hooker<sup>1</sup>, R. Metoyer<sup>2</sup>, *1. School of Social and Behavioral Health Sciences, Oregon State University, Corvallis, Oregon, 2. School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, Oregon*

Decision-making requires efficiently interpreting complex information and data visualizations that match the complexity of inquiry may facilitate this process. This study uses data from the web-based EvaDaVis study ( $N = 1871$ ,  $M$  age: 33, Range: 18 - 81) to examine age-related differences in the benefit of adapting visualizations to match the complexity of the inquiry. Using a 4 (Visualization: 2 simple vs. 2 complex) x 2 (tasks: find value vs. relate values) x 2 (Matching complexity: match vs. mismatch) design, we examined participants' accuracy and response time of visualization interpretation under two sequences: a simple inquiry mismatched with a complex visualization (s2c) and a complex inquiry mismatched with a simple visualization (c2s). Consistent with classical studies of cognitive aging, age was associated with accuracy under both sequences, but at the cost of time.

Under the c2s sequence older adults were quicker to identify oversimplified visualizations to be insufficient to answer complex inquiries.

### **ACTIVITY ALLOCATION DECISIONS AND HEALTH: HOW OLDER ADULTS SPEND THEIR DAY**

R. Gonzalez, J. Smith, L. Ryan, *University of Michigan, Ann Arbor, Michigan*

We build on our previous research showing that the distribution of activities over a day (e.g., reading, socializing, watching TV) can be viewed as an allocation decision. We find a small number of unique activity allocation distributions over a day for a sample of  $N=968$  older adults. We extend those findings by examining key health variables that those activity allocation distributions predict. We observe that activity allocation decisions are associated with and predict important health variables such as the number of functional limitations, BMI, and frequency of major illnesses. We also examine the stability of the activity allocation decision using a second day of data from the same participants. Understanding the link between how people choose to allocate their time over a set of activities and their physical and mental health will aid the development new interventions.

## **SESSION 300 (SYMPOSIUM)**

### **SLEEP IN OLDER BLACKS: THE ROLE OF PSYCHOSOCIAL AND HEALTH-RELATED FACTORS**

**Chair:** A. Gamaldo, *University of South Florida, Tampa, Florida*  
**Co-Chair:** R. Thorpe, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

**Discussant:** R. Salas, *Johns Hopkins School of Medicine, Baltimore, Maryland*

Poor sleep is a major public health concern that is highly prevalent among older Blacks. Yet limited progress has been achieved in understanding poor sleep in older Blacks. This is unexpected since poor sleep is associated with common health conditions (e.g., hypertension and obesity) and impaired cognitive functioning in this population. Moreover, because the number of older Blacks is projected to increase over the next 30 years, identifying and understanding factors that prevent or impede sleep quantity and/or quality should be a high priority. Furthermore, there is much to be gained by examining the factors that create individual variability within Blacks to better understand how to create effective approaches to reduce sleep health disparities. The goal of this symposium is to highlight psychosocial and health related factors that are associated with sleep issues in older Blacks. Each presentation utilizes data from the Baltimore Study of Black Aging. Thorpe and colleagues examine the relationship between obesity and sleep disturbance. Hill and colleagues determine whether changes in mental health indicators such as depression and stress are associated with sleep quality. Ford and colleagues examine the association between sleep quality and depressive symptoms. Gamaldo and colleagues examine the relationship between sleep quality and cognitive functioning. These presentations taken together provide important information that significantly bolsters our knowledge of unique aspects Black life and factors that are critical for consideration in efforts to reduce sleep issues in this group of older Blacks.

### **RELATIONSHIP BETWEEN SLEEP DISTURBANCE AND OBESITY IN OLDER BLACKS**

R. Thorpe<sup>1</sup>, C. Ford<sup>2</sup>, A. Gamaldo<sup>3</sup>, R. Salas<sup>4</sup>, C. Gamaldo<sup>4</sup>, K.E. Whitfield<sup>5</sup>, *1. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 2. University of Alabama, Tusculoosa, Alabama, 3. University of South Florida, Tampa, Florida, 4. Johns Hopkins School of Medicine, Baltimore, Maryland, 5. Duke University, Durham, North Carolina*

Little is known about the relationship between sleep disturbances and obesity among older Blacks. Using data from the Baltimore Study

of Black Aging, we examined whether sleep disturbance is positively associated with obesity in 450 Blacks ages 50 and older. Obesity was defined as body mass index of  $\geq 30$ . Sleep disturbance had the following categories: 0= no disturbances; 1= 1 to 9 disturbances; 2= 10 or more disturbances. Among participants, 8% reported no disturbances, 70% reported 1 to 9 disturbances, and 21% reported  $\geq 10$  sleep disturbances. After adjusting for age, sex, education, income, medical conditions, and depressive symptoms, individuals who reported  $\geq 10$  sleep disturbances had a greater odds of obesity (OR=2.88, 95% CI 1.21-6.88) compared to those with no sleep disturbances. No differences were observed between those with 1-9 sleep disturbances compared to no sleep disturbances. The findings suggest the frequency of sleep disturbances may influence obesity in older Blacks.

#### **ASSOCIATION BETWEEN SLEEP QUALITY AND DEPRESSIVE SYMPTOMS IN OLDER BLACKS**

C.D. Ford<sup>1</sup>, R. Thorpe<sup>2</sup>, A. Gamaldo<sup>3</sup>, K.E. Whitfield<sup>4</sup>, 1. *College of Nursing, The University of Alabama, Tuscaloosa, Alabama*, 2. *John Hopkins Bloomberg School of Public Health, Baltimore, Maryland*, 3. *University of South Florida, Tampa, Florida*, 4. *Duke University, Durham, North Carolina*

The purpose of this study was to examine the relationship between depressive symptoms and sleep quality in older Black adults using data from the Baltimore Study of Black Aging (n = 450; age = 71.43  $\pm$  9.21). Persons were considered to have depressive symptoms if they scored 16 or more on the Center for Epidemiological Studies Depression Scale. Using the Pittsburgh Sleep Quality Index (PSQI), we classified good sleep quality as  $< 5$  and bad sleep quality as  $> 5$ . Seventeen percent of the participants reported depressive symptoms. After adjusting for age, sex, education, income, and medical conditions, individuals who reported bad sleep quality had greater odds of depressive symptoms (OR=3.40, 95% CI 1.41-8.20) compared to those who reported good sleep quality.

#### **THE 3-YEAR CHANGE IN DEPRESSION SYMPTOMS AND PERCEIVED STRESS PREDICTS SLEEP QUALITY IN OLDER AFRICAN AMERICANS: THE BALTIMORE STUDY OF BLACK AGING**

L.K. Hill<sup>1,3,4</sup>, A. Gamaldo<sup>6</sup>, A. Aiken-Morgan<sup>4</sup>, J.C. Allaire<sup>5</sup>, R. Thorpe<sup>7</sup>, C.L. Edwards<sup>3,4</sup>, K.E. Whitfield<sup>2,4</sup>, 1. *Center for the Study of Aging and Human Development, Duke University Medical Center, Durham, North Carolina*, 2. *Department of Psychology & Neuroscience, Duke University, Durham, North Carolina*, 3. *Department of Psychiatry, Duke University Medical Center, Durham, North Carolina*, 4. *Center for Biobehavioral Health Disparities Research, Duke University, Durham, North Carolina*, 5. *North Carolina State University, Raleigh, North Carolina*, 6. *University of South Florida, Tampa, Florida*, 7. *Bloomberg School of Public Health -Johns Hopkins University, Baltimore, Maryland*

Mood disturbance including depression and stress has been associated with poor overall sleep. Research on sleep in older adults has typically focused on duration and less on mental health. The present study examined the impact of changes in depressive symptoms and perceived stress on sleep quality in a community-based sample of older adult African Americans in the Baltimore Study of Black Aging (BSBA). The present analyses are based on longitudinal data (N =450) over a 33-month period. Data included depression and perceived stress (time 1 and 2) and sleep quality (time 2). In hierarchical linear regression models controlling for age, sex, education and health status, the 3-year change in depression and perceived stress (time 2 – time 1), significantly predicted worse sleep quality. These novel results suggest emotional and mental health is critical for sleep quality in older African Americans.

#### **RELATIONSHIP BETWEEN COGNITIVE DECLINE AND SLEEP QUALITY IN OLDER BLACKS**

A. Gamaldo<sup>1</sup>, J.C. Allaire<sup>2</sup>, R. Thorpe<sup>3</sup>, A. Aiken-Morgan<sup>4</sup>, R. Salas<sup>3</sup>, C. Gamaldo<sup>3</sup>, K.E. Whitfield<sup>3</sup>, 1. *University of South Florida, Tampa, Florida*, 2. *North Carolina State University, Raleigh, North Carolina*, 3. *Johns Hopkins University, Baltimore, Maryland*, 4. *Duke University, Durham, North Carolina*

The purpose of the current study is to examine relationship between cognitive functioning and sleep quality in Black older adults. Analyses included participants from the Baltimore Study of Black Aging (BSBA; n = 450; Mean age = 71.43). Standardized cognitive composites, accounting for education, were estimated for 6 cognitive abilities (i.e., global cognition, reasoning, language, memory, speed, and working memory). Change in each composite was estimated across the 2 data collection waves. The Pittsburgh Sleep Quality Index (PSQI) was used to assess sleep quality and only administered at wave 2. Using cross-sectional data, there was no significant association between sleep quality and cognitive performance at wave2. However, decline in memory over a 3-year interval significantly predicted worse sleep quality at wave2, even after adjusting for the covariates (p<.05). These results suggest that changes in cognition may be indicative of poor sleep quality, which, subsequently, may exacerbate cognitive dysfunction.

#### **SESSION 305 (SYMPOSIUM)**

##### **THE USE OF DAILY LIFE METHODS IN AGING RESEARCH: INSIGHTS FROM FOUR STUDIES**

**Chair:** C. Matz-Costa, *Boston College, Chestnut Hill, Massachusetts, Sloan Center on Aging & Work at Boston College, Chestnut Hill, Massachusetts*

**Discussant:** M. Pitt-Catsouphes, *Boston College, Chestnut Hill, Massachusetts*

Methods for studying daily life, including Ecological Momentary Assessment (EMA), Experience Sampling Methods (ESM), and Daily Diary (DD) approaches, involve intensive repeated measurements in natural settings. These assessments could occur “in-the-moment”, at scheduled times over a day/week, or using an end-of-day or next-day-recall approach. Collecting ecologically-sensitive data using these methods can help to advance the depth, accuracy, and usefulness of gerontological knowledge and interventions. Further, the use of daily life methods that take advantage of technology to collect a broad range of social, behavioral, cognitive, and health-related data have the potential to advance gerontological research and practice in unforeseen ways. Thus, it is important to assess which approaches to studying daily life among older adults work well, under what circumstances, and with whom. In this session, we will present four studies that have examined daily life among older adults using varied approaches and settings. The first presentation will address drinking behavior through a next-day-recall diary approach among residents of a continuing care retirement community. The second will report on intensive in-the-moment data collected over the course of 5 days to better understand the experiences of social entrepreneurs in later life. Next, findings on differences in momentary affective reactivity to pleasant experiences, or uplifts, collected using smartphones will be discussed. The final presentation will report on data collected using iPad minis to better understand engagement in socially-productive activity in later life. A discussant will reflect on the contributions of these works toward the advancement of gerontological scholarship.

## OLDER ADULTS' MOTIVATIONS FOR DRINKING: FINDINGS FROM A DAILY DIARY STUDY IN A CONTINUING CARE RETIREMENT COMMUNITY

P. Sacco<sup>1</sup>, K. Burruss<sup>1</sup>, C. Smith<sup>2</sup>, A. Kuerbis<sup>4</sup>, D. Harrington<sup>1</sup>, A.A. Moore<sup>5</sup>, B. Resnick<sup>3</sup>, 1. *Social Work, University of Maryland, Baltimore, Maryland*, 2. *University of Maryland-Baltimore County, Baltimore County, Maryland*, 3. *University of Maryland-Nursing, Baltimore, Maryland*, 4. *Columbia University, New York, New York*, 5. *UCLA, Los Angeles, California*

This study describes patterns of drinking and explores associations between drinking motives, affective states, and drinking behavior among CCRC residents (n=71; mean age=82; SD=7.2) using a phone-based daily diary approach. Results suggest that CCRC residents drank most frequently at home and were alone almost half of drinking days on average, although the context of drinking varied considerably by participant. Problem alcohol use was rare, but hazardous alcohol use due to specific comorbidities (e.g. depression), medications (i.e. benzodiazepines), and exceeding consumption guidelines was common. Older adults endorsed higher social motives for drinking and lower coping motives. Coping and social motives were associated with greater consumption, and higher between-person positive affect was associated with lower consumption. Recommendations for practitioners working with older adults will be discussed as well as the opportunities and challenges associated with using a phone-based daily-diary approach to assess daily drinking, drinking context, and affect levels among CCRC residents.

## A WEEK IN THE LIFE OF SOCIAL ENTREPRENEURS IN THEIR ENCORES

C. Halvorsen<sup>1</sup>, M. Pitt-Catsouphes<sup>2</sup>, S. Berzin<sup>2</sup>, 1. *Encore.org, San Francisco, California*, 2. *Boston College, Chestnut Hill, Massachusetts*

Unprecedented numbers of older adults have or have expressed an interest in moving into work that makes a positive social impact on their communities and the world. A collaboration between researchers at Encore.org and Boston College in 2013 aimed to better understand the everyday experiences of older adults involved in purpose work. Thirty social entrepreneurs across the country age 60 and older were mailed an iPad mini and asked to respond to a series of questions up to 8 times a day for five days; 819 surveys were completed in total. Questions focused on respondents' "in the moment" activity, social context, and affect. This presentation will summarize selected findings on the important activities of these extraordinary social entrepreneurs as well as factors that contributed to the successful use of mobile technology to collect intensive daily data within this sample (e.g., high response rates and compliance rates).

## INDIVIDUAL DIFFERENCES IN AFFECTIVE REACTIVITY TO DAILY UPLIFTS

E. Munoz<sup>1</sup>, S. Scott<sup>2</sup>, J. Mogle<sup>1</sup>, M. Sliwinski<sup>1</sup>, J. Smyth<sup>1</sup>, D. Almeida<sup>1</sup>, 1. *The Pennsylvania State University, University Park, Pennsylvania*, 2. *University of South Florida, Tampa, Florida*

Pleasant experiences or uplifts are associated with greater positive affect but it remains unclear if personality moderates these responses. We examined personality differences in momentary positive affect (PA) reactivity to uplifts in a sample of 180 adults aged 25 to 65. Participants reported their uplift experiences and their PA at 5 pseudo-random assessments a day for 14 days. Compliance checks revealed that older adults were just as likely to complete the protocol as middle-aged adults. When participants reported an uplift, they had greater PA (B=8.81, SE=.78, p<.001). Individual differences in attentional control (i.e., adult temperament, Rothbart et al., 2000) moderated the effect of uplifts: greater attentional control was associated with smaller increases in PA when an uplift was reported (B=-2.30, SE=.81, p<.01). We review self-reported feedback from participants and discuss the value of uti-

lizing repeated and intensive measurements for the study of individual differences in daily experiences.

## THE EXPERIENCE OF ENGAGEMENT IN THE THIRD AGE: AN EXPLORATION OF SOCIALLY-PRODUCTIVE ACTIVITIES

C. Matz-Costa<sup>1,2</sup>, K. Klein<sup>1</sup>, C. Laudate<sup>1</sup>, 1. *Boston College, Chestnut Hill, Massachusetts*, 2. *Sloan Center on Aging & Work at Boston College, Chestnut Hill, Massachusetts*

Few studies have attempted to understand the everyday lived experience of older adults' involvement in productive activities (e.g., paid work, volunteer work, caregiving, and informal helping), despite the value of such information in designing roles/interventions that can promote health in later life. The 2013 EngAGE Study used iPad minis to randomly signal 60 community-dwelling adults age 65 or older to complete a brief survey up to 5 times a day for a week. Post-study, participants commented on their experience in an open-ended interview. In addition to findings on the feasibility/acceptability/burden of the intensive data collection approach, this presentation will share findings on the extent to which individuals are psychologically engaged in their activities, what task characteristics (e.g., variety, autonomy, significance, feedback, challenge, identity) are associated with these positive states of engagement, and the extent to which states of engagement are related to momentary or daily fluctuations in health and well-being.

## SESSION 310 (SYMPOSIUM)

### THE 'NEW' AGEING POPULATIONS: NEW CONCEPTS OF ADULT AGEING WITH TRADITIONAL CONDITIONS OF CHILDHOOD

**Chair:** K. Lowton, *Institute of Gerontology, King's College London, London, United Kingdom*

**Co-Chair:** K.F. Glaser, *Institute of Gerontology, King's College London, London, United Kingdom*

There is considerable gerontological interest in population ageing and the experience of increasing longevity in contemporary societies. These impacts are studied in terms of their demographic and epidemiological consequences; not only are there changes in the proportion of older people in society, but there has also been much debate about the levels of disability, chronic illness, service use and social care in later life. However, alongside this conventional ageing population, 'new' ageing populations are emerging as a consequence of both novel health interventions as well as the changing social contexts in which these interventions are delivered. These changes have enabled many people who would have previously died at a much earlier age to survive and live to ages unimaginable a few decades ago, with life expectancy now increasing for many of these groups at a faster rate than that experienced by the general population. These adult populations, such as those with cystic fibrosis, childhood liver transplant, or autism have been largely neglected by researchers. The emergence of these 'new' ageing populations creates a whole new set of challenges for individuals, families, and services designed to meet their needs, as well as for gerontological theory. In this symposium we will outline three arenas where the term 'new' ageing populations is appropriate and consider commonalities with more traditional models of gerontology, ageing and later life.

### HOW DO OLDER ADULTS WITH CYSTIC FIBROSIS AGE? A CRITICAL COMPARISON WITH FRAIL OLDER PEOPLE

K. Lowton, *Institute of Gerontology, King's College London, London, United Kingdom*

Cystic fibrosis (CF) is the most common autosomal recessive genetic disorder in Caucasian people. When it was first described in 1938, average survival was less than one year. Today, more adults than children live with CF. Median age of death of those with CF is rising faster than that of the general population in the US, and in England and Wales

(UK), with those born at the beginning of this century predicted to live into their fifties. However, there is no 'cure' for this condition, and with older age come significant chronic and complex associated health conditions, such as osteoporosis, CF-related diabetes, urinary incontinence in women, and managing polypharmacy. This presentation will draw out the similarities and differences between older adults with CF and older people with frailty, in the context of experiences of health, receipt of care, health policy and gerontological approaches to 'successful' ageing.

#### **BIOGRAPHICAL DISRUPTION AND AGEING: THE CASE OF ADULT SURVIVORS OF CHILDHOOD LIVER TRANSPLANT**

P. Higgs<sup>1</sup>, K. Lowton<sup>2</sup>, C. Hiley<sup>2</sup>, *1. Faculty of BrainSciences, University College London, London, United Kingdom, 2. KCL, London, United Kingdom*

Ageing is often perceived as entwined with the development of chronic and disabling conditions. There is a large literature on how these conditions can be viewed either as a form of 'normal ageing' or as 'disrupted biographical narratives'; with the latter approach being based upon normative expectations of health at different stages of life. However, this is problematic in relation to older people where notions of what is 'normal' are difficult to establish. In this paper we further question the concept of biographical disruption in relation to the first cohort of children who underwent liver transplant in the mid-1980s and who are now in early-middle age. We argue that this group helps us to understand the way that contingency influences biographical narratives in conditions of unexpected life expectancy. We argue that reflecting on this 'new ageing population' throws light on the challenges to expectations of normal ageing in contemporary society.

#### **HEALTH IMPACT ON PARENTS CARING FOR YOUNG PEOPLE WITH ADHD AND AUTISM AS THEY GROW OLDER**

K.F. Glaser<sup>1</sup>, V. D'Astous<sup>1</sup>, H. Hayward<sup>2</sup>, J. Findon<sup>2</sup>, P. Asherson<sup>2</sup>, D. Murphy<sup>2</sup>, *1. Institute of Gerontology, King's College London, London, United Kingdom, 2. Institute of Psychiatry, London, United Kingdom*

Attention-deficit hyperactivity disorder (ADHD) and autism are life-long conditions, with persisting symptoms and impairments in adulthood. A significant service gap exists for people with ADHD and autism as they 'transition' into young adulthood. Currently families, rather than services, meet these young people's needs, resulting in a negative health impact on families. However, the implications for service use by parents themselves are unknown. We present findings from a longitudinal study of 192 families caring for a young person (aged 14 to 24) with ADHD (n=91) and autism (n=101) as they transition through young adulthood. Most parents reported that their health was affected by their child's condition leading 40% to use services. Service use among parents was significantly associated with their child's mental health symptoms rather than their own. The implications of the findings for older parents caring for a family member growing older with a neurodevelopmental disorder, together with their service needs and use, are discussed.

#### **PLANNING FOR OLD AGE: MEETING THE NEEDS OF ADULTS WITH AUTISM POST PARENTAL CARE**

V. D'Astous, K.F. Glaser, K. Lowton, *King's College London, London, United Kingdom*

In 1943, when Kanner identified infantile autism, little thought was given to autism in old age, yet the disabilities of autism are complex and persist across the lifecourse. Today, older adults with autism are a newly recognised ageing population, set to increase rapidly in the near future. Social and demographic changes have resulted in elderly caregivers providing support and security for their adult children with autism, who are very likely to survive them. The impairments in language,

social skills, behavioural difficulties and sensitivities to change unique to people with autism may contribute to heightened considerations in planning and preparing for their post-parental care. This research, using quantitative and qualitative methods, explores the future care planning in families with an adult with autism from two historical cohorts. It investigates from a holistic family perspective the concerns, desires and supportive services necessary to maintain adults' wellbeing beyond the life of their parents.

### **SESSION 315 (SYMPOSIUM)**

#### **AGE-RELATED VISION LOSS: UNDERSTANDING AND ADDRESSING THE CONSEQUENCES**

**Chair:** V. Cimarolli, *Jewish Home Lifecare, New York, New York*  
**Co-Chair:** G. Zijlstra, *Maastricht University, Maastricht, Netherlands*

**Discussant:** A. Horowitz, *Fordham University, Bronx, New York*

Age-related vision loss (ARVL) caused by age-related macular degeneration (AMD) is a common chronic condition associated with increased functional disability, and physical and mental health problems. While the negative consequences of ARVL have been studied extensively, more research is needed to understand risk factors for and protective factors against these negative consequences. Furthermore, evidence-based interventions focusing on preventing and/or alleviating the negative consequences of AMD are scarce, leaving much room for improvement of well-being in this population. Hence, one aim of this symposium is to present new findings from studies with older adults with AMD that investigated factors that may exacerbate or mitigate the negative impact of ARVL. The second aim is to present new findings from studies that evaluated novel intervention approaches regarding their effects for well-being of older adults with AMD (RCTs). First, Dr. Cimarolli (USA) will present data on factors related to social participation with a focus on environmental factors. Then, Dr. Schilling (Germany) will report on a study investigating how the use of types of control strategies predicts depressed mood and overall happiness. Dr. Casten (USA) will present findings from a trial that tested the efficacy of a collaborative intervention consisting of low vision optometry and in-home occupational therapy to prevent depression. Finally, Dr. Sørensen (USA) will present data from a trial that evaluated the effectiveness of an intervention designed to increase preparing for future care – a protective factor for older adults' well-being. Dr. Horowitz (USA) will facilitate a discussion on-site.

#### **SOCIAL PARTICIPATION IN OLDER ADULTS WITH AGE-RELATED VISION LOSS**

V. Cimarolli<sup>1</sup>, K. Boerner<sup>1,2</sup>, J. Reinhardt<sup>1,2</sup>, A. Horowitz<sup>3</sup>, H. Wahl<sup>4</sup>, O.K. Schilling<sup>4</sup>, M. Brennan-Ing<sup>5,6</sup>, *1. Jewish Home Lifecare, New York, New York, 2. Icahn School of Medicine at Mt. Sinai, New York, New York, 3. Fordham University, New York, New York, 4. Heidelberg University, Heidelberg, Germany, 5. ACRIA, New York, New York, 6. New York University College of Nursing, New York, New York*

This study investigated predictors of social participation in a sample of older adults with age-related vision loss (N=364). Guided by the International Classification of Functioning, Disability and Health (ICF) Model framework, we assessed personal (e.g., age), environmental (e.g., environmental modifications and attachment), impairment (e.g. objective vision impairment severity), activity limitations (e.g., IADL), and social participation indicators (i.e., social challenges faced, perceived social integration). In regression analyses, younger age, more environmental modifications and functional problems due to vision loss emerged as significant predictors of the number of vision-related social challenges faced. In contrast, more optimal income adequacy, attachment to the environment (neighborhood and apartment/house), and objective vision impairment severity, as well as lower levels of

depressive symptomatology were related to better social integration. This study paints a complex picture of variables contributing to social participation in older adults with vision loss and highlights the importance of environmental variables for social participation.

### **CONTROL STRATEGIES AND WELL-BEING UNDER CHRONIC VISION LOSS: ARE THEY LINKED WITHIN INDIVIDUALS?**

O.K. Schilling<sup>1</sup>, H. Wahl<sup>1</sup>, K. Boerner<sup>2,3</sup>, J. Reinhardt<sup>2,3</sup>, V. Cimarolli<sup>2</sup>, M. Brennan-Ing<sup>5,6</sup>, A. Horowitz<sup>4</sup>, 1. *Department of Psychological Ageing Research, University of Heidelberg, Heidelberg, Germany*, 2. *Jewish Home Lifecare, New York, New York, New York*, 3. *Icahn School of Medicine at Mt. Sinai, New York, New York*, 4. *Fordham University, New York, New York*, 5. *ACRIA, New York, New York*, 6. *New York University College of Nursing, New York, New York*

This study aimed to analyze how the use of the control strategies proposed by Heckhausen and Schulz (1995) is coupled with depressed mood and overall happiness within individuals with age-related macular degeneration (AMD). We analyzed longitudinal data from N = 364 measured at 5 occasions with 6-month intervals in-between, using vision-specific measures of selective primary (SPC), selective secondary, compensatory primary, and compensatory secondary (CSC) control. Mixed model analyses revealed that particularly SPC and CSC predicted low depressed mood and high happiness within individuals. Further analyses revealed that SPC was linked with better well-being only in periods without pronounced loss of functional abilities. Overall, the findings suggest that CSC strategies, promoting disengagement from no longer attainable goals, are crucial for adaptation to chronic vision loss, whereas SPC efforts to reach goals are highly adaptive only as long as a given level of functional competencies remains stable.

### **LOW VISION DEPRESSION PREVENTION TRIAL FOR AGE-RELATED MACULAR DEGENERATION (VITAL)**

B.W. Rovner, R. Casten, *Thomas Jefferson University, Philadelphia, Pennsylvania*

The Low Vision Depression Prevention Trial tested the efficacy of a collaborative intervention consisting of low vision optometry and in-home occupational therapy to prevent depression in Age-Related Macular Degeneration (N = 188). The study enrolled 188 patients with AMD, best eye acuity < 20/70, and subsyndromal depressive symptoms. After baseline, all participants received low vision optometry services and free low vision devices (pre-randomization), followed by randomization to either Behavioral Activation Low Vision Rehabilitation (BA-LVR) (active treatment) or Supportive Therapy Low Vision Rehabilitation (ST-LVR) (attention control). BA-LVR participants had 6 in-home OT visits that included low vision rehabilitation and depression treatment (behavioral activation). ST-LVR participants had 6 in-home supportive therapy sessions. Assessments at 4 and 12 months evaluated depression, functional vision, and quality of life (QoL). Results describe the efficacy of BA-LVR to prevent depressive disorders and improve function and QoL, and elucidate mechanisms linking treatment group assignment to study outcomes.

### **ENHANCING PREPARATION FOR FUTURE CARE AMONG OLDER ADULTS WITH MACULAR DEGENERATION: TESTING A PREVENTIVE PROBLEM SOLVING INTERVENTION**

S. Sørensen<sup>1</sup>, K. White<sup>2</sup>, G.K. Sterns<sup>3,2</sup>, K. Zanibbi<sup>1</sup>, 1. *Psychiatry, University of Rochester School of Medicine and Dentistry, Rochester, New York*, 2. *Association for the Blind and Visually Impaired, Rochester, New York*, 3. *Rochester General Hospital, Rochester, New York*

Preparing for Future Care (PFC) encompasses the processes of thinking, gathering information, making decisions, and concrete plan-

ning about potential future needs for assistance and long-term care. Previous studies suggest PFC is a protective factor for older adults' well-being, but people with AMD report lower than average rates of PFC, increasing their risk for subsequent depression. We examined whether PFC can be increased in a sample of 213 AMD patients aged 60-96 (63% women). Participants were randomly assigned to an 8-week in-home Preventive Problem-Solving Intervention (PREPSI), designed to enhance PFC, or to an in-home Life Review intervention (attention control). Both conditions received 4 weeks of vision loss education before the intervention. In Linear Mixed Models two out of five subscales of PFC – concrete planning and decision making – improved significantly post-intervention and continued to improve at 6 month follow-up (p<.05). Also, post-intervention increase in PFC was correlated with well-being outcomes at 6 months.

## **SESSION 320 (SYMPOSIUM)**

### **MAKING MEANINGFUL CONNECTIONS IN INTERNATIONAL RESEARCH: FINDINGS FROM FEAR OF FALLING STUDIES**

**Chair:** G. Zijlstra, *Maastricht University, Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

**Co-Chair:** G.I. Kempen, *Maastricht University, Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

**Discussant:** G. Zijlstra, *Maastricht University, Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

Fear of falling is common among fallers and non-fallers in older populations. Previous studies have shown that fear of falling can lead to activity restriction, and has a negative impact on balance, gait, mobility, social activity, mental health and independence. Worldwide research on fear of falling in ageing populations has taken a flight in the recent years. This warrants connecting international research findings in search for sustainable prevention strategies to tackle fear of falling. During this symposium findings from five top-quality research studies, including two longitudinal studies, a systematic review, an RCT and a community model for implementation, will be presented. The presenters are from the US, Germany and the Netherlands and will address: 1) the understanding of the incidence of fear of falling among Italian older persons without a recent fall, 2) an up-to-date overview of risk factors for fear of falling according to international studies, 3) the impact of the level of fear of falling on different aspects of functioning over a period of 14 months in Dutch older people, 4) the effects of an intervention on fear of falling in German hip or pelvic fracture patients, and 5) the development and evaluation of a Community Of Practice (COP) model to promote engagement in evidence-based practice related to fear of falling among nursing home staff in the US. The discussion with the audience after the presentations will focus on connecting current evidence for meaningful steps in research and practice related to reducing fear of falling in older populations.

### **3-YEAR INCIDENCE OF FEAR OF FALLING IN OLDER PERSONS WITH NO HISTORY OF A FALL**

N. Deshpande<sup>1</sup>, L. Ferrucci<sup>2</sup>, 1. *Queen's University, Kingston, Ontario, Canada*, 2. *NIA/NIH, Baltimore, Maryland*

We determined predictors of 3-year incidence of fear of falling (FoF) in older persons with no history of falls. 242 cognitively intact community-living elderly (age ≥ 65 years) without FoF at baseline and attended the 3-year follow-up were included. FoF was quantified at baseline and the 3-year follow-up using Survey of Activities and Fear of Falling in the Elderly (SAFE) questionnaire. Independent measures at baseline included several demographic, sensorimotor and psychosocial variables. 14% participants reported FoF at the 3-year follow up. Being a

woman (OR=2.382,  $p=0.038$ ), having significant depressive symptoms (OR=3.813,  $p=0.001$ ) and balance performance in the lowest tertile (OR=2.989,  $p=0.008$ ) were independent predictors of incident FoF in non-fallers. The likelihood of incidence of FoF increased exponentially when two (OR=10.150,  $p<0.001$ ) or all three (OR=29.000,  $p<0.001$ ) of these risk factors were present simultaneously. Timely intervention for depression and poor balance in older persons, particularly in older women, may reduce incidence of FoF.

#### **FACTORS ASSOCIATED WITH FEAR OF FALLING AND ASSOCIATED ACTIVITY RESTRICTION IN COMMUNITY DWELLING OLDER ADULTS – A SYSTEMATIC REVIEW**

M.D. Denkinger<sup>1</sup>, A. Lukas<sup>1</sup>, K. Hauer<sup>2</sup>, 1. *AGAPLESION Bethesda Clinic, Geriatric Centre of Ulm University, Ulm, Germany, 2. AGAPLESION Bethanien Clinic, Geriatric Centre of Heidelberg University, Heidelberg, Germany*

Current interventions to reduce fear of falling (FOF) have yielded conflicting results. One reason could be that important risk factors have not been identified. To identify and rate established and additional risk factors we conducted a systematic review. Results are summarized with respect to different constructs such as FOF, fall-related self-efficacy/balance confidence and FOF-related activity restriction. Parameters that were robustly associated across all constructs were female gender, performance-based and questionnaire-based physical function, the use of a walking aid and – less robust – a history of falls and poor self-rated health. Conflicting results have been identified for depression, anxiety, multiple and psychotropic drugs. Newly identified and potentially modifiable factors were: urinary incontinence, living in rural areas and, with mixed evidence, factors such as mastery and pain. To conclude, only few risk factors were robustly associated across all FOF-related constructs. Some newer factors have to be tested again in different cohorts.

#### **CONSEQUENCES OF SEVERITY OF FALL-RELATED CONCERNS FOR QUALITY OF LIFE AMONG COMMUNITY-DWELLING OLDER ADULTS. A PROSPECTIVE STUDY**

G.I. Kempen<sup>1</sup>, E. van der Meulen<sup>1</sup>, T. Ambergen<sup>2</sup>, G. Zijlstra<sup>1</sup>, 1. *CAPHRI - Dept. of Health Services Research, Maastricht University, Maastricht, Netherlands, 2. CAPHRI - Dept. of Methodology and Statistics, Maastricht University, Maastricht, Netherlands*

Most studies addressing the consequences of concerns about falls are cross-sectional and/or focused on one specific outcome. In this prospective study we examined the consequences of severity of fall-related concerns for physical, mental and social functioning in 260 Dutch community-dwelling older adults with at least some concerns about falls. At baseline two groups were created with high or low level of fall-related concerns as assessed with the MFES. Five outcome measures were assessed at baseline and 2, 8 and 14 months. After covariate adjustment significant baseline differences between high and low level of fall-related concerns were found for ADL dysfunctioning and social participation. These differences persisted until 14-months follow-up but no widening or narrowing occurred over time. No differences were found for symptoms of depression, feelings of anxiety and social support interactions. Outcomes may help to target groups who are at risk of developing adverse consequences of concerns about falls.

#### **REDUCING FEAR OF FALLING IN HIP FRACTURE PATIENTS: A RANDOMIZED CONTROLLED TRIAL**

K. Pfeiffer<sup>1,2</sup>, M. Küpper<sup>1</sup>, K. Kampe<sup>1</sup>, D. Klein<sup>1</sup>, A. Pendergrass<sup>1</sup>, C. Becker<sup>1</sup>, M. Hautzinger<sup>2</sup>, 1. *Robert-Bosch-Krankenhaus, Stuttgart, Germany, 2. University of Tuebingen, Tuebingen, Germany*

There is only limited information on interventions that combine psychosocial components and physical training in clinical and transitional care of hip fracture patients. A multifactorial intervention to improve physical activity and falls efficacy was evaluated with 124

community-dwelling elderly after hip or pelvic fracture (Mean age = 82.5 years; 76.6 % female). Components of the intervention were (a) relaxation, (b) meaningful mobility goals, (c) falls-related cognitions and emotions, (d) an individual physical exercise program, (e) integration of training and physical activities in daily life, (f) fall hazards. The intervention was delivered in 8 face-to-face sessions during inpatient rehabilitation plus 4 telephone contacts and one home visit over ten weeks after discharge. There were significant between-group effects ( $p < .05$ ) in favor of the training group on fall's efficacy and the total number of falls, but no effects on the total daily walking time per day three months after discharge.

#### **FALLS AND FEAR OF FALLING IN THE NURSING HOME: A NEW MODEL FOR IMPROVING CARE**

H. Lach, T.K. Malmstrom, M. Berg-Weger, J.E. Morley, *Saint Louis University, St. Louis, Missouri*

Falls and fear of falling are common among nursing home residents and facilities are challenged to provide evidence-based care. We developed a Community of Practice (COP) linking academic partners and staff at 15 nursing homes to address falls and fear of falling. Resource staff from each facility participated in an assessment and full day workshop with faculty of the Geriatric Education Center. Confidence in assessing and managing fall-related issues were assessed using a 10-item questionnaire at the beginning and end of the workshop. COP participants were interdisciplinary ( $n=45$ ) and 82% had 5 years experience or more. Confidence in addressing falls increased 9.1 points on the 7-70 point scale ( $p < .0001$ ). Participants were provided ongoing resources for 1 year including access to an online discussion board, participated in telephone conferences with faculty and each other and collected outcome data.

#### **SESSION 325 (SYMPOSIUM)**

#### **INTERRELATIONSHIPS AMONG PERSONAL RELATIONSHIPS, LONELINESS, AND PHYSICAL HEALTH IN THE NSHAP II**

**Chair:** S.M. Moorman, *Boston College, Chestnut Hill, Massachusetts*

**Discussant:** M. Hayward, *University of Texas, Austin, Texas*

The papers in this symposium use data from the recently-released, publically-available second wave of the National Social Life, Health, and Aging Project (NSHAP) to investigate the complex associations among personal relationships, loneliness, and physical health in later life. The NSHAP is a nationally-representative sample of over 3,000 Americans born between 1920 and 1947. Together, the four papers illustrate processes by which personal relationships get “under the skin,” and in turn, health and well-being affect relationships. Warner and Adams examine the longitudinal associations between physical disability and loneliness, and find that physical limitations heighten loneliness. A high quality marriage, however, is a protective factor. Moorman and Greenfield investigate dyadic influences on loneliness in long-term marriage. They find that one's spouse's perceptions of several dimensions of marital quality, as well as one's own perceptions of marital quality, affect one's experiences of loneliness. Gorman, Fahey, and Reddy explore how subjective reports of well-being, including loneliness, and biological measures of stress, such as C-reactive protein, affect rates of heart failure and mortality among men and women. They identify interactions between subjective measures and biomarkers. Liu and Breneman study sexuality and cardiovascular health over the course of 5 years, concluding that older adults who engage in active, satisfying sexual relationships enjoy reduced cardiovascular risk compared to persons who are sexually inactive and persons who would prefer more sexual intimacy. Hayward's discussion emphasizes how the papers use recent advances in measurement and statistical methods to describe the articulations among the biological, the psychological, and the social.

## PHYSICAL DISABILITY AND INCREASED LONELINESS AMONG MARRIED OLDER ADULTS: THE ROLE OF CHANGING SOCIAL RELATIONS

D.F. Warner, S.A. Adams, *University of Nebraska-Lincoln, Lincoln, Nebraska*

Physical disability occurs within a social context. Using data on married older adults from Waves I and II of the National Social Life Health and Aging Project (NSHAP), we estimate cross-lagged structural equation models to examine how changes in physical disability affect loneliness with particular attention to whether simultaneous changes in social support explains this association. While physical limitations increase loneliness and are associated with the deterioration of non-marital relations, these changes do not explain the increases in loneliness. Generally, loneliness and physical limitations are not associated with changes in marital quality and being in a high-quality marriage buffers the effects of physical disability. A minority (~20%) of disabled older adults, however, experience modest declines in marital quality and increases in non-marital support. Increased non-marital support does not compensate for the low and declining levels of spousal support and these disabled older adults—even though they experience increases in total support—report greater loneliness over time. The findings reinforce the importance of the marital relationship for coping with changes in functional abilities with age.

## A DYADIC PERSPECTIVE ON MARITAL QUALITY AND LONELINESS IN MIDDLE AND LATER LIFE

S.M. Moorman<sup>1</sup>, E.A. Greenfield<sup>2</sup>, *1. Boston College, Chestnut Hill, Massachusetts, 2. Rutgers University, New Brunswick, New Jersey*

Previous research on married couples has indicated that loneliness, an unrealized desire for close relationships, can affect even partnered adults. Guided by systems theory, we examined the extent to which individual, spousal, and couple-level reports of relationship quality are risk factors for loneliness among married adults in middle and later life. Using dyadic data from 776 opposite-sex married couples in the National Survey of Health, Social Life, and Aging Project (2010-2011) and structural equation modeling (i.e., the actor-partner interdependence model), we found that discrepancies in received social support, desire for companionship, and marital happiness were associated with loneliness beyond individuals' reports. For sexual satisfaction and relational strain, only individuals' reports were associated with loneliness. Overall, results suggest the importance for research, theory, and practice to consider loneliness among married adults as a dyadic phenomenon—an individual, subjective state that can result from couple-level processes.

## STRESS, HEART FAILURE, AND MORTALITY AMONG OLDER MEN AND WOMEN

B.K. Gorman, L.M. Fahey, P. Reddy, *Sociology, Rice University, Houston TX, Texas*

Using data from two waves of the National Social Life, Health, and Aging Project (NSHAP), we investigate how stress relates to heart failure and mortality among seniors. We consider psychosocial and biological dimensions of stress, and examine whether one way that psychosocial stress gets “under the skin” to shape heart failure and mortality risk is via C-Reactive Protein (CRP). We investigate whether stress is more strongly related to mortality among older adults diagnosed with heart failure, and whether these relationships differ by gender. Findings indicate that gender differences in stress exposure do not drive differences in heart failure and mortality rates between men and women in our sample. We also tested for gender differences in stress vulnerability, and found supporting evidence for both heart failure and mortality. We find limited support for the indirect relationship between stress and heart failure (via CRP) but find that CRP is associated with mortality independent of psychosocial stressors.

## SEXUALITY AND CARDIOVASCULAR RISK AMONG OLDER ADULTS

H. Liu, S. Brennehan, *Sociology, Michigan State University, East Lansing, Michigan*

Although stereotypes exist that older people do not have sex as much as their younger peers, recent studies suggest that sex remains very important to older adults' quality of life. However, less is known about the relationship between sexuality and health at later life. This is the first national study to investigate how sex affects cardiovascular risk—an important pathogenic mechanism involved in a host of age-related health conditions—among older adults. We use nationally representative longitudinal data from the first two waves of the National Social Life, Health, and Aging Project (NSHAP) to analyze four cardiovascular risk factors: hypertension, heart rate, C-reactive protein (CRP), and cardiovascular events (stroke, heart attack, and health failure). We consider multiple dimensions of sexuality including sexual behavior, sexual quality, and sexual function in relation to cardiovascular risk. We find some evidence for the relationship between sexuality and cardiovascular risk among older adults.

## SESSION 330 (SYMPOSIUM)

### THE SIBLING CONNECTION: NEW PURSUITS IN SIBLING RESEARCH ON THE PATH FROM CELLS TO SOCIETY

**Chair:** V.H. Bedford, *School of Psychological and Brain Sciences, Indiana University, Bloomington, Indiana, University of Indianapolis, Indianapolis, Indiana*

**Co-Chair:** S.P. Rosendahl, *Mälardalen University, Eskilstuna and Västerås, Sweden*

The study of adult siblings, although late to be acknowledged and still under-researched, has much to contribute to our understanding of the complexity of human social aging. This symposium contributes to the “path from cells to society” by examining influences on the sibling relationship and sibling influences on other phenomena from the micro to the macro level. Striking new findings are reported. Beginning with the cellular level (genes), Rosendahl and Rosendahl's comparison of twins reared either apart or together implicitly provides a clue to the feedback loop between the micro and macro levels by controlling for genetic contributions in the study of environmental impact on the twin relationship. Their results reveal fewer commonalities between the two twin groups than previously reported. Focusing on the familial level, Quite and Dykstra break away from the dyadic parent-child paradigm by targeting within-family sibling network influences on parents' support to their adult children controlling for between-family differences. Con et al. target the societal level through cross-cultural comparisons by using multiple within-family informants. Their results reveal more commonalities than expected. Focusing on African cultures, Bedford and Avioli examine several African societies' conceptions of twins and the interaction between these views and the broader cultural beliefs of the societies that hold them. This knowledge provides some insights into the contradictions in Western society's biases toward and treatment of adult twins.

### TWINSHIP EXPERIENCED BY TWINS REARED APART VERSUS TOGETHER

S.P. Rosendahl<sup>1</sup>, D.C. Rosendahl<sup>2</sup>, *1. Sirpa Rosendahl, Mälardalen University, Eskilstuna-Västerås, Sweden, 2. Dan Rosendahl, Trinity Theological Seminary, Newburg, Indiana*

The aim was to explore and describe how older twins reared apart and reared together experience the twin relationship over a life course. Method: The life stories of 30 Swedish older (70+) identical and fraternal twins were analyzed with qualitative content analysis. Results: The relationship patterns among twins reared apart were related to the time of separation, family upbringing, time together after re-union and over the life course. Twins who spent their first years in the biological family

and thereafter separated could continue their relationship over the life course, showing the same kind of relationship patterns as twins reared together. Twins who were separated during their first year after birth and reunited several years later showed a more complex relationship pattern, where some lacked an emotionally close relationship and others gradually developed such a relationship over the years. This finding challenges popular views on twins reared apart being emotionally close.

#### **CONFLICT & COOPERATION AMONG SIBLINGS DURING CAREGIVING: COMPARISONS BETWEEN TURKEY AND THE U.S**

G. Con<sup>1</sup>, J. Suitor<sup>1</sup>, M. Gilligan<sup>2</sup>, K. Pillemer<sup>3</sup>, 1. *Purdue University, West Lafayette, Indiana*, 2. *Iowa State University, Ames, Iowa*, 3. *Cornell University, Ithaca, New York*

In this paper, we use within-family data collected from adult siblings in Turkey and the U.S. to explore cross-national differences and similarities in the experiences of adult children whose mothers required caregiving. Using cases in which 14 Turkish and 14 American families were matched on number and gender of siblings, we use qualitative data from at least two siblings in the same families to compare patterns of cooperation and conflict among adult children when mothers needed assistance for a recent health event. Preliminary findings reveal more similarities than differences in the experiences reported by siblings in the two cultures, particularly regarding the role of gender in reports of within-family differences in sibling relations during caregiving.

#### **THE ALLOCATION OF PARENTAL SUPPORT TO ADULT CHILDREN A CROSS-NATIONAL PERSPECTIVE**

W. Quite, P.A. Dykstra, *Sociology, Erasmus University Rotterdam, Utrecht, Nederland, Netherlands*

In this paper the support adult children receive from their parents is compared to the support their siblings receive. We address whether and to what extent child characteristics relative to sibling characteristics determine the allocation of parents' support, and if this allocation partly depends on the national context. For example, daughters and children living nearby might be more likely to receive support when there is less public health care available since these children are more likely to provide care when their parents are in need. Hereby, we also shed new light on (competing) explanations of family support. Altruism may prevail more when children's needs are relatively high, for example when unemployment benefits are low. By contrast, reciprocity may be a more predominant predictor of parents' support to adult children when parents' needs are relatively high, for instance when public care arrangements are rudimentary.

#### **NONTWINS' PERCEPTIONS OF TWINS: DRAWING ON CROSS-CULTURAL AND CROSS-DISCIPLINARY RESOURCES**

V.H. Bedford<sup>1,2</sup>, P.S. Avioli<sup>3</sup>, 1. *School of Psychological and Brain Sciences, Indiana University, Bloomington, Indiana*, 2. *University of Indianapolis, Indianapolis, Indiana*, 3. *Kean University, Union, New Jersey*

Recent research findings indicate that old adults' experience of being twins is not very different from their childhood experience. Namely, twins in old age often feel they are treated as a single entity and their individuality is not respected. However, both child and adult research findings about non twins' treatment of twins would suggest otherwise. For instance, twins' parents and school systems often take an individualistic approach toward twins, ignoring their twinship and separating them early in age. Further, some theories about the social structure of the twinship in Western societies claim that twins outgrow their twinship by the time they reach adulthood. The purpose of this paper is to develop a framework that is able to incorporate such contradictions. We do so by examining the perspective of nontwins. Specifically, we review twin-

ship beliefs in African cultures drawing on various disciplines including anthropology, sociology, fine arts, and psychology.

### **SESSION 335 (PAPER)**

#### **SOCIOECONOMIC STATUS AND AGING**

##### **SOCIOECONOMIC STATUS AND DIFFERENCES IN DIURNAL CORTISOL PATTERNS: THE BALTIMORE MEMORY STUDY**

L. Samuel<sup>1</sup>, T. Glass<sup>1</sup>, D.L. Roth<sup>2</sup>, R. Thorpe<sup>1</sup>, B.S. Schwartz<sup>1</sup>, 1. *Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland*, 2. *Johns Hopkins University School of Medicine, Baltimore, Maryland*

This study examined socioeconomic differences in diurnal cortisol patterns. We hypothesized that lower socioeconomic status would be associated with lower waking cortisol and slower diurnal cortisol decline, markers of hypothalamic pituitary adrenal (HPA) axis aging. Six salivary cortisol samples, taken within a 24-hour period, were analyzed from 570 participants aged 56-78 years in the Baltimore Memory Study. Household wealth measured household income plus assets, categorized as above or below the median. Financial strain was measured by self-report and categorized as moderate to high strain, low strain, or no strain. Education was categorized as High School or less, some college and college degree or more. Polynomial random effects models were used to model change in log cortisol as a function of socioeconomic status variables and time, adjusting for age, sex, and race/ethnicity and their cross-products with time. After adjusting for the diurnal pattern of cortisol as well as fixed effects of confounders, higher household wealth was not associated with waking cortisol level, but was associated with faster diurnal decline in log cortisol since waking ( $\beta = -0.006$ ,  $SE=0.003$ ,  $p<0.05$ ). Although no financial strain was associated with faster decline in cortisol in unadjusted models, neither financial strain nor education was associated with cortisol change in fully adjusted models. In this study of community dwelling older adults, lower household wealth was associated with a slower afternoon cortisol decline, suggesting diminished inhibitory HPA axis feedback. This provides limited evidence that HPA axis response may mediate the relationship between SES and health in older adults.

##### **ETHNIC IDENTITY, SOCIOECONOMIC STATUS, AND DIABETES IN AGING LATINOS: EVIDENCE OF ETHNIC IDENTITY AS AN UNDERLYING MECHANISM OF THE LATINO HEALTH ADVANTAGE**

J.B. Concha, B. Mezuk, *Department of Family Medicine and Population Health, Virginia Commonwealth University, Richmond, Virginia*

Type 2 diabetes is a chronic disease that continues to disproportionately affect Latinos; however, the determinants of variation in diabetes risk within the Latino population are not well understood. Research indicates that aspects of acculturation, like ethnic identity, are related to mental health in Latinos; however, ethnic identity has not been extensively applied to understanding risk of chronic conditions associated with aging, like diabetes. The objectives of this study are to understand the association between ethnic identity and diabetes, and to evaluate whether socioeconomic status modifies this relationship. Data come from the National Latinos and Asian American Study (N=2522). Ethnic identity was measured using the Ethnic Identity scale ( $\alpha = .75$ ). Logistic regression, accounting for the complex study design, was used to assess the relationship between ethnic identity, education, and their interaction on prevalent diabetes. Results reveal that aging Latinos with higher levels of ethnic identity are less likely to have diabetes (OR = .94, 95% CI: .89 - .99) after accounting for age, gender, income, and education. Education was not significantly related to diabetes (OR = .16, 95% CI: .74 - 1.05); however, the interaction between ethnic identity



and education was marginally significant (OR = .054, 95% CI: .99 – 1.15) indicating that the protective effect of ethnic identity on diabetes declines as education increases. In sum, having a strong ethnic identity is associated with a lower likelihood of diabetes among older Latinos. Future research should examine how ethnic identity may inform prevention and management efforts for this group.

### **WEATHERING OF LOW-INCOME WOMEN IN RURAL NORTH CAROLINA: IMPACT OF SEXUAL ABUSE & DOMESTIC VIOLENCE**

L. Ritchie, L. Burton, *Duke University, Durham, North Carolina*

Weathering, or accelerated aging, within economically disadvantaged populations has typically been explored among urban residents, with minimal attention to patterns within rural populations. Given the spatial redistribution of poverty in rural spaces, particularly in U.S. Southern regions, it is imperative to examine the prevalence of weathering in these understudied populations. Additionally, weathering has been associated with individuals having histories of sexual abuse and domestic violence (DV), particularly women. Histories of sexual abuse and DV are notably higher in poor southern settings, rendering low-income women at risk for experiencing weathering. In this paper, we use longitudinal ethnographic data on 42 low-income African American, White, and Latino women who participated in the Family Life Project study of rural family poverty to explore the relationship between their life histories of sexual abuse and DV and their physical and mental health. We conceptually framed the investigation using cumulative dis/advantage and stress proliferation theories and analyzed the ethnographic data using a modified ground theory approach. Results indicated that roughly 50% of the women reported histories of sexual abuse and/or DV. Although the majority of women were under the age of 40, more than 70% of them suffered one or more chronic physical and mental health conditions that are often indicative of accelerated aging. Obesity and depression were the most frequently reported health conditions, with many women also suffering from post-traumatic stress disorders, anxiety, advanced cardiovascular disease, cervical cancer, hypertension, diabetes, among other conditions. The implications of these findings for policies and programs are discussed.

### **HOW DID THE 1996 WELFARE REFORM AFFECT OLDER IMMIGRANTS OVER TIME?**

P.M. Kazi<sup>1</sup>, L.A. Bailey<sup>2</sup>, *1. Economics, Bucknell University, Lewisburg, Pennsylvania, 2. College of Staten Island, CUNY, New York, New York*

Welfare Reform restricted immigrant access to government provided health insurance. Prior literature has found that immigrants were, in some instances, able to increase employer sponsored coverage by increasing their labor supply to offset the decline in government assistance. Using the Current Population Survey March supplements (1994-2013), we examine whether this is true for elderly citizen and noncitizen immigrants (aged 50-74) based on two reasons. First, older workers might be less likely or able to get jobs, particularly in the Great Recession. Second, there may be a preference for hiring Americans, especially during recessions. We show that Borjas (2003)'s finding, that welfare reform did not lead to a decline in health insurance coverage for immigrants because they increased their labor supply, does not hold for older immigrants. Additionally, using the American Community Survey for larger sample sizes (2008-2011), health insurance coverage declined for all groups at similar rates. Further, there was a large decline in employer-sponsored coverage that was offset by increases in public insurance coverage. Finally, we view health as an investment in human capital and want to explore potential effects of the loss in health care coverage on future labor supply. Our hypothesis is that worse government support for new immigrants will lead relatively sick persons to be less likely to be in the labor force/employed in the future due to worse future health. We use panel data from the Health and Retirement Survey

(2004-2010) to describe relative health status of citizen and noncitizen immigrants and to explore correlations of health status to employment and labor force participation. We find that noncitizen immigrants are no different in their propensity to work than natives, but citizen immigrants are more likely than natives to work. As expected, we find that worse mental health is correlated to lower likelihoods of employment and labor force participation for older workers.

### **DOES PERCEIVED FINANCIAL STRAIN RESHAPE SOCIOECONOMIC HEALTH DISPARITIES IN CHINESE OLDER ADULTS?**

R. Fu, *Purdue University, West Lafayette, Indiana*

Objectives: Drawing from the latency and pathways models, this article examines (1) whether childhood socioeconomic status (SES), adulthood SES, and subjective SES affect subjective health among older adults in China; and (2) whether these socioeconomic health disparities persist after accounting for perceived financial strain. Methods: Data derived from two waves (2002 and 2005) of the Chinese Longitudinal Healthy Longevity Survey. Binary logistic regression models were used to assess the impact of SES and financial strain on subjective health for a nationwide sample of older adults aged 62-117 (N = 8,175). Results: Urban respondents with non-manual fathers were less likely to report poor health in old age. Being in poverty increased the chance of reporting poor health in urban older adults; this association did not hold after adjusting for perceived financial strain. Perceived financial strain was associated with an elevated risk of poor subjective health for urban and rural inhabitants, independent of SES. Discussion: Findings from the urban sample lend support to the latency model and suggest that socioeconomic advantage in childhood may benefit people's subjective health even many decades later. Perceived financial strain exacts a toll on Chinese older adults' subjective health, independent of their socioeconomic conditions at different life stages. This study underscores the importance of addressing perceived financial strain while exploring socioeconomic disparities in health.

## **SESSION 340 (PAPER)**

### **SPIRITUALITY AND RELIGION**

#### **RELIGIOSITY AFTER A CANCER DIAGNOSIS AMONG COMMUNITY-DWELLING OLDER ADULTS**

L.S. Caplan<sup>1</sup>, P. Sawyer<sup>2</sup>, C.L. Holt<sup>3</sup>, C.J. Brown<sup>2,4</sup>, *1. Community Health and Preventive Medicine, Morehouse School of Medicine, Atlanta, Georgia, 2. University of Alabama at Birmingham, Birmingham, Alabama, 3. University of Maryland at College Park, College Park, Maryland, 4. Birmingham-Atlanta VA GRECC, Birmingham, Alabama*

Religiosity is important to the health and quality of life of cancer patients. This analysis examined changes in religiosity among African American and Caucasian cancer survivors to understand the impact of a cancer diagnosis on religiosity. Methods: Community-dwelling older adults were interviewed in-home at baseline and 48 months later (the UAB Study of Aging). Three measures of religiosity were assessed: Organizational (service attendance), Non-organizational (private behaviors), and Intrinsic (agreement with attitudinal statements). Bivariate analyses were conducted by cancer category (cancer at baseline, cancer at four years, no cancer). Multivariable linear regression evaluated the independent association of cancer status and religiosity, controlling for baseline religiosity and other factors. Results: 94 persons had cancer at baseline; 45 had a new cancer diagnosis during the four years. There were declines and increases for religiosity measures among all cancer categories. Among persons with cancer, there was a negative association between more recent diagnosis and attendance at religious services (p=.005). Cancer diagnoses (recent or baseline) were not significant in any model. Although not statistically significant, a larger proportion

of recently diagnosed persons increased non-organizational religiosity behaviors and intrinsic religiosity compared to persons without cancer and having cancer at baseline. African Americans with a cancer diagnosis were more likely than Caucasians to show increased non-organizational religiosity. Caucasians were more likely to show increased intrinsic religiosity, perhaps because of a ceiling effect among African Americans. Conclusions: Baseline religiosity was the strongest predictor of religiosity at 48 months, suggesting stability of religiosity in the context of cancer diagnoses.

#### **AGED-RELATED LIFE-CHANGING EVENTS AND BABY BOOMER SPIRITUALITY**

E.B. MacKinlay<sup>1</sup>, R.A. Burns<sup>2</sup>, 1. *Centre for Ageing & Pastoral Studies, Charles Sturt University, Canberra, Australian Capital Territory, Australia*, 2. *Australian National University Centre for Research on Ageing, Health and Wellbeing, Canberra, Australian Capital Territory, Australia*

Baby boomers present unique challenges to aged care services. Like previous generations, baby boomers still face challenges of aging. Spirituality in later life, understood largely as meaning in life is crucial to wellbeing. Little has been studied about this dimension of aging for baby boomers. This mixed methods study of baby boomers (N=143), using questionnaire and focus groups, comprised staff (36%) Uniting Care Homes, children (17%) of adults in care, and Uniting Church congregational members (47%). Most participants reported affiliation with the Uniting Church (57%). Around 35% reported other Christian affiliation, with 7% Buddhism or no religious association. Only 15% of staff reported affiliation with the Uniting Church; most belonged to other Christian denominations. For children of care recipients, most reported Christian affiliation. Importantly, a significant proportion (17%) reported no religious affiliation. We studied associations of physical and mental health- depression and psychological wellbeing, spirituality, aging anxiety and the impact of negative life events. We asked whether spirituality protected participants against impact of life events. Overall there was no difference on spirituality between non-Christian and non-religious with those with Christian affiliation ( $p > .05$ ). Therefore we examined the role of spirituality in moderating impact of life stress and life events on mental health, physical health and wellbeing outcomes. Main findings were: Spirituality promotes mental and physical health and lowers anxiety about and fear of ageing.

#### **PATHWAYS TO RESILIENCE: EXPLORING THE CONNECTIONS BETWEEN SPIRITUALITY AND THE MANAGING OF HARDSHIP IN LATER LIFE**

L.K. Manning, *Division of Human Services, Concordia University Chicago, River Forest, Illinois*

Research suggests that spirituality is important to a large percentage of the older adult population and serves as a promoter of healthy aging. Resilience can be described as the capacity to navigate adversity in a manner that protects health, well-being, and life satisfaction (Manning, 2013; Ryff, 2003; Reich, Zautra, & Hall, 2010). Scholars have identified several pathways to resilience, including social support (Helgeson & Lopez, 2010), volunteering and civic engagement (Hughes, 2010), and maintaining positive affect (Moskowitz, 2010). Until recently, however, little effort has been made to determine how spirituality contributes to resilience (Faigin & Pargament, 2010; Pargament & Cummings, 2010). Using qualitative research and a phenomenological approach, I conducted and analyzed interviews with 64 participants ranging in age from 53 to 92. I examined the connections between spirituality and resilience, mining for the interpretative essence of spiritual experiences as they related to resilience. Using in-depth interviews, I explored the interplay between spirituality and resilience and how spirituality shaped participants' experiences with adversity and hardship. Major findings include participants' use of spirituality as a tool to promote and maintain resilience. Spiritual resilience was exhibited within four

key domains: relational, rational, resourceful, and reflective. The results are presented as an interpretation of the participants' perceptions of their spirituality, and indicate their reliance on spirituality to overcome hardship. In addition, I discuss the connections between spirituality and resilience and compare the domains of spiritual resilience for spiritual and non-spiritual participants.

#### **RELIGION, AGING, AND THE REVALUATION OF RISK: PROGRAMMATIC OPPORTUNITIES AND ANALYTICAL IMPLICATIONS**

P.H. Van Ness, *Internal Medicine/ Geriatrics, Yale University School of Medicine, New Haven, Connecticut*

Religion and spirituality are resources that many older adults draw upon to prevent and cope with illness. By understanding how these resources promote physical and mental well-being in some circumstances, healthcare providers and public health officials can sometimes enlist religion and spirituality as aids in their salutary efforts. The objective of this presentation is to advocate a conception of one religion/ health relationship that is especially instructive for healthcare providers and public health workers. Briefly stated, membership in a religious community, including adoption of its characteristic beliefs and practices, frequently involves an approach to risk in which individuals engage in behaviors (e.g., monogamous marriage) that reduce risks for many poor health outcomes; they also engage in other behaviors (e.g., volunteering) that, while possibly involving some increased risks, promote individually and socially constructive ends. As regards many health outcomes, therefore, religiousness often involves a reevaluation of risk. Epidemiologic and philosophical evidence will be offered to support this thesis. The presentation will conclude with programmatic reflections on the opportunities that this reevaluation of risk offers to persons attending to the health needs of older adults, and with analytical comments about how epidemiologists should represent and communicate risk in studies about religion and health addressed to healthcare providers and the broader public.

#### **SESSION 345 (PAPER)**

##### **SERVICES AND PROGRAM USE**

##### **VARIATION IN USE OF THE EVIDENCE-BASED "BRI CARE CONSULTATION" PROGRAM**

J.H. Rentsch<sup>1</sup>, D.M. Bass<sup>1</sup>, B. Primitica<sup>1</sup>, C. Holloway<sup>2</sup>, L. Easom<sup>2</sup>, 1. *Benjamin Rose Institute on Aging, Cleveland, Ohio*, 2. *Rosalynn Carter Institute for Caregiving, Americus, Georgia*

BRI Care Consultation, an evidence-based program for persons with health challenges and their caregivers, is delivered by telephone and computer, following a standardized protocol for intervention fidelity. The protocol allows for some tailoring to match enrollee preferences and needs. For example, variation is permitted in the number of "action steps" to address problems and amount of direct and indirect time spent with each care receiver and caregiver. This investigation describes variation in program use among 326 caregivers of persons with dementia who participated in the Georgia BRI Care Consultation replication funded by AoA. It also identifies characteristics of caregivers and care receivers that explain variation in use. Data abstracted from the Care Consultation Information System showed important variation in time spent with each case, number and successful completion of action steps, and number of required contacts completed. Data from structured pre-post caregiver interviews showed variation in use was associated with caregiver and care receiver need and support. Caregivers reporting more health strain and unmet need at enrollment spent more time with Care Consultants, had more and successfully accomplished more action steps, and had more of the required contacts. Caregivers assisting more cognitively impaired care receivers had more and successfully completed more action steps. Caregivers with better informal supports spent more time

with Care Consultants and successfully completed more action steps. Results further understandings about characteristics of families that embraced and benefited from the program, as well as how program resources can most efficiently be used in future implementations.

#### **DEVELOPMENT AND VALIDATION OF A HIGH COST NEED-BASED INDEX FOR WAIVER CLIENT COST PREDICTION**

K. Oberst, H. An, C.W. Given, *College of Human Medicine, Michigan State University, East Lansing, Michigan*

Home and Community based waiver programs (1915c's) provide services to keep individuals out of institutions. Reimbursement mechanisms are changing from fee-for-service to capitated arrangements prompting interest in development of risk based indices. Our underlying assumptions were client need for service would determine costs, and waiver service delivery would be uniform among providers. We classified clients into high or low cost groups based on average monthly cost using 2011 paid claims. A logistic regression was performed with five covariates (age category, history of long term care residence, toilet transfer, medication management, and bathing functional capacities) to model cost group. All covariates were significant and the model showed 76% accuracy. The results indicated that younger or dependent clients tended to be in the high cost group. Also, clients with a history of long term care stays tended to be in the high cost group. Using the logistic model, the expected probabilities of being in the high cost group were used as an index of service need. Based on the index of service need, the total cost per month for statewide was predicted. The bias between predicted total cost and observed total cost was less than 1%. The bootstrapping method also showed that there is no significant difference between observed and estimated total cost per month ( $p=0.05$ ). This information could support implementation and refinement of funding for capitated waiver programs.

#### **INFRASTRUCTURE AND INNOVATION IN THE AGING NETWORK: DOES SIZE MATTER?**

S. Kunkel<sup>1,2</sup>, H. Reece<sup>2</sup>, J. Straker<sup>2</sup>, *1. Miami University, Oxford, Ohio, 2. Scripps Gerontology Center, Oxford, Ohio*

As the aging network paves new inroads in the health and long-term care systems in the U.S., organizational infrastructure can be a help or a hindrance in responding to new opportunities. The organizational studies literature suggests that size is positively correlated with innovation, but that this relationship is mediated by other factors such as non-profit status and organizational complexity. Such propositions have not been tested in the diverse and rapidly evolving world of aging services. Using data from a 2010 national survey of all area agencies on aging (AAAs), this paper explores the ways in which organization size and structure correlate with involvement in innovative programs. The 618 AAAs in the aging network vary considerably on size of budget and staff, organizational structure, and in uptake of the opportunities for involvement in innovations such as Medicaid managed care, integrated care, and care transitions. The largest AAAs (top two quintiles based on a budget and staff size index) are more likely than smaller AAAs to be non-profit organizations rather than part of county or regional government. The largest AAAs are also significantly more likely than smaller AAAs to: serve diverse target populations, including veterans and younger people with disabilities; be involved in Medicaid managed care; provide formal care transition programs; have more volunteers; and have more formal partnerships with other organizations. There is no size difference among AAAs in planning and operational functions such as strategic planning, tracking consumer outcomes, and developing strategies for financial sustainability.

#### **SENIOR'S SEGMENTATION OF SENIOR CENTER USING PREFERENCE PROGRAMS IN KOREA**

J. Kim, J.I. Wassel, *UNCG, Greensboro, North Carolina*

This study conducted in four South Korean senior centers evaluated viable materials for the development of leisure programs for senior welfare centers for the betterment of older adults' quality of living and active aging. Critical to continued participation by seniors in programs is determining their interest and preference of both existing programs and in new programming, together with their likelihood of participation in the programs. South Korea's pivotal position as an Ultra aging society poses numerous policy challenges including encouraging seniors to remain as healthy, engaged, self-reliant and robust for as long as possible. Currently, Korean seniors face continued stereotypes of aging and ageism perpetuated by others and importantly by themselves. This research examined program interest and preference of older Koreans participating in Senior Centers in South Korea. To conduct this study, image-based poster and 7 virtual image cards were created. A total of 406 people were surveyed at Senior Centers and their valid responses of the subjects were analyzed through SPSS 18.0. A conjoint analysis yielded relative importance of each factor and then a perceptual map was acquired through a multidimensional scaling with the Part-worth estimate. Significant differences in program use were found for those with higher education, by sex, and by length of participation at the center; no significant differences were found by age of participant. Recommendations for senior centers increase participation suggest the need to target segmented groups and specific programs.

#### **ADDRESSING THE PERSONAL HEALTH INFORMATION MANAGEMENT NEEDS OF OLDER ADULTS: THE SOARING PROJECT**

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Despite the growing emphasis of personal responsibility for individual health management, older adults may not be equipped to manage their health information effectively. Personal health information management (PHIM) technologies for older adults exist, but studies indicate that few older adults use these technologies. Some of the reported barriers are poor health literacy, poor computer skills, and physical and cognitive disabilities. Designing PHIM systems for older adults that are both useful and effective requires a deeper and more organized understanding of their PHIM needs and practices. This presentation describes our new research project, SOARING (Studying Older Adults and Researching Information Needs and Goals) funded by the Agency for Healthcare Research & Quality. We will provide preliminary results on a mixed method study to investigate the PHIM goals, activities and practices of older adults in a variety of living environments. Using the Balance Model, we will present findings from focus groups and interviews conducted with older adults living in a variety of residential settings in the Seattle metropolitan area. Subsequent phases of the study will examine the roles of key stakeholders (including spouses, children, other relatives, friends, and health care providers) in the management of older adults' health information. The project will ultimately lead to a set of evidence-based design guidelines for the future development

of PHIM technologies to support older adults, their families, and other caregivers.

## SESSION 350 (PAPER)

### TECHNOLOGY AND AGING II

#### MOTIVATING FACTORS IN ADOPTION OF E-HEALTH AMONG OLDER ADULTS

Y. Yeo, *St. Cloud State University, St. Cloud, Minnesota*

In 2009, the Health Information Technology for Economic and Clinical Health Act was implemented to improve the U.S. health care delivery and patient care through health information technology—computerized systems. Adoption of e-health has become important for both healthcare system and health consumers. However, older adults lag far behind younger adults in adoption of e-health. The effects of motivation have been widely tested in older adults achieving health-related goals, but few examined its effects on older adults' e-health adoption. Guided by cognitive evaluation theory, this study hypothesized the following extrinsic and intrinsic motivators are positively associated with Internet use and e-health adoption: extrinsic motivation exercised through patient-doctor communications regarding e-health and intrinsic motivation towards maintaining good health (i.e., health-awareness behaviors; positive attitudes towards e-health information; positive attitudes towards electronic health records [EHRs]; competence in caring for one's health; competence in finding health information). This study analyzed data on adults aged 65 or older (N=1,962) from the Health Information Trends Survey collected in 2008 by employing multivariate logistic regression. This study found that health-awareness behaviors and positive attitudes towards EHRs had significant relationships with Internet use. However, the health-awareness behaviors were not related with e-health adoption. Rather, participation in patient-doctor communication about e-health information and positive attitudes towards EHRs had positive relationship with e-health adoption. For older adults' e-health adoption, this study highlights the significance of doctors' communication with them regarding e-health and collective efforts of policy and health care professionals to help older adults to hold positive attitudes towards EHRs.

#### WEB USABILITY STUDY OF 50 OLDER ADULTS AND THE CHARACTERISTICS OF THE COGNITIVE IMPAIRED

M. Haesner, A. Steinert, J. O'Sullivan, E. Steinhagen-Thiessen, *Geriatrics Research Group, Charité, Berlin, Germany*

**Background:** Current research demonstrates that the use of everyday technology differs between people with and without mild cognitive impairment (Malinowsky et al. 2010), but there is still a lack of knowledge about the usage of specific modern technologies, such as web site usage. **Methods:** In this pilot study 50 older adults aged over 60 took part (25 with and 25 without cognitive impairment). After a screening, several clinical tests assessing fine motor skills and cognition were conducted. The participants were randomized and asked to perform six tasks both on tablet computer and PC. For each task, task duration and task success (error rate) were documented manually by an observing study assistant using a standardized protocol. **Results:** The seniors with cognitive impairment made more mistakes and more time when using the web platform. Both groups showed significant improvements between the 1st and 2nd session both in success rate and time needed. **Conclusion:** The present study shows an effect of declined cognitive capacities on web performance. There is a growing interest in technology-based interventions that may potentially delay or reverse cognitive decline in seniors suffering from mild cognitive impairment. Therefore, understanding more about specific abilities and barriers of persons with MCI, is a highly interesting field in usability research.

#### THE DIVIDE THAT OLDER PEOPLE MAKE: AGE, DIGITAL TECHNOLOGIES AND MEANING AMONG OLDER INTERNET USERS

M. Kania-Lundholm, S. Torres, *Sociology, Uppsala University, Uppsala, Sweden*

This paper builds on an on-going project that aims to contribute to the scholarly debate on the “digital divide” by bringing to fore the complexities of older people's understandings and usage of digital technologies. Most scholarly debates on age and digital technologies, both within social gerontology and media and communication studies, depart from the idea that the “digital divide” pertains mostly to the lack of access and/or skills to use the internet. From this point of view, older people are described not only as a particularly vulnerable group but also as a homogeneous group prone to exclusion. As such, they are believed to be at risk of ending up on the “disconnected” side of the divide. Although research into older people's Internet usage patterns is rapidly growing, their understandings of digital technologies, particularly in relation to how these are informed by their understandings of aging and old age, remain unexplored. This paper is based on the analysis of focus group interviews with 30 older adults (65+) who are active Internet users. In this presentation we focus on the relationship between patterns of the everyday Internet usage and how this usage relates to the informants' understandings of aging and old age. The analysis suggests that the debate on the digital divide fails to address the divide that older people themselves create as they discursively position themselves against non-users when describing when, how and why they engage with digital technologies.

#### IMPROVING OLDER ADULTS' EHEALTH LITERACY: WHAT GROUP COMPOSITIONS WORK WITH COLLABORATION LEARNING

I. Watkins<sup>1</sup>, B. Xie<sup>2,1</sup>, J. Gao<sup>1</sup>, D. Piper<sup>2</sup>, *1. School of Information, University of Texas at Austin, Austin, Texas, 2. School of Nursing, The University of Texas at Austin, Austin, Texas*

Collaborative learning can improve older adults' eHealth literacy, but the interaction between group composition (e.g., based on culture, computer experience) and learning remains unclear. This paper explores this relationship, using qualitative data from the collaborative learning condition of the NIH-funded, four-week long, Electronic Health Information for Lifelong Learners (eHiLL) intervention study. The data reported here are from: 1) observation, open-ended survey questions, and semi-structured interviews with 224 participants (M = 69.39; SD = 7.13); and 2) written reports from eight eHiLL intervention facilitators that recorded observations for each session (696 total reports). These data were collected between April 2012 and February 2014 at public libraries and senior-living facilities and centers in Austin, Texas and Hyattsville and New Carrollton, Maryland. We analyzed data using a grounded theory approach that applied a constant comparative method and identified themes. First, cultural differences could inhibit collaboration. For example, a Welsh participant who hesitated to collaborate explained her culture emphasized reticence. Second, gender affected collaboration, with female only groups perceived as more communicative than mixed gender or male only groups. Third, collaboration increased when an experienced participant emerged as group leader and guided inexperienced partners. Finally, participants preferred working in pairs to threesomes, especially if participants' experience level varied. Participants found adjusting the tutorial's pace difficult with three participants with different levels of computer experience. These findings will help us interpret quantitative data from the eHiLL study (reported elsewhere), and have important implications to future research on developing effective eHealth literacy interventions for older adults.

## DIGITAL GAMES AS A LIFE COURSE EXTENSION OF PLAY IN OLD AGE

J.A. Brown, *Univ of Kentucky, Lexington, Kentucky*

Although the proportion of aging persons who play digital games has increased in recent years, there is a dearth of research that examines its significance as a source of play in old age. This study investigated how senior digital gaming reflects a life course-related extension of the phenomenon of play in old age. Senior gamers age 40 and above were individually interviewed using grounded theory methodology. A semi-structured interview guide was used to explore how each participant engaged in play (non-digital and digital) during childhood (up to age 19), young adulthood (age 20 to 39), middle adulthood (age 40 to 59) and older adulthood (age 60 and above) as a means to establish individual play histories and identify themes. Forty senior gamers participated (25 females) and ranged from age 44 to age 77. Analysis of the coded interview transcripts indicated that as participants aged, their means of play became less physical and more sedentary. In addition, play preferences established during childhood years (e.g. card games, puzzles, story-based games) reemerged in later years and are reflected in their current choice of digital games. Younger cohort participants (those aged 40 to 59 and all have played digital games since their younger adulthood years) expressed increasing reliance upon digital games as a form of play as they approach old age. These themes create a theoretical framework for understanding how digital games serve as a valuable form of play in old age, with particular insight for the future generations of senior gamers.

## SESSION 355 (SYMPOSIUM)

### PRESIDENTIAL SYMPOSIUM: SENSORY AND MOTOR PERIPHERAL NERVE DECLINES IN OLDER ADULTS IMPACT FUNCTION AND HEALTH OUTCOMES

**Chair:** E.S. Strotmeyer, *Epidemiology, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, Pennsylvania*

**Discussant:** J. Guralnik, *University of Maryland School of Medicine, Baltimore, Maryland*

Age-related sensory and motor peripheral nerve declines are prevalent and contribute to a higher risk of falls and disability. These declines are associated with mortality in diabetes, but have not been previously related to mortality in the general population. In older adults with sensorimotor decline, the intermediate mediators of and potential secondary prevention of geriatric outcomes have been neglected. The Health, Aging and Body Composition (Health ABC) Study enrolled 3075 well-functioning, ambulatory adults, aged 70-79 years (52% women, 42% black) in Pittsburgh, PA and Memphis, TN, in 1997-98, with 6-month contacts through the present. Annual exams were conducted through 2000-01 (year of nerve measures) and biennially through 2006-07. The Study of Osteoporotic Fractures in Men (MrOS), an ongoing cohort of ambulatory men (N = 5994) aged  $\geq 65$  years at six U.S. sites, had a nerve function ancillary exam in Pittsburgh, PA, 2.3 $\pm$ 0.3 years after 2000-02 enrollment. These studies measured peroneal motor nerve conduction, sural nerve conduction (MrOS), vibration threshold (Health ABC), and 10-g/1.4-g monofilaments. The relationship of sensorimotor nerve function to mortality (Strotmeyer), obesity (Dam), and 400-m walk performance (Lange-Maia) will be described. Neural activation deficits assessed in the Healthy Ageing Network of Competences (HANC; Caserotti) will be related to muscle function and physical performance in mobility-limited participants (aged >70 years; 55% women). Multifactorial interventions to improve balance and function in diabetic neuropathy will be outlined (Vinik). The discussant (Guralnik) will critically review the existing work, focusing on future directions to prevent age-related nerve decline and its resulting geriatric outcomes.

## WORSE SENSORIMOTOR NERVE FUNCTION IS ASSOCIATED WITH HIGHER TOTAL MORTALITY RISK

E.S. Strotmeyer<sup>1</sup>, R.M. Boudreau<sup>1</sup>, J.A. Cauley<sup>1</sup>, P. Caserotti<sup>2</sup>, A.I. Vinik<sup>3</sup>, S.B. Kritchevsky<sup>4</sup>, T.B. Harris<sup>5</sup>, A.B. Newman<sup>1</sup>, *1. Epidemiology, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, Pennsylvania, 2. University of Southern Denmark, Odense, Denmark, 3. Eastern Virginia Medical School, Norfolk, Virginia, 4. Wake Forest University, Winston-Salem, North Carolina, 5. National Institute on Aging, Laboratory of Epidemiology and Population Science, Bethesda, Maryland*

Older adults experience substantial sensorimotor nerve declines, which are associated with higher mortality in diabetes, but not considered a risk for mortality in the general population. Sensory and motor nerve function in 2241 Health ABC Study participants (51% women, 37% black; aged 76.6 $\pm$ 2.9 years; 22% diabetes) and total mortality (N=1171/2241, 8.2 $\pm$ 2.8 years follow-up) were examined. Monofilament detection (1.4-g/10-g), vibration threshold, peroneal motor nerve conduction velocity and amplitude were assessed in 2000-01. Separate Cox regression models found lower amplitude per SD, higher vibration threshold per SD, and lack of 10-g monofilament detection were associated with increased mortality: HR=1.14 (95%CI=1.06-1.24), 1.14 (95%CI=1.06-1.22), and 1.32 (95%CI=1.07-1.62) respectively, adjusting for demographic, body composition, heart rate, lifestyle and comorbidity factors. Sensitivity analyses were consistent stratifying diabetic ( $\geq 7\%$  vs. <7% hemoglobin A1C) and non-diabetic ( $\geq 100$  vs. <100 mg/dl fasting glucose) groups by glycemia. Sensorimotor nerve decline, independent of diabetes/glucose control and comorbidities, was associated with mortality.

### PERIPHERAL NERVE FUNCTION AND OBESITY IN OLDER MEN

T.L. Dam<sup>1</sup>, N. Parimi<sup>2</sup>, E.S. Strotmeyer<sup>3</sup>, R. Ward<sup>4</sup>, K.A. Faulkner<sup>3</sup>, S. Zivkovic<sup>3</sup>, J.A. Cauley<sup>3</sup>, R. Miller<sup>1</sup>, *1. Columbia University, New York, New York, 2. California Pacific Medical Center, San Francisco, California, 3. University of Pittsburgh, Pittsburgh, Pennsylvania, 4. Spaulding Rehabilitation Hospital, Boston University, Boston, Massachusetts*

Prevalence of peripheral neuropathy and obesity increases with age, though the association is unknown. Osteoporotic Fractures in Men Study participants (N=606, age 77 $\pm$ 5 years, 19% diabetes) with monofilament (1.4g/10g) and automated leg nerve conduction testing and two measures of body mass index (BMI), weight, and total body fat (TBF) by DXA, obtained 2 years apart, were studied. After adjustment for age, race, diabetes, lean mass, cataracts/glaucoma, comorbidity, medications, exercise, and health status, lower motor nerve amplitude, higher sensory and motor nerve latencies were associated with higher BMI ( $\beta=0.12$ kg, 0.63kg, and 0.82kg per standard-deviation, respectively;  $p<.05$  for all). Men with 10-g monofilament insensitivity had significantly higher BMI ( $\beta=0.43$ ); poorer motor nerve amplitude and sensory latency had higher weight and TBF. However, no association existed between peripheral nerve function and longitudinal changes in these parameters. Obesity should be further investigated as a risk factor for poorer sensory and motor nerve function.

## SENSORIMOTOR PERIPHERAL NERVE FUNCTIONING AND THE LONGITUDINAL RELATIONSHIP WITH ENDURANCE WALKING IN THE HEALTH, AGING AND BODY COMPOSITION STUDY

B. Lange-Maia<sup>1</sup>, A.B. Newman<sup>1</sup>, P. Caserotti<sup>2</sup>, N.W. Glynn<sup>1</sup>, T. Harris<sup>3</sup>, S.B. Kritchevsky<sup>4</sup>, E.M. Simonsick<sup>5</sup>, E.S. Strotmeyer<sup>1</sup>, 1. *Epidemiology, University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *University of Southern Denmark, Odense, Denmark*, 3. *National Institute on Aging, Bethesda, Maryland*, 4. *Wake Forest University, Winston-Salem, North Carolina*, 5. *National Institute on Aging, Baltimore, Maryland*

Sensorimotor peripheral nerve deficits affect gait and may reduce walking endurance in older adults. Health ABC Study participants (n=1174, age=76.1±2.8, 49% women, 31% black) underwent sensorimotor peripheral nerve exams at Year 4. The long distance corridor walk (LDCW) at Years 4, 6, 8, and 10 assessed walking endurance. In separate fully-adjusted linear mixed models, 1 SD poorer motor amplitude, 1 SD poorer vibration threshold, 1.4g monofilament insensitivity, and 10g monofilament insensitivity were each associated with slower LDCW completion time (4.92, 5.44, 12.16, and 15.95 seconds slower, respectively, p<0.05 for each). 1SD poorer vibration threshold and 10-g monofilament insensitivity were related to a greater slowing/year (1.68 and 3.79 additional seconds/year, respectively, p<0.05). Poorer peripheral nerve function is related to slower endurance walking and greater slowing over time. Interventions to improve sensorimotor peripheral nerve functioning should be evaluated to help older adults to maintain walking endurance.

## NEURAL ACTIVATION DEFICIT RELATED TO MUSCLE FUNCTION AND PHYSICAL PERFORMANCE

P. Caserotti<sup>1</sup>, E.S. Strotmeyer<sup>2</sup>, E. Boyle<sup>1</sup>, M. Skjødt<sup>1</sup>, L.G. Hvid<sup>1</sup>, 1. *Department of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark*, 2. *University of Pittsburgh, Pittsburgh, Pennsylvania*

Neural activation deficit (NAD) may play a key role in the pathway of muscle function and physical performance impairments, though most research focuses on muscle mass or force. Muscle function (Isometric knee extension strength (MVC) and explosive force (RFD), KinCom) and physical function (SPPB: 3m usual gait, balance, timed chair rises) were evaluated in participants from the Healthy Ageing Network of Competences (HANC; 82.5±4.8 years, 55% women, current n=24 with recruitment ongoing). NAD was assessed during MVC using twitch interpolation. High and low neural activation deficits were defined as <90% (HNAD, n=17) and >90% (LNAD, n=7), respectively. Significant differences (P<0.05) were observed between HNAD and LNAD for MVC (1.38±0.4 vs 1.79±0.3 Nm\*kg<sup>-1</sup>), RFD (3.29±1.6 vs 5.34±2.4 Nm\*s<sup>-1</sup>\*kg<sup>-1</sup>), chair rises (17.7±6.1 vs 10.7±1.9 s) and total SPPB score (7.88±2.0 vs 10.43±1.5). Neural activation deficits are important contributors to muscle function and physical performance and may have critical thresholds.

## INTERVENTIONS FOR OLDER ADULTS WITH PERIPHERAL NEUROPATHY (PN)

A. Vinik<sup>1</sup>, E. Vinik<sup>1</sup>, S. Colberg<sup>2</sup>, S. Morrison<sup>2</sup>, 1. *Eastern Virginia Medical School, Norfolk, Virginia*, 2. *Old Dominion University, Norfolk, Virginia*

Over 65 years of age, 1/3rd of adults report falling annually. Sensorimotor function declines are a major contributing factor to increased falls. Neuropathy encompasses a range of changes leading to increased falls risk including: visual deficits, sarcopenia, incoordination, weakness, balance deficits, slowing of gait, cognitive impairment, orthostatic hypotension, tachycardia, bradycardia, pain, cardiovascular syncope, and vestibular deficits. Tests included balance (single-leg and dual stance), monofilament/vibration perception, walking speed, strength, and questionnaire responses (QOLDN, fatigue, fracture risk). Prior to

training, patients with PN and diabetes reported more previous falls, a higher falls risk, slower reactions, slower gait, weakness of foot dorsiflexion, loss of position sense and altered balance compared to having diabetes alone. Following cognitive/metabolic/strength/balance interventions, participants exhibited significant improvements in hand reaction times (224 to 210 ms, p<0.01), increased walking ability (7% increase in velocity, p<0.01), greater lower limb strength (6-8% increase in knee extension/flexion strength p<0.05), and improved postural dynamics.

## SESSION 360 (SYMPOSIUM)

### THE FIVE COUNTRY OLDEST OLD PROJECT (5-COOP): RELATIONSHIPS BETWEEN MORTALITY SELECTION AND HEALTH STATUS OF CENTENARIANS

**Chair:** J. Robine, U988 / U710, *Institut national de la santé et de la recherche médicale (INSERM), Montpellier cedex 5, France, Ecole Pratique des Hautes Etudes (EPHE), Paris, France*

**Co-Chair:** Y. Saito, *Nihon University, Tokyo, Japan*

**Discussant:** T.T. Perls, *Boston University, Boston, Massachusetts*

The number of oldest old is increasing dramatically. However, the health status of nonagenarians and centenarians remains controversial: some studies show that they are healthy while others suggest relatively poor health. Few studies have been able to explore how selective mortality and the rate of increase in the oldest old in the population are associated with cognitive and physical status among very old people. The 5-COOP project aims to study these questions by pooling and comparing representative samples of subjects aged 100 years in Denmark, France, Japan (including Okinawa), Sweden and Switzerland. A theoretical sample size of 1250 (5\* 250) subjects has been initially set. In a first phase, each sample is analyzed at the country level. In a second phase comparison among countries will be performed by merging the 5 standardized data sets. 5-COOP will increase our knowledge about the age trajectory of several functional and geriatric conditions (mobility, difficulty in activities of daily living, cognitive disorders) and about the relationships between longevity and health (i.e., risk of dependence as well as medical and social needs). This understanding of mortality selection and health status will help us to plan care resources and make better population forecasts.

### MORTALITY LEVEL AND NUMBER OF CENTENARIANS: DEMOGRAPHIC CONTRASTS BETWEEN THE 5 COUNTRIES OF THE 5-COOP PROJECT

J. Robine<sup>1,2</sup>, Y. Saito<sup>3</sup>, B. Jeune<sup>4</sup>, M.G. Parker<sup>5</sup>, F.R. Herrmann<sup>6</sup>, 1. *U988 / U710, Institut national de la santé et de la recherche médicale (INSERM), Montpellier cedex 5, France*, 2. *Ecole Pratique des Hautes Etudes (EPHE), Paris, France*, 3. *Nihon University, Tokyo, Japan*, 4. *Danish Aging Research Center, University of Southern Denmark, Odense, Denmark*, 5. *Aging Research Center, Karolinska Institute, Stockholm University, Stockholm, Sweden*, 6. *Department of Rehabilitation and Geriatrics, Geneva University Hospitals and University of Geneva, Geneva, Switzerland*

This paper will describe the current demographic trends in the five participating countries (Denmark, Japan, France, Sweden and Switzerland) using six indicators: life expectancy at age 65 (LE65), modal age at death (M), life expectancy at modal age (LEM), probability of death at age 100 (q100), probability of surviving to age 100 (l100) and centenarian rates (CR70). Three demographic contexts were identified: (1) France and Switzerland where the number of centenarians has roughly doubled every decade since the 1970s, (2) Denmark and Sweden where the increase has been much slower and (3) Japan where the increase has been much faster, being multiplied by 3 or 4 every decade. One of the objectives of 5-COOP is to study these demographic trends in relation to the functional health status of people who reach the age of 100 years in the five countries.

## THE SWEDISH CENTENARIAN SURVEY

M.G. Parker, B. Meinow, H. Berndt, L. Sundberg, S. Fors, *Aging Research Center, Stockholm, Sweden*

The Swedish Centenarian Survey (SCS) is the first nationally representative survey of centenarians based a random sample of persons born July 1911 - June 1912. Participants were interviewed directly or by proxy (response rate 86%, n=274). Over half of the sample lived in some form of institution. Among those living at home, the majority needed help with shopping, cleaning or preparing food. One fourth of the sample reported having two or more chronic health conditions. Commonly reported symptoms included joint pain (64%), dizziness (44%) and sleeping problems (20%). A third of the sample could bathe without help, and a majority managed to dress and go to the toilet without help. Preliminary analysis suggests that about half the sample have impaired cognition. Gender differences varied by health indicator although men showed better health in general and were significantly better in activities of daily living.

## COMPARING TWO CONSECUTIVE SURVEYS OF DANISH CENTENARIANS USING DIFFERENT METHODOLOGIES

K. Andersen-Ranberg, K. Christensen, B. Jeune, S. Vestergaard, *Institute of Public Health, University of Southern Denmark, Odense, Denmark*

We compared two Danish surveys on the 1910 (DK-1910) and 1911-12 (DK-1911) birth cohorts at age 100. We used the same questionnaire at face-to-face interviews, including proxy interviews. The DK-1910 used trained survey agency interviewers and the DK-1911 trained nurses. Participation rate was lower in DK-1911 compared to DK-1910 (49% vs. 62%), but more interviews were carried out with the participant alone (77% vs. 56%), suggesting a selection bias in DK-1911. In fact, comparing DK-1911 to DK-1910, we found higher proportions of independently performing cohort members in all ADL tasks, and higher mean MMSE score (22.4 vs 21.0;  $p < 0.05$ ), but handgrip strength and gait speed were similar. Restricting analyses to those interviewed alone attenuated the cohort differences, but remained significant for toileting and for mean MMSE score. Ex-ante harmonization of survey methodologies is highly important in order to compare functions in centenarians.

## 5-COOP DATABASE AND FUTURE COMMON ANALYSES

F. Herrmann<sup>1</sup>, D. Zekry<sup>1</sup>, Y. Saito<sup>2</sup>, B. Jeune<sup>3</sup>, M.G. Parker<sup>4</sup>, J. Robine<sup>5</sup>, 1. *internal medicine, rehabilitation and geriatrics, Geneva University Hospitals, Thonex, Switzerland*, 2. *Nihon University Advanced Research Institute for the Sciences and Humanities, Tokyo, Japan*, 3. *Danish Aging Research Center, University of Southern Denmark, Odense, Denmark*, 4. *Aging Research Center, Karolinska Institute, Stockholm University, Stockholm, Sweden*, 5. *INSERM/EPHE, Paris & Montpellier, France*

A theoretical sample size of 1250 subjects has been initially set, allowing the simultaneous analysis of up to 125 variables in multiple regression models, which will be weighted according to the survey sampling scheme. In countries or areas with national list of centenarians a random sample has been drawn taking into account mortality. For the others countries, a cluster sampling scheme was used. The original questionnaire was designed in English including standardized instruments with a unique numbering scheme of variables and then translated in each local languages. Comparison among countries will be performed after merging the 5 standardized data sets with usual statistics (chi square, Kruskal-Wallis non parametric and regular ANOVA and multiple regression). The first elements to be compared are the missing rates, the reason data could not be collected and the prevalence of geriatric conditions, including dementia and cognitive disorders.

## SESSION 365 (SYMPOSIUM)

### NOVEL MODALITIES OF CARE FOR OLDER ADULTS IN RURAL AREAS: NON FACE-TO-FACE ALTERNATIVES

**Chair:** W.W. Hung, *Geriatrics, Mount Sinai School of Medicine, New York, New York, James J Peters VA Medical Center, Bronx, New York*

**Co-Chair:** J.L. Howe, *Geriatrics, Mount Sinai School of Medicine, New York, New York*

Older adults living in rural areas have limited access to geriatric teams for their healthcare needs. Providers with training in geriatric medicine often practice in urban areas rather than rural areas, thus further limiting rural older adults' access to quality geriatric care. As a consequence of this disparity, older adults in rural areas have more functional limitations and have worse reported health. Recent technological advances in information technology and networking have allowed for the development of a number of modalities to bridge these care gaps and for geriatric teams located in urban centers to extend their expertise to the care of older adults in rural areas. In this symposium, we highlight clinical and educational interventions that have been implemented with the goal of improving care to older adults at a distance as an alternative to traditional face to face encounters. Presenters will review established programs, evidence on the acceptability and use by older adults and their rural providers, and perceived barriers to implementation. The potential of broader application of these modalities will also be discussed.

### TELEGROUP VISITS FOR DEMENTIA

S.M. Thielke, L.Y. Wang, *Puget Sound VA Medical Center, Seattle, Washington*

We describe our experiences with using telemedicine for group visits for Veterans with dementia and their caregivers. Once a month, 4-6 caregiver-Veteran dyads come together in a conference room with a large television screen, and interface with a geriatric psychiatrist and social worker, who are 60 miles away. A geriatric registered nurse coordinates and provides local support. The physician and social worker inquire about dementia-related concerns with each patient and caregiver. Areas of focus include medication reviews, screening for health changes, and safety assessment. Caregiver stress is addressed. Productive discussion among caregivers happens spontaneously. The system has worked without technical difficulties, and people are able to communicate adequately. Participants have been very satisfied overall. They have highlighted the ease of access to specialists, peer-to-peer support, education, better access to other services, convenience, and decreased travel time. We plan to expand and further evaluate this model.

### AN INTERDISCIPLINARY TEAM APPROACH IN GERIATRIC TELE-MEDICINE AT THE WILLIAM S MIDDLETON VETERANS AFFAIR HOSPITAL IN MADISON, WI

S. Barczy, L.L. Welch, T. Howell, *GRECC, William S Middleton VA, Madison, Wisconsin*

The Madison VA's (MVA) GRECC Connect program is an innovative, interdisciplinary team model created to improve access to Geriatrics consultation for rural patients with complex, interacting medical and psychosocial problems. This model is designed to assist rural primary care providers in caring for vulnerable older adults less able to travel to the main VA facility. The team conducts a sophisticated triage process on a weekly basis to provide indirect care through e-consults and tele-huddles, creating comprehensive recommendations to assist the primary care team. Its members also provide some direct care via telemedicine in select cases, as well as proactive co-management of the rural providers' patient panels through strategic risk appraisal assessments. Outcomes tracked include recommendations implemented and decreased travel cost and distance for the patient. Provider and patient satisfaction surveys also support the value of the program.

## **TELEDEMENTIA CLINIC: CLINICAL VIDEO TELEHEALTH TO DIAGNOSE & SUPPORT RURAL VETERANS WITH DEMENTIA**

M.I. Rossi<sup>1,2</sup>, B. Brott Powers<sup>1</sup>, N. Edmonds<sup>1</sup>, C. Dolbee<sup>1</sup>,  
J. Hennon<sup>1,2</sup>, M.C. Homer<sup>1</sup>, 1. *GRECC, VA Pittsburgh Healthcare  
System, Pittsburgh, Pennsylvania*, 2. *University of Pittsburgh,  
Pittsburgh, Pennsylvania*

Access to specialty care for dementia is often limited to urban centers. Unfortunately traveling long distances to these urban centers can be difficult for rural patients with dementia and add additional stress to already burdened caregivers. The Teledementia clinic was developed at the Pittsburgh VA in May 2013 to address these issues. An interdisciplinary team of clinicians including geriatrician, geriatric psychiatrist, psychologist, and social worker are able to diagnose dementia, monitor on-going cognitive decline, manage behavioral issues, and provide assistance and support to caregivers during the course of the illness. In its first 7 months, the clinic saw 61 patients in 115 visits. Patients saved a total of 7593 miles of travel and \$1581 in fuel costs. Driving time saved was an average of 67 minutes per visit. The clinic was well received by patients and caregivers with high satisfaction levels. Challenges and on-going clinic development will be discussed.

## **CASE-BASED TELECONFERENCE MODEL FOR GERIATRICS CONSULTATION AND EDUCATION: OUTREACH TO RURAL PRIMARY CARE PROVIDERS**

T.V. Caprio<sup>1,2</sup>, W.W. Hung<sup>3,4</sup>, J.L. Howe<sup>3,4</sup>, D. Sun<sup>3</sup>, J. Deering<sup>3</sup>,  
G. Kochersberger<sup>2,1</sup>, S. Fell<sup>2</sup>, 1. *Medicine/Geriatrics & Aging,  
University of Rochester, Rochester, New York*, 2. *Canandaigua  
VA Medical Center, Canandaigua, New York*, 3. *James J Peters  
VA Medical Center, Bronx, New York*, 4. *Mount Sinai School of  
Medicine, New York, New York*

An educational intervention using the case based approach was developed which leverages telehealth technology and shared expertise in outreach to rural primary care providers within the VA healthcare system. The format, adapted from the ECHO (Extension for Community Healthcare Outcomes) program, consists of a clinical case presentation majority by rural providers, didactic teaching session with clinical consultant experts, and live question and answer period conducted with participants. The focus of the session is on challenging clinical cases, common problems (e.g. driving concerns), or geriatric syndromes. Discussions were conducted using multisite video conferencing with conference call telephone system as backup. A total of 23 sessions were conducted among an average of 12.6 (SD3.7) rural providers in 4.6 (SD1.3) remote sites per session. Preliminary evaluation results indicate that 79% and 57% of providers reported improved skills and knowledge respectively. These results demonstrate the feasibility and potential impact of this educational modality.

## **SESSION 370 (SYMPOSIUM)**

### **VA GRECC SYMPOSIUM: TAKING NOVEL APPROACHES TO VETERAN-DRIVEN CARE ON A ROAD TEST: CLINICAL DEMONSTRATION PROJECTS IN THE DEPARTMENT OF VETERANS AFFAIRS**

**Chair:** P.R. Padala, *Central Arkansas Veterans Healthcare System,  
North Little Rock, Arkansas*

**Discussant:** D.H. Sullivan, *Central Arkansas Veterans Healthcare  
System, North Little Rock, Arkansas*

This symposium will highlight the effective use of quality improvement initiatives/clinical demonstration projects (CDPs) to embed innovative patient centered processes of care into routine clinical practice within the Department of Veterans Affairs. The CDPs that will be discussed were developed as a part of the VHA New Models of Care (NMOC) sub-initiative, Patient-Centered Alternatives to Institutional Extended Care. Following a quick overview of quality improvement

methodology by the session chair, individual sessions will focus on the development and results of five successful patient-centric health promotion projects. Session 1 will focus on development, refinement, and evaluation of an activity promotion clinic. This clinic provides a comprehensive safety screening assessment followed by and motivational counselling that is focused on helping participating veterans adapt and adhere to an individualized walking prescription; follow-up phone and office visits help to maintain motivation and program adherence. This session will discuss the hurdles to full implementation of this clinic and the multi-step processes utilized by the CDP team to overcome these obstacles. This will include discussion of how the screening tools were developed and refined, the equipment was tested and chosen, and operational efficiency and effectiveness was assessed. Session 2 will describe a pharmacy-based transitional care intervention for high risk older veterans transitioning from hospital home. Discussion will include the process of developing the eligibility criteria for the intervention, and what proportion of older adults admitted to our hospital meet these criteria. Preliminary findings of this intervention on 30-day readmission in older Veterans will be discussed. Session 3 will discuss enhancement of a multi-disciplinary memory clinic to include case management approach. Results of improved process on distal outcomes will be discussed. Session 4 will discuss the role of group visits in fostering discussion of advance care planning. An advantage of group visits, (a group meeting of 6-12 Veterans), is that they have a greater amount of time, usually about 60 - 90 minutes, and allow for Veteran-to-Veteran support for in-depth discussions of this complex topic. This widely successful CDP will highlight evaluating the implementation of advance care planning with groups of Veterans and Veteran satisfaction results. Discussant will put everything in context of current health care needs and highlight the importance of utilizing validated quality improvement methodologies.

### **ACTIVITY PROMOTION CLINIC FOR OLDER VETERANS: LESSONS LEARNT WHILE IMPLEMENTING THE CLINIC AND HURDLES FACED**

K.P. Padala<sup>1,2</sup>, P.R. Padala<sup>1,2</sup>, S.E. Espinoza<sup>3</sup>, D. Kellogg<sup>3</sup>,  
D.H. Sullivan<sup>1,2</sup>, 1. *GRECC, Central Arkansas Veterans Healthcare  
System, North Little Rock, Arkansas*, 2. *University of Arkansas for  
Medical Sciences, Little Rock, Arkansas*, 3. *South Texas Veterans  
Healthcare System, San Antonio, Arkansas*

Background: Inactivity and increased sedentary time are major public health problems particularly in elderly veterans. Sedentary behavior fomented deleterious effects on physical and mental health, quality of life, and increased health care costs. Methods: We developed an Activity Promotion (Walking) Clinic at VISN 16 and 17 GRECCs to provide Veterans personalized, proactive, and patient driven health care, emphasizing prevention and population health. Results: A comprehensive screening tool was developed. We established the feasibility of delivering reminders and motivating messages using an automated calling system. Discussion will focus on development, refinement, and evaluation of the clinic including hurdles faced, and the multi-step processes utilized to overcome these obstacles. This will also include discussion of how the screening tools were developed and refined, and the equipment was tested and chosen. Conclusions: Our initial findings suggest that an activity promotion program can feasibly be delivered in an outpatient setting.



## A PHARMACY-BASED TRANSITIONAL CARE INTERVENTION FOR HIGH-RISK OLDER VETERANS TRANSITIONING FROM HOSPITAL TO HOME

S.E. Espinoza<sup>1,2</sup>, R. Rottman-Sagebiel<sup>1,2</sup>, D. MacCarthy<sup>1,2</sup>, M. Moris<sup>1,2</sup>, E. Gonzalez<sup>1,2</sup>, A. Conde<sup>1,2</sup>, C. Wang<sup>1,2</sup>, *J. Geriatrics Research, Education, & Clinical Center (GRECC), San Antonio, Texas, 2. Medicine, Division of Geriatrics and Gerontology, University of Texas Health Science Center at San Antonio, San Antonio, Texas*

**Background:** We developed a pharmacy-based intervention to reduce hospital readmissions in high-risk older adults. **Methods:** Our intervention includes an inpatient face-to-face visit by a clinical pharmacy specialist and telephone contact approximately 3 days post-discharge to perform medication reconciliation. Inclusion criteria were developed based on prior evidence and experience, and included outpatient polypharmacy, inappropriate medication usage, and hospitalization in the prior year. Rates of eligibility among older adults admitted to Medicine inpatient units and 30-day readmission rates were monitored. **Results:** 302 (43.7%) of 693 patients  $\geq 65$  years admitted to Medicine units during 05/28/2013-09/30/2013 were eligible. Lower readmission rate for the intervention group was observed only in those who had not been hospitalized in the prior year (11.9% vs. 18.8%). **Conclusion:** Our findings suggest early intervention with a pharmacist-based transitional care program can feasibly be delivered and may be a useful model to reduce 30-day hospital readmissions in high-risk older adults.

## PREVENTING INSTITUTIONALIZATION THROUGH SUPPORTING CAREGIVERS THROUGH EXPANDED SERVICES (PISCES)

J.B. Blumenthal<sup>1,2</sup>, K.L. Mordecai<sup>1</sup>, D. Loreck<sup>1,2</sup>, *1. Baltimore VAMC, Baltimore, Maryland, 2. University of Maryland, Baltimore, Maryland*

Preventing Institutionalization and Supporting Caregivers through Expanded Services (PISCES) targets the most common reasons for hospitalization and nursing home placement in Veterans with Dementia — namely gait dysfunction, balance problems and behavioral disturbances. This novel program enhances already-successful memory clinics by including: i) specialized services for gait/balance assessment and treatment of behavioral problems, ii) focused follow-up and community education, and iii) extension of the case management services with a goal of ensuring the provision of ongoing coordinated care to these patients and their families, while simultaneously also improving quality/satisfaction, and containing costs. Not only are the lessons learned through this novel program potentially “exportable,” but by iv) training providers and coordinating/optimizing the care of these disabled, demented older patients, we further magnify the impact of this program and ensure the propagation of its values.

## UTILIZING GROUP VISITS TO DISCUSS ADVANCE CARE PLANNING

K.K. Garner<sup>1,2</sup>, P.M. Dubbert<sup>1,2</sup>, D.H. Sullivan<sup>1,2</sup>, *1. Geriatric Research, Education and Clinical Center, Central Arkansas Veterans Healthcare System, North Little Rock, Arkansas, 2. University of Arkansas for Medical Sciences, Little Rock, Arkansas*

**Background:** Veterans, their family members, and VA health care providers often do not fully appreciate and utilize advance care planning (ACP) to achieve Veterans preferences for end-of-life care. As a consequence, the care Veterans receive at the end of their life may be different from what they may want to receive. **Purpose:** Incorporate a novel, group visit approach to discussing ACP utilizing a clinical demonstration project (CDP) mechanism. **Methods:** Utilized a quality improvement process, Plan-Do-Study-Act, in an iterative, four-stage problem-solving model to improve this important process. **Results:** We found and addressed numerous challenges in conducting this CDP with our initial 178 Veterans in 17 group visits, namely: utilizing existing

group visit infrastructure; recognizing biases and barriers to discussing ACP; and developing sustainable methods. **Conclusions:** This CDP nurtures the growing attitude that advance care planning is a process and these discussions can be successfully initiated through group visits.

## SESSION 375 (SYMPOSIUM)

### AGING, ALCOHOL, AND MEDICATION: PROMOTING SAFETY

**Chair:** F. Zanjani, *BCH, University of Maryland, College Park, Maryland*

**Discussant:** C.L. Coogle, *Virginia Commonwealth, Richmond, Virginia*

Older adults are a high-risk group for prescription and alcohol interactions largely due to their aging physiology, altered drug metabolism, at least 50% of older adults reporting alcohol consumption, and because they consume prescription drugs at high rates. The majority of older prescription drug users take at least one alcohol-interactive medication, with some taking alcohol-interactive medications and consuming alcohol. Furthermore, prescription overdoses in older adults are commonly associated with alcohol. In combination, alcohol and prescription medication use can seriously lead to exacerbated health problems, serious interactions and poisonings, substance misuse risk, and increased health costs for older adults. In an effort to reduce hazardous alcohol and medication use outcomes this session will discuss pharmacy-level, community-level, state-level, and national-level research efforts. Pharmacy-level efforts explore how pharmacists perceive the alcohol and medication problem, and how they can be involved in educating the public to prevent related hazardous outcomes. Community-level efforts focus on using a modified evidence-based Screening Brief Intervention and Referral to Treatment (SBIRT) with police officers to identify alcohol and medication misuse in the community. Also the National Health and Nutrition Examination Survey (2005-2010) and the 2009 Medicare Current Beneficiary Survey was analyzed to estimate concurrent use of alcohol and CNS-acting medications with implications on better product labeling directed to consumers. Altogether the research will be tied into how the Virginia Alcohol, Aging and Awareness coalition group practices state-level prevention of alcohol and medication interactions in combination with the state department of alcoholic beverage control and state association of beer distributors.

### PREVENTING ALCOHOL AND MEDICATION INTERACTIONS: PHARMACIST INTERVIEWS

F. Zanjani<sup>1</sup>, R.V. Smith<sup>2</sup>, L. Crook<sup>1</sup>, R. Clayton<sup>2</sup>, N.E. Schoenberg<sup>2</sup>, C. Martin<sup>2</sup>, *1. BCH, University of Maryland, College Park, Maryland, 2. University of Kentucky, Lexington, Kentucky*

Prescription overdoses in older adults are commonly associated with alcohol. In combination, alcohol and prescription medication use can seriously undermine and exacerbate health problems, lead to serious alcohol/medication interactions, increase substance misuse risk, and increase health costs. This research aims to reduce alcohol and medication interactions (AMI) among rural older adults. Twenty-one qualitative interviews on prescription drug safety with pharmacists and pharmacy technicians were done into two targeted high-risk rural communities. Results indicate that there is a great need for cultural sensitivity when communicating with local residents about alcohol and medication interactions that address community barriers/stigma and the fatality and seriousness of the issue. Participants also indicated the integral role they play in their community's health. Furthermore, the interviews indicated a need for professional education on preventing alcohol and medication interactions in older adults. These data will be used to create, test, and implement effective intervention(s) to prevent AMI.

## SBIRT FOR NON-HEALTHCARE PROFESSIONALS

N. Brossoie, *Center for Gerontology, Virginia Tech, Blacksburg, Virginia*

Community professionals providing non-healthcare services (e.g., social workers, police officers, clergy) possess insights into daily community life and are often in the best position to initiate a conversation or brief intervention with persons they suspect of misusing alcohol and/or medications. This study utilized a modification of the evidence-based Screening Brief Intervention and Referral to Treatment (SBIRT) model designed for healthcare providers. Piloted with police officers, the modified SBIRT model included modules on education and awareness, skill building, introspection, and collaborative community response. Training content was sensitive to the mandates, duties, and ethics of law enforcement and incorporated participant perspectives on alcohol use, ageism, social expectations to intervene, and respect for self-determination. Findings suggested future trainings need to address recognizing opportunities to interact with older adults, initiating conversations about substance misuse with an older adult, and identifying opportunities to collaborate with other community professionals to enhance the community's capacity to respond.

## CONCURRENT USE OF ALCOHOL AND MEDICATIONS AMONG OLDER ADULTS

P.W. Slattum, M. Mohanty, O. Hassan, *Department of Pharmacotherapy and Outcomes Science, Virginia Commonwealth University, Richmond, Virginia*

Medications have the potential to interact with alcohol resulting in adverse drug events, including falls. The prevalence of concurrent use of alcohol and central nervous system (CNS)-acting medications was evaluated in participants (n=3220) in the National Health and Nutrition Examination Survey (2005-2010). 8.9% of participants reported potential concurrent use of alcohol and CNS-acting medications. The prevalence of at-risk drinking, based on the CARET, was determined in participants in the 2009 Medicare Current Beneficiary Survey. Of 2,293 participants reporting alcohol use, 12.2% were classified as at risk drinkers resulting from the concurrent use of alcohol and medications. Product labeling directed to consumers was evaluated to assess how risk associated with concurrent use of alcohol and medications specifically in older adults is communicated. Concurrent use of alcohol and interacting medications is common among older adults and there are opportunities to improve communication of risk for the older adult population.

## SESSION 380 (SYMPOSIUM)

### FONDATION IPSEN LONGEVITY PRIZE: AWARD LECTURE BY LUIGI FERRUCCI "CAUSAL PATHWAYS LEADING TO DECLINE IN OLDER PERSONS"

**Chair:** Y. Christen, *Fondation Ipsen, Boulogne-Billancourt, France*

**Co-Chair:** G.M. Martin, *Fondation Ipsen, Boulogne-Billancourt, France*

Charis: Yves Christen and George Martin) Introduction: Yves Christen (President of the Fondation Ipsen) Eileen Crimmins (University of Southern California, Los Angeles): Introduction to the Laureate Luigi Ferrucci (NIH, Baltimore): Causal pathways leading to decline in older persons Eileen Crimmins (University of Southern California, Los Angeles): Reaction and Discussion to Luigi Ferrucci's lecture

## SESSION 385 (PAPER)

### CARDIOVASCULAR DISEASE

#### CARDIOVASCULAR COMORBIDITIES IN LUNG CANCER PATIENTS: TREATMENT-SPECIFIC EFFECTS ON SURVIVAL

J. Kravchenko, M.F. Berry, K.G. Arbeev, I. Akushevich, *Duke University, Durham, North Carolina*

**Background.** Lung cancer patients aged 65 years and older frequently have cardiovascular diseases (CVDs), but the impact of comorbid CVDs on patients' survival is not well understood. **Methods.** Impacts of seven CVDs (at baseline and during follow-up) on survival of lung cancer patients were studied for stage- and treatment-specific groups of patients aged 65+ years old in SEER-Medicare database using multivariate analysis controlled by age, TNM stage, and 85 comorbidities representing various systems. Then, 128 combinations of CVDs were investigated to identify how CVDs potentiate each other's effects on patients' survival. **Results.** 125,657 patients with stage I (27.2%), II (4.6%), IIIa (12.3%), IIIb (19.6%), and IV (36.2%) lung cancer were studied. Most CVDs significantly increased death risk at stages I-IIIb but did not impact survival of stage IV patients. Heart failure and myocardial infarction had highest impacts on survival (HRs up to 1.88, varying by stage and treatment,  $p < 0.05$ ). Hyperlipidemia and, less often, arterial hypertension were associated with better survival (HRs up to 0.80,  $p < 0.05$ ). Patients with multiple CVDs had significantly increased mortality risk, potentiating each other's impacts, especially when treated with surgery (up to 10 times higher HRs than for sum of each disease effect,  $p < 0.05$ ) or chemotherapy+radiotherapy (up to 4 times,  $p < 0.05$ ). **Conclusion.** CVDs affects lung cancer patient survival. These effects vary with stage and treatment and are potentiated when patients have multiple co-existing CVDs. The presence of CVDs should be carefully considered when selecting treatment. Managing CVD comorbidities could improve survival of stage I-IIIb lung cancer patients.

#### PHYSICIANS' PERCEPTIONS OF RISK STRATIFICATION MODELS IN OLDER ADULTS WITH ACUTE MYOCARDIAL INFARCTION

S.L. Feder<sup>1</sup>, D.J. Schulman-Green<sup>1</sup>, M. Geda<sup>2</sup>, J.A. Dodson<sup>4</sup>, M. Tinetti<sup>3,2</sup>, T.M. Gill<sup>2</sup>, S. Chaudhry<sup>2</sup>, *1. Yale University - School of Nursing, New Haven, Connecticut, 2. Yale University - School of Medicine, New Haven, Connecticut, 3. Yale University - School of Public Health, New Haven, Connecticut, 4. Division of Aging, Department of Medicine, Brigham and Women's Hospital, Boston, Massachusetts*

**Background:** Risk stratification models facilitate acute myocardial infarction (AMI) care by supporting medical decision-making, with higher risk patients receiving more aggressive monitoring and/or earlier treatment. Existing models were derived and validated using data from younger populations, limiting predictive accuracy and relevance in older adults with AMI. **Purpose:** To describe physician-perceived strengths and weakness of available AMI risk stratification models and ideal risk model components for use in older adults hospitalized with AMI. **Methods:** This qualitative study was part of an observational study designed to develop and validate risk stratification models for older adults ( $\geq 75$ ) with AMI. Semi-structured telephone interviews were conducted with cardiologists and hospitalist physicians. Analysis employed the constant comparative method. **Results:** Physicians (n = 22) completed interviews ranging from 10-30 minutes (mean = 18 minutes). Participants' mean age was 41, with an average of 16 years of medical experience. Existing risk models were seen as well known and clinically useful in general AMI populations. Physicians perceived models as not accounting for geriatric risk factors (e.g., functional status) or predicting outcomes (e.g., health status decline) important for medical decision-making in older adults with AMI. Ideal model compo-

nents incorporated multidimensional domains including cardiovascular risk factors, social determinants, and functional measures. Operational preferences included rapid completion, multi-device accessibility, and multi-platform integration. Conclusions: Current risk stratification models were perceived as inadequate for use in older adults with AMI. Participants envisioned an ideal risk model as a readily accessible and rapid tool that includes risk factors and outcomes relevant for this population.

#### **GAIT SPEED PREDICTS HOSPITALIZATION IN FUNCTIONALLY INDEPENDENT OLDER ADULTS WITH HEART FAILURE**

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**Background:** Heart failure (HF) with 3 million hospitalizations annually is the leading reason for hospitalization in older adults. Reducing HF hospitalizations is a national priority under the Affordable Care Act. To achieve this goal, it is critical to identify older adults with HF who are most at risk for hospitalization. **Methods:** The Cardiovascular Health Study is a multi-community cohort study. Data on socio-demographic characteristics and clinical variables were collected at enrollment, including gait speed, activities of daily living (ADL) and number of comorbid conditions. Data on hospitalization were collected through annual examinations or contact during the 10-year follow-up period. The association between gait speed and all-cause hospitalization was analyzed using Cox proportional hazards survival models. **Results:** There were 274 participants with prevalent HF, of whom 257 (94%) had at least one hospitalization over the follow-up period. Multivariate analysis found that slower gait speed (<0.8m/s vs. ≥0.8m/s) was independently associated with hospitalization (hazard ratio 1.47, 95% CI 1.11-1.94; p=0.007). Sensitivity analyses were performed to determine if the effect of gait speed was a reflection of poor function or increased comorbidity. The effect of gait speed remained true even among those with independent ADL (HR 1.38, 95% CI 1.03-1.88; p=0.03) or with <3 comorbid conditions (HR 1.78, 95% CI 1.09-2.88; p=0.02). **Conclusion:** Among functionally independent older adults with HF and few comorbid conditions, gait speed is useful for identifying those at risk for hospitalization.

#### **STROKE SYMPTOMS AS A PREDICTOR OF FUTURE HOSPITALIZATION OR EMERGENCY DEPARTMENT VISIT**

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**Purpose:** Our objective was to determine if stroke symptoms are associated with self-reported hospitalization or emergency department (ED) visit in an aging cohort. **Methods:** Using the validated Questionnaire for Verifying Stroke-Free Status, stroke symptoms (sudden weakness, numbness, unilateral/general loss of vision, loss of ability to communicate or understand) were assessed in a national, population-based, cohort of 30,239 blacks and whites, > 45 years, enrolled 2003-2007. Analysis was restricted to those stroke/TIA-free at baseline (N=27,126), mean age 64.4+ 9.3. Self-reported hospitalization/ED visit and reason were collected during follow-up through March 2013. **Results:** One or more stroke symptoms were reported by 4,758 (17.5%). After adjustment for sociodemographic factors, stroke symptoms were most strongly associated with greater risk of hospitalization/ED for

CVD (HR = 1.87; 95% CI: 1.78 – 1.96), stroke (HR = 1.69; 95% CI: 1.55 – 1.85), and any cause (HR = 1.39; 95% CI: 1.34 – 1.44). These associations remained significant and only modestly mediated after adjustment for CVD risk factors. The increased risk for future hospitalization associated with stroke symptoms was as large as, or larger than most major stroke risk factors. **Conclusions:** Stroke symptoms are a powerful marker for future hospitalization and ED visit for stroke and CVD in general. History of stroke symptoms is simple to establish, and may be as important as knowledge of stroke risk factors. Findings suggest a role for stroke symptom assessment as a novel and simple approach for identifying individuals at high risk for CVD including stroke in whom preventive strategies could be implemented.

#### **HEALTH OUTCOME EFFECTS OF COMMON MEDICATIONS IN ELDERS WITH MULTIPLE CONDITIONS**

H. Allore, M. Tinetti, H. Lin, Y. Zhan, G. McAvay, *Internal Medicine, Yale Univ., New Haven, Connecticut*

Almost 75% of persons aged ≥ 65 years have multiple chronic conditions (MCC). Most effectiveness research on MCCs has focused on condition specific outcomes and has not considered condition - medication interactions. Determining medication effects is more complex in individuals with MCC. One approach to addressing these limitations is to define effectiveness through the use of cross-condition, universal health outcomes (UHO). Self-reported health (SRH) is a UHO affected by MCC. The complex condition plus medication combinations that occur in those with MCC require analytical techniques that can handle large numbers of variables over time and the sequences in which conditions arise and medications are given. We modified the longitudinal extension of the average attributable fraction (LE-AAF) for a recurrent outcome, SRH, with time-varying conditions, medications and covariates. The LE-AAF method averages the contributions of a medication in all the possible orders and co-occurrences. LE-AAF determines the fractional amount each medication contributes to SRH in the presence of multiple co-existing medications and conditions. Overlapping effects among co-existing medications are taken into account when determining the overall effect of individual medications. The LE-AAF method quantifies the contribution of the time-varying exposure to medications for SRH. LE-AAF of 9 commonly used medications (renin angiotensin system blockers, statins, thiazides, calcium channel blockers, selective serotonin reuptake inhibitors, metformin, warfarin, clopidogrel) recommended for 9 common chronic conditions is demonstrated with Medicare Current Beneficiary Survey enrollees from 2005-2009 with follow-up data available through 2010.

#### **SESSION 390 (SYMPOSIUM)**

##### **POLICY SERIES: BACK ON THE AGENDA: ADVANCED ILLNESS AND END OF LIFE POLICY**

**Chair:** B. Lindberg, *The Gerontological Society of America, Washington, District of Columbia*

A recent edition of GSA's policy journal, Public Policy and Aging Report, explored the complex issues of advanced illness and end of life care. This panel will discuss how to ensure that persons and their families get the care they want, what strategies and models are effective in delivering that care, and what tools are available to help ensure that one's wishes are followed.

## SESSION 395 (SYMPOSIUM)

### HARTFORD CENTERS OF EXCELLENCE IN GERIATRIC SOCIAL WORK AS CHANGE AGENTS

**Chair:** B. Berkman, *Boston College School of Social Work, Boston, Massachusetts*

**Discussant:** N. O'Brien-Suric, *The John A. Hartford Foundation, New York, New York*

Traditionally Centers of Excellence in Aging have contributed significantly to the development of evidence-based practice knowledge. However, there is a recognized gap between the valuable research knowledge and its translation and use for actual changes in policy or practice. In 2013, five Hartford Centers of Excellence in Geriatric Social Work were funded to work in partnership with local community-based organizations with the aim of becoming "change agents" to shorten the "translational research gap." In this symposium, each of the Center Directors will present their "change agent" model with the tools and strategies employed in their specific community partnerships. Impact on practices and policies in services for vulnerable older adults and their families will be discussed.

### COMMUNITY ENGAGEMENT AND THE HARTFORD SILBERMAN CENTER OF EXCELLENCE IN AGING AND DIVERSITY

C. Morano, *Hartford Silberman Center of Excellence in Aging and Diversity, New York, New York*

This paper will present an overview of the strategies the Hartford Silberman Center of Excellence in Aging and Diversity employed to identify key stakeholders and community partners from the initial conceptual design of the proposal up to and including the Center's start up activities. Findings from focus groups with potential partners indicated issues such as community partners prior experiences of collaborating with academic institutions, restrictions on time away from the office, uncertainty about the impact their input would ultimately have on center activities, responsibility to their agencies and demands of large case loads were some of the factors that tempered their initial enthusiasm. The strategies used to overcome anticipated and unanticipated barriers to their participation will also be discussed. The paper concludes with a discussion of how the community partners are informing the Year I initiatives of the Hartford Silberman Center of Excellence in Aging and Diversity.

### HEALTHY GENERATIONS: RESPONDING TO THE CHANGING NATURE OF AGING IN SOCIETY

K.I. Fredriksen-Goldsen, *Healthy Generations Hartford Center of Excellence in Geriatric Social Work, Seattle, Washington*

As the global population ages there is increasing diversity and a growing numbers of multigenerational relationships. Healthy Generations: UW Hartford Center of Excellence in Geriatric Social Work is distinguished by its focus on innovation and responding to this changing nature of aging in our society. By incorporating a multigenerational perspective, the Center goals are: Generate the knowledge base needed to address health disparities to promote health equity in diverse and vulnerable older adult populations; design new ways to respond to the increasing diversity of older adults and their families across communities and cultures; and, develop practice and policy change models for prevention and health promotion among midlife and older adults, families and caregivers. The presentation will describe the Center's current activities, as Change AGENTS, to accelerate sustained practice and policy change to harness collective strengths, resources, and community expertise through interdisciplinary and intra-professional collaborations in practice, policy, education and research.

### COMMUNITY PARTNERSHIPS TO ENHANCE SERVICE DELIVERY TO LOW INCOME AND FRAIL OLDER ADULTS

R. Dunkle, *University of Michigan Hartford Center of Excellence in Geriatric Social Work, Ann Arbor, Michigan*

The University of Michigan's COE is partnering with several entities to improve knowledge of changes in practice and service delivery to improve the health of older people in the areas of: 1) serving low income elders in HUD housing; and 2) increasing efficacy in work with frail elders with dementia and delirium. Service Coordinators in HUD housing in southeastern Michigan receive training on aging-related topics; plans are underway to create podcasts. Staff are collaborating with social work and nursing staff at the Ann Arbor VA GRECC on their rural health initiative to develop resources and training for the VA rural health clinics serving veterans with dementia. In addition, dementia/delirium training of social work and nursing staff at the University of Michigan Health System will continue. Development of a certificate program is being explored to identify ways to restructure care to improve service delivery to older adults resulting in better outcomes.

### THE BOSTON COLLEGE HARTFORD CENTER OF EXCELLENCE IN GERIATRIC SOCIAL WORK

J. Lubben, *Boston College Hartford Center of Excellence in Geriatric Social Work, Boston, Massachusetts*

The Boston College Hartford Center of Excellence (COE) examines four critical areas of gerontological practice: (1) Social Isolation, (2) Productive Engagement, (3) Working Caregivers and (4) Veteran Directed Services. The Hartford COE scrutinizes existing practice protocols looking to identify and test new and improved models of practice. In order to carry out this ambitious agenda, the Hartford COE is partnering with the Institute on Aging at Boston College on all four of these initiatives taking advantage of the IOA's "BC Talks Aging" online education platform. The Sloan Center for Aging at BC is collaborating with the Hartford COE on the projects examining productive engagement and working caregivers whereas the National Center for Participant Directed Services, also located at BC, will provide leadership for testing and implementing a new veteran directed services practice model. All of the identified aging related institutes and centers at BC are directed by gerontological social workers.

### USC HARTFORD CENTER OF EXCELLENCE IN GERIATRIC SOCIAL WORK: RESPONDING TO DEMOGRAPHIC SHIFTS AND THE AGING LANDSCAPE

K.D. Lincoln, *University of Southern California Hartford Center of Excellence in Geriatric Social Work, Los Angeles, California*

The goal of the USC Hartford Center of Excellence in Geriatric Social Work is to help advance evidence-based knowledge, practice and policy related to the health and wellness of historically underrepresented, underserved and under-resourced older adults. Our approach to achieving this goal is to develop activities that directly respond to a number of significant shifts in the State of California and in Los Angeles County, specifically. These shifts include: 1) changing demographics, 2) insufficient funding for older adult services, 3) the need for culturally competent, congruent and relevant services and providers, and 4) workforce issues. The current and planned activities to address these issues are organized under four Cores: 1) Administrative, 2) Professional Development and Training, 3) Field Placement Development, and 4) Technology and Innovation. The current activities of each Core will be discussed as well as our blueprint for addressing the significant shifts that impact underserved older adults.

## SESSION 400 (SYMPOSIUM)

### MEDICARE ANNUAL WELLNESS VISIT AS SPRINGBOARD TO DETECTION OF COGNITIVE IMPAIRMENT, DIAGNOSIS, AND POST-DIAGNOSIS SUPPORT

**Chair:** R.H. Fortinsky, *Center on Aging, University of Connecticut Health Center, Farmington, Connecticut*

The 2010 Affordable Care Act established the Medicare Annual Wellness Visit (AWV) as an opportunity for Medicare beneficiaries to receive preventive and assessment services during visits with their primary care providers (PCPs). Detection of cognitive impairment is among required AWV services, yet no specific tools are mandated and no data are available regarding tools used for this purpose. This Symposium explains these and related issues being addressed by a GSA-sponsored Workgroup on Cognitive Impairment Detection and Earlier Diagnosis, charged with summarizing available evidence-based cognitive impairment detection tools for use by PCPs, and recommending how more uniform detection can be adopted nationally via the AWV, leading to earlier and improved diagnosis and links with post-diagnosis support services to benefit people with dementia and their families. Presentations from a multidisciplinary panel of Workgroup members will include: (1) an overview of the Workgroup's charge and progress; (2) clinical guidelines for the AWV and efforts by the Centers for Medicare and Medicaid Services to promote cognitive impairment detection by PCPs during the AWV; (3) the Alzheimer's Association's recently-published recommendations for operationalizing cognitive impairment detection by PCPs during the AWV; (4) consumer and family perspectives on the AWV and cognitive impairment detection by a member of the Advisory Council on Alzheimer's Research, Care, and Services created under the National Alzheimer's Project Act; and (5) connections between earlier cognitive impairment detection, earlier dementia diagnosis, and improved access to post-diagnostic services, particularly increasingly available evidence-based non-pharmacologic interventions and care practices for people with dementia and their families.

## SESSION 405 (SYMPOSIUM)

### SOURCES OF STRAIN AND STRENGTH IN JAPANESE FAMILY CAREGIVER NARRATIVES

**Chair:** J. Danelly, *Anthropology, Rhode Island College, Providence, Rhode Island*

This paper presents findings of an ethnographic study of family caregivers in Japan. The study's purpose was to examine sources of emotional strain and benefits of caregiving for older family members. Data was gathered through interviews with current and bereaved caregivers, and via participant observations of caregiver support groups, adult day care centers, and community-led groups. Analysis identified themes of dissatisfaction with many aspects of the long-term care system and cultural factors contributing to caregiver strain. Additionally, several aspects of caregiving were positively associated with self-efficacy, spiritual growth, compassion, and creation of meaningful bonds with care recipient, family, and community. Data from bereaved family caregivers confirmed that benefits extend beyond the death of a care recipient and that grief is alleviated by community or religious engagement. The findings will be discussed in relation to the major changes to the Japanese Long-Term Care Insurance Program instituted in April 2014.

### CAREGIVING AS A PRODUCTIVE ACTIVITY: DOES IT ENHANCE OR REDUCE THE WELL-BEING OF JAPANESE ELDERLY?

K. Katagiri, *Kobe University, Kobe, Japan*

Productive activity is a way in which elderly individuals can engage in society. This study examined how four kinds of productive activity—

work, volunteering, housework, and caregiving—relate to health. Data from the “Active Aging Project” survey conducted by Kobe University in 2012 were analyzed using hierarchical multiple regressions. Independent variables were productive activities and interactions of caregiving with work, housework, and volunteering. Caregiving showed a robust negative relationship with health satisfaction, controlling for going to hospital or not. Caregiving women showed worse health when they did housework than when they did not and little difference in health related to outside work. Non-caregiving women showed better health when they did housework and when they did not work outside the home. Many studies have shown the positive effects of productive activities, but this study showed that the effects vary. The combination of these activities should be examined in detail.

### IN WHAT CONTEXTS DO NEW ELDER CARE DEMANDS EMERGE IN INDIA?

B.D. Capistrant<sup>1</sup>, S. Ghosh<sup>2</sup>, G. Friedemann-Sanchez<sup>1</sup>, P. Kowal<sup>3</sup>, 1. *University of Minnesota, Minneapolis, Minnesota*, 2. *Tata Institute of Social Science, Mumbai, Maharashtra, India*, 3. *World Health Organization, Geneva, Switzerland*

Although India is aging rapidly, little is known about the regions and types of households where new care needs for older people are most likely to emerge. This study sought to characterize the geographic and household contexts in which caregiving demands arise in India. We used longitudinal data from 10,203 Study on AGEing and Adult Health (SAGE) households (2002, 2007) to calculate the incidence of households' new caregiving demands. We used logistic regression to estimate odds of new caregiving demands associated with state fixed effects and household-level characteristics (demographic, social, and economic). At the state level, there was significant variation in onset of new caregiving between the six SAGE states ( $p < 0.001$ ). At the household level, households with new care demands had a higher percentage of female residents. New care needs in India emerge differentially across states, but uniformly to households with more women, following traditionally gendered norms about caregiving roles.

### CAREGIVERS' PERCEPTION OF LONG TERM HEALTHCARE SERVICES AND SERVICES USE IN SINGAPORE

C. Liu<sup>1</sup>, K. Eom<sup>1</sup>, W. Chong<sup>2</sup>, A. Chan<sup>1</sup>, 1. *Duke-NUS Graduate Medical School Singapore, Singapore, Singapore*, 2. *Agency for Integrated Care, Singapore, Singapore*

**Objectives:** This study aimed to investigate the role of caregivers' perception of long-term care services in predicting service utilization in Singapore. **Method:** A national representative survey using a 12 months longitudinal design among patients referred to the Agency for Integrated Care for LTC referrals over a 6 month period (December 2011 to July 2012). 1112 patients who responded to the first two waves of survey (401 care recipients, 711 proxies and 1069 caregivers) were included in the analyses. **Findings:** Across the six formal LTC services, the take-up rate of referral at the time of interview ranged from 44% (home therapy) to 88% (nursing home). Perceived affordability is significantly associated with future utilization for all types of LTC services. Perceived quality and social connectedness are significantly associated with home-based and center-based LTC services, respectively. **Conclusion:** Use of LTC services is strongly influenced by caregiver characteristics and perceptions of LTC services.

## THEORIZING FAMILY CAREGIVING IN THE ASIAN CONTEXT

V. Lou<sup>1,2</sup>, F.K. Ejaz<sup>1</sup>, 1. *Department of Social Work & Social Administration, The University of Hong Kong, Hong Kong, Hong Kong, Hong Kong*, 2. *Sau Po Centre on Aging, The University of Hong Kong, Hong Kong, Hong Kong*

Traditions of providing family care to the ill and old in Asian communities have been challenged during the modernization process. Such challenges relate to issues such as reductions in family size, migration of adult children, and varied family attitudes toward government long-term care policies. This symposium aims to advance theoretical understanding of how family-based aged care can be better achieved in the context of emerging long-term care initiatives by different Asian governments to address their rapidly increasing older population. By analyzing national data in India, Dr. Capistrant and his colleagues examined changes in new family caregiving demands and highlighted regional variations and gendered norms about caregiving roles. Two papers on Japan by Drs. Danely and Katagiri tested the controversies on negative and positive influences of caregiving based on the country's long-term care policies. Dr. Soo Han critically analyzed family caregiver support programs under Korea's national long-term care policy and argued the critical role the government plays in its reform of the long-term care system. Dr. Liu examined the relationship between caregivers' evaluation of long-term care services and service utilization in Singapore. Dr. Ejaz will serve as the discussant and will focus on the need to develop an Asian model of family caregiving that examines government long-term care policies in the context of caregiver outcomes that are both positive and negative.

## THE MYTH OF A FAMILY CAREGIVING FOR ELDERLY WITH CHRONIC DISEASE AND THEIR AGED SPOUSE IN KOREA,

S.K. Han, 1. *NamSeoul University, Chunan, Republic of Korea*, 2. *Care Rights, New York, New York*

Korean government has institutionalized the National LTC insurance plan since 2008, however, 45% of the elderly was left in poverty. 65.6 percent of all family caregivers are women of age 75 and over. And 62 percent of them reported that they spent 20 or more hours caring for their elderly spouse who has a high risk of chronic disease and dementia, not eligible for LTC services, living at home (Ministry of Health & Welfare, 2011). This study aims to analysis the National LTC Health Care Law, mainly focusing on family caregiver support program for community based on LTC services. And it brings up the difficulties for aged spouse caregivers and elders with chronic disease through the Annual LTC Survey Reports (National Health Insurance Cooperation, 2013, 2013). This study concludes that the Korean government is the most capable of taking on the role of institutionalizing a safe social care system, creating diverse social care services that were proposed to various local communities and grass rooted organizations cooperate to aid family caregivers.

## SESSION 410 (SYMPOSIUM)

### AGING IN PLACE: GATHERING AND DEVELOPING EVIDENCE FOR A 21ST CENTURY, TECHNOLOGY-ENABLED SYSTEM

**Chair:** K.J. Chaney, *Agency for Healthcare Research and Quality, Rockville, Maryland*

The digitalization of health care and communities holds much promise to help older adults manage their health and maintain relationships with their peers, caregivers and clinicians. However, many technological systems and applications have not met their expected potential as an ever growing number of older adults looking to age in place seek out these tools to empower this living arrangement. The following panel provides an overview of the research opportunities the Agency

for Healthcare Research and Quality's (AHRQ) health IT portfolio is funding to build an evidence base for designing better technology systems to assist older adults, care givers and clinicians. An overview of currently funded work will be presented in addition to an introduction of AHRQ's Active Aging Research Center (AARC).

### AGING IN PLACE: UNDERSTANDING THE ROLE OF TECHNOLOGY AND DESIGNING BETTER SYSTEMS

K.J. Chaney<sup>1</sup>, D.H. Gustafson<sup>2</sup>, K.J. Chaney<sup>1</sup>, 1. *Agency for Healthcare Research and Quality, Rockville, Maryland*, 2. *University of Wisconsin, Madison, Wisconsin*

It is well-documented that the majority of older adults prefer to age in place, typically in long-established residences. Designers, researchers, practitioners, and policymakers are increasingly interested in the role that technology can play in facilitating this living arrangement. This interest stems from the implicit assumption that technology can serve as a conduit for meeting the personal (e.g., physical and emotional); interpersonal (e.g., emotional); and formal (e.g., care management) service needs of older adults to support aging in place. However, despite growing interest in and capabilities of technology, issues related to design, use, interoperability, privacy, and access often keep these technologies from reaching their full potential. To inform our knowledge in this problem space and to spur innovation, better design, and adoption, the Agency for Healthcare Research and Quality's (AHRQ's) Health IT Portfolio is funding research aimed at gathering and developing the evidence for a 21st century, technology-enabled care and communication system. Several of AHRQ's ongoing initiatives and current funding opportunities will be discussed, with a focus on its Active Aging Research Center (AARC). Members from the AARC will provide an overview of their efforts to better understand the needs of older adults, caregivers, and their community and the ways technology can be best designed and implemented with stakeholder support to enable aging in place.

### PREVENTING FALLS THROUGH AN ONLINE INTERVENTION PROGRAM: DEVELOPMENT AND PRELIMINARY USAGE PATTERNS

J.E. Mahoney<sup>1</sup>, V.L. Gobel<sup>1</sup>, V. Lecey<sup>2</sup>, L.M. Clemson<sup>3</sup>, M. Wise<sup>4</sup>, A. Isham<sup>4</sup>, 1. *University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin*, 2. *Greater Wisconsin Agency for Aging Resources, Madison, Wisconsin*, 3. *University of Sydney, Sydney, Australian Capital Territory, Australia*, 4. *University of Wisconsin-Madison College of Engineering, Madison, Wisconsin*

Falls among older adults are frequent and costly and carry high morbidity and mortality. Falls may be prevented through exercise, medical, and behavioral change interventions, yet little is known about barriers and facilitators to falls prevention by older adults. Understanding these barriers and facilitators may inform the development of online interventions to decrease falls. We interviewed 35 older adults who completed the evidence-based falls prevention program, "Stepping On," to understand their barriers and facilitators to maintaining falls prevention activities. Grounded theory analysis identified that graduates of the program maintained cognitive safety behaviors but abandoned exercise because of loss of group support. In response to these findings, we developed online falls prevention tools, including an online risk assessment, tips, exercise videos and instructions, interaction with others who have fallen, and interaction with a falls prevention coach. Data on preliminary usage patterns of the online falls prevention program will be shared.

## NEEDS, ASSETS, AND THE DESIGN OF A COMPUTER-BASED SYSTEM FOR ACTIVE AGING AAND SOCIAL ENGAGEMENT

F. McTavish<sup>1</sup>, D.H. Gustafson<sup>1</sup>, A. Maus<sup>1</sup>, J. Judkins<sup>1</sup>, D.H. Gustafson<sup>1</sup>, C. Glowacki<sup>2</sup>, P. Batemon<sup>4</sup>, B.D. Iverson<sup>3</sup>, 1. *Center for Health Enhancement Studies, University of Wisconsin - Madison, Madison, Wisconsin*, 2. *Aging and Disability Resource Center of Waukesha County, Waukesha, Wisconsin*, 3. *Aging and Disability Resource Center of Eagle Country, Richland Center, Wisconsin*, 4. *Milwaukee County Department of Aging, Milwaukee, Wisconsin*

We will describe how a community organization process (ABCD) set the foundation for a computer-based system to help elders reduce isolation, falls, automobile accidents, and informal caregiver burnout and improve medication management. We will describe the system that resulted and how it is being evaluated. We will also describe how the virtual community increases quality of life and behavioral health and reduces isolation by virtually connecting older adults through bulletin boards, chat rooms, and private messaging. It differs from many social networking sites in how its walled garden respects elders' fears of scams. We will discuss barriers faced designing an interactive blog, how we overcame those. Lessons learned from interactions will be shared as well as the characteristics of those who use and don't use the system. This research will help design better systems for today's seniors, and establish design principals for "ubiquitous" technologies of the future.

## WHAT MAKES DRIVING HARD: IDENTIFYING CHALLENGES FACING OLDER DRIVERS

J.D. Lee, R. Premnath, M. Gibson, *Industrial and Systems Engineering, University of Wisconsin, Madison, Wisconsin*

For many older adults the ability to drive determines whether they can live independently, and so understanding the challenges older people face in driving is central to supporting independent living. To identify challenges faced by older drivers we developed a system that records video, GPS, accelerometer, and speed data. Drivers were instructed to simply push a button on the steering wheel whenever they encountered a challenging situation. We deployed this system in the cars of 39 older drivers—18 from an urban environment and 21 from a rural environment, who drove with it for several weeks. Subsequently, we discussed their daily driving patterns and the particular challenges they confronted. These challenges included route planning, blind spot checking, and benefiting from co-drivers. A general concept emerged from the interviews: Driving with friends. This concept reflects the idea that driving is a distributed task supported by passengers.

## DIGITAL MEDIA AND HEALTH INFORMATION SEEKING: TRACING CHANGES AMONG INSURED AND UNINSURED OLDER ADULTS

D. Shah, T. Moon, Z. Di, *School of Journalism and Mass Communication, University of Wisconsin-Madison, Madison, Wisconsin*

Digital health has grown dramatically, with increasing use of ICTs to address health problems. Questions remain about whether these systems can address the needs of older adults, who have been slow to adopt the technologies through which these solutions are delivered. We examine the changing patterns of digital media usage among seniors, considering whether their use of ICTs is increasing and whether they are using them more for seeking health care information. We analyze data from the 2011 and 2013 Multimedia Audience Research Systems (MARS) health assessment, a national survey related to healthcare. Applying three-way mixed factorial ANOVA with age, insurance, and survey year predicting health-related usage of ICTs, the result reveal that gaps between the insured and the non-insured respondents is widening, though gaps between older and younger seniors appear to be

declining. This presentation explores the implications of these findings for the use of ICTs in healthcare.

## SESSION 415 (SYMPOSIUM)

### COMMUNITY-BASED PALLIATIVE CARE: ADVANCING COLLABORATIVE MODELS FOR UNDERSERVED OLDER ADULTS

**Chair:** N.S. Parikh, *Brookdale Center for Healthy Aging of Hunter College, New York, New York*

**Discussant:** A. Berman, *The John A. Hartford Foundation, New York, New York*

Over the past decade, increasing attention has been paid to palliative care as a tool to address the needs of individuals and caregivers in the management of advanced chronic illnesses. While palliative care has steadily become more accessible among hospital-based programs, significant gaps remain for underserved populations, particularly members of ethnic and racial groups, low-income individuals, and older homebound adults. Innovative community-based models that include developing and testing multidisciplinary approaches are urgently needed to improve the provision of palliative care to underserved populations. To begin to address this disparities gap in palliative care, Weill-Cornell's Division of Geriatrics and Palliative Medicine, Brookdale Center for Healthy Aging at Hunter College, Lenox Hill Neighborhood House, and the NYC Department for the Aging are partnering on a pioneering project designed to 1) develop and test a community-based palliative care intervention using community based participatory research (CBPR), and 2) build capacity to deliver key elements of palliative care to older adults via community-based providers. This symposium will demonstrate the partners' translational approach to inform research and practice. A multidisciplinary panel will: a) provide an overview of palliative care using CBPR methodology; b) discuss findings from a community needs assessment with service providers and community residents in an ethnically diverse community; c) summarize results from a mixed-methods study exploring the needs of elders following hospital discharge; and d) describe the process of developing and implementing an educational palliative care curriculum for case managers. This partnership provides a rigorous methodological approach to addressing gaps in community-based palliative care.

### COMMUNITY-BASED APPROACHES TO IMPROVE PALLIATIVE CARE DELIVERY IN MINORITY COMMUNITIES

C. Reid<sup>1</sup>, J. Callahan<sup>2</sup>, D.S. Gardner<sup>3,2</sup>, N.S. Parikh<sup>2</sup>, C. Kenien<sup>1</sup>, C. Villanueva<sup>2</sup>, A. Faustin<sup>2</sup>, M. Ruiz<sup>2</sup>, 1. *Weill Cornell Medical College, New York, New York*, 2. *Brookdale Center for Healthy Aging of Hunter College, New York, New York*, 3. *Silberman School of Social Work at Hunter College, New York, New York*

While palliative care (PC) service delivery continues to grow, certain communities are less likely to receive them. Efforts are needed to enhance PC program and practice delivery in minority communities. Community-based participatory research (CBPR) constitutes one approach to address this gap. CBPR represents a collaborative process between researchers and community partners; builds on the strengths, knowledge and resources in a community by employing local knowledge to better understand key problems and potential solutions, and facilitates co-learning throughout all phases of the process. While CBPR has been shown to improve health outcomes among persons with diverse chronic conditions, it has been infrequently employed to increase PC program and practice delivery. In this paper, we review existing efforts to employ CBPR approaches to address this problem and describe our approach that includes forming partnerships with key social service and other agencies/organizations serving older adults in a minority community in New York City.

## RESULTS FROM A COMMUNITY NEEDS ASSESSMENT: ADDRESSING PALLIATIVE CARE IN DIVERSE POPULATIONS

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Managing burdensome symptoms and psychosocial/spiritual concerns related to chronic conditions is challenging for many older adults. Despite the proliferation of palliative care, its reach in underserved communities is limited. This paper describes findings from a mixed methods needs assessment of community residents, social service agencies and faith-based organizations in an urban, ethnically-diverse community. The aim was to gain a better understanding of the extent of chronic illnesses among community-dwelling elders, the scope of community supports that address burdensome symptoms, and perceptions of palliative care among elders and providers. Preliminary findings indicate nearly two-thirds (63.4%) of the organizations interviewed provide palliative care services to their clients, but 86% of older respondents reported they had never heard of palliative care. Implications include the need to develop innovative community partnerships, and use CBPR methods to engage community stakeholders in future research and interventions that seek to ameliorate chronic illness and related symptoms.

## LOST TO FOLLOW-UP: EXPLORING PALLIATIVE CARE DISPARITIES AMONG COMMUNITY-DWELLING ELDERLY

D.S. Gardner<sup>1,2</sup>, C. Villanueva<sup>2</sup>, 1. *Silberman School of Social Work at Hunter College, New York, New York*, 2. *Brookdale Center for Healthy Aging of Hunter College, New York, New York*

Based primarily in inpatient settings, palliative care programs often fail to reach community-dwelling elders living with chronic conditions and burdensome symptoms. In particular, low-income, Latino, and African American patients who have had inpatient palliative care consultations are significantly less likely than their peers to continue following the service post-discharge. This paper presents findings from a mixed-methods study examining the perspectives and supportive care needs of underserved elders following discharge from a public hospital in a low-income, ethnically and racially diverse community. A purposive sample of 35 chronically-ill older adults were interviewed prior to discharge and one month later to explore their unmet needs, care preferences, management of pain and other symptoms, perceptions of palliative care, and barriers to accessing services in the community. Findings are presented and implications discussed for reducing disparities and promoting greater access to community-based palliative care for all chronically ill older adults and their families.

## DEVELOPING CAPACITY TO DELIVER COMMUNITY-BASED PALLIATIVE CARE VIA CASE MANAGEMENT AGENCIES

J. Callahan<sup>1</sup>, R. Chacon<sup>2</sup>, C. Reid<sup>3</sup>, D.S. Gardner<sup>4,1</sup>, A. Faustin<sup>1</sup>, C. Villanueva<sup>1</sup>, G. Rogers<sup>1</sup>, C. Kenien<sup>3</sup>, 1. *Brookdale Center for Healthy Aging of Hunter College, New York, New York*, 2. *Lenox Hill Neighborhood House, New York, New York*, 3. *Weill Cornell Medical College, New York, New York*, 4. *Silberman School of Social Work at Hunter College, New York, New York*

Most older adults who receive community case management suffer from chronic conditions and symptom burden, making them an ideal population for palliative care interventions. In this paper, we describe a pilot program to test a new multi-component educational curriculum in palliative care for case managers (CMs) providing services to older adults in New York City (NYC). A six-hour curriculum was delivered in two sessions to provide CMs with knowledge and skills to assist clients in managing symptoms and long-term care needs. Bi-monthly meetings were held to reinforce initial information presented and assist

CMs in implementing these techniques in the field. Finally, a toolkit was developed as an ongoing resource for participants. Preliminary findings indicated that 68.8% of CMs felt more confident providing psychosocial palliative care to clients and caregivers. The long-range goals of this project are to establish the curriculum's effectiveness and then disseminate it in NYC and beyond.

## SESSION 420 (SYMPOSIUM)

### PERSON-CENTERED CARE: WORKFORCE RELATED ISSUES

**Chair:** B.M. Willemse, *Program on aging, Netherlands institute of mental health and addiction, Utrecht, Netherlands, Clinical Psychology, VU university, Amsterdam, Netherlands*

**Discussant:** M. Downs, *Bradford Dementia Group, Bradford University, Bradford, United Kingdom*

There is a growing focus in nursing home care for people with dementia on deinstitutionalization and residents' psychosocial well-being. This has resulted in a direction towards small-scale, homelike and person-centered dementia care. Person-centered care acknowledges that the person and his or her psychological needs should be the focus of care delivery and not the disease. Since the relationships between healthcare workers and people with dementia are central to person-centered care, healthcare worker's attitudes and work methods are crucial. Therefore, it is important to pay attention to staff competencies and well-being in the further development towards person-centered dementia care. The presenters will: 1) present a theoretical framework hypothesizing potential impact of person-centered care on staff outcomes 2) describe staff competences that have been found to be important to provide person-centered care; 3) discuss the achievements and challenges of person-centered care in daily practice; 4) present the results of an intervention through which the Swedish person-centered care guidelines were implemented; 5) discuss the area of tension for staff between providing autonomy, which is central to person-centered care, and the regulatory context in long-term care.

### CONNECTING PERSON-CENTERED CARE WITH JOB SATISFACTION, TURNOVER AND CARE QUALITY IN LONG TERM CARE

D. Porock, S. Rajamohan, *Institute for Person-Centered Care, University at Buffalo SUNY, Buffalo, New York*

The role of the nursing assistant is essential in providing daily assistance to the increasing number of frail older adults in long-term care. The nature of the work is physically and emotionally challenging as they care for residents with complex physical and cognitive impairments. Models for understanding stress have been adapted from psychology and management research to explain the impact of stress on nursing home staff. Building on these models, we will advance hypotheses about the potential for changing staff and workforce outcomes based on creation of a person-centered work environment. Further, we will postulate the impact of building knowledge, motivation, skill and competence in person-centered practices on job satisfaction, turnover and quality of care. A strong theoretical framework is necessary for workforce-related research to produce evidence that can drive change including the need to understand the impact of person-centered practices on the bottom line.

### SKILLS AND COMPETENCIES OF NURSING STAFF IN LONG TERM CARE PROVIDING PERSON CENTERED CARE

H. Verbeek, R. Backhaus, E. van Rossum, J.P. Hamers, *CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

**Objective:** Long-term care for people with dementia is increasingly organized in small-scale, homelike care settings to facilitate person-centered care. However, further insight is needed in skills and competencies of nursing staff to provide this. **Method:** Mixed-method design, using



questionnaires (n=309), in-depth interviews (n=11) with nursing staff and a focus group (n=11; nurses, managers and educators). Result: Nursing staff mentioned as most important to do their job skills related to 'patience' and 'empathy', irrespective of care environment. In small-scale, homelike care environments aspects related to 'client-centeredness' were more profound whereas in traditional wards 'cooperation' was more often mentioned. The focus group indicated observing, alertness for changes and adequate response essential competencies. Conclusion: Quality and adequate education and training of nursing staff is essential in dementia care in order to provide person-centered care. Both educational modules and training on the job should be employed, taking into account the whole residents' system.

#### **PERSON-CENTERED CARE IN DAILY PRACTICE: ACHIEVEMENTS AND CHALLENGES**

B.M. Willems<sup>1,2</sup>, C. Wessel<sup>1</sup>, A. Pot<sup>1,2,3</sup>, 1. *Program on aging, Netherlands institute of mental health and addiction, Utrecht, Netherlands*, 2. *VU university, Amsterdam, Netherlands*, 3. *University of Queensland, Brisbane, Queensland, Australia*

In many countries dementia strategies are developed which seek to adopt person-centred approaches to care and to overcome the skills gap in the dementia workforce. The purpose of this study is to explore, from staff and family perspective, which aspects of person-centered care are already integrated by care staff in practice and which aspects need further attention. This insight will help focus staff training in person-centered care. Data were used from the Dutch LAD-study. 343 staff and 256 family caregivers filled out the instrument 'Measuring Person-Centered Care in Long Term Care', recently developed by the State University NY. Results indicate that, both staff and family caregivers, on average feel that staff are able to relate to residents in a positive and respectful way, which is an important achievement with regard to person-centered care. Future challenges consists of involving residents in meaningful activities, better understanding resident's behavior and supporting family caregivers.

#### **IMPROVING STAFF WELLBEING BY IMPLEMENTING NATIONAL GUIDELINES FOR PERSON-CENTRED CARE OF PEOPLE WITH DEMENTIA: THE STUREBY INTERVENTION STUDY**

D. Edvardsson<sup>1,2</sup>, P. Sandman<sup>3</sup>, L. Borell<sup>3</sup>, 1. *Nursing, La Trobe University, Melbourne, Victoria, Australia*, 2. *Umea University, Umea, Sweden*, 3. *Karolinska Institutet, Stockholm, Sweden*

Background Person-centredness has had substantial uptake in the literature on care of older people and people with dementia. However, further evidence is needed on how to implement person-centredness in aged care practice and associated outcomes on staff wellbeing. Methods A quasi-experimental, one-group pre-test/post-test design with 12-months follow-up was used to explore intervention effects on perceived person-centredness of care and environment, and on staff stress of conscience (N=143). Results Significantly higher ratings of person-centredness of care and nursing home hospitality were provided at follow-up. Staff stress of conscience was significantly reduced at follow-up, indicating that staff felt increasingly able to provide the care and activities they wanted to provide post intervention. Conclusions This interactive action-research intervention based on processes of knowledge translation, generation and dissemination from national guidelines for care of people with dementia, increased person-centredness of care practice, perceived hospitality of the setting, and reduced staff stress of conscience.

#### **"WE'RE IN A LITIGATION WORLD NOW": HOW LONG-TERM CARE WORKERS MANAGE RISK, SAFETY, AND PERSON-CENTERED CARE**

K. Scales, *University of Nottingham, Nottingham, United Kingdom*

Autonomy and choice are central to the philosophy and delivery of person-centered care. In nursing homes, where autonomy may be limited by residents' cognitive and communicative capacities, direct-care workers play a key role in translating these concepts into practice. The extent to which staff promote autonomy, however, is significantly constrained within the broader regulatory context of long-term care. Drawing from a comparative ethnographic study of person-centered care, this presentation will discuss the "culture of blame" characterizing nursing-home regulatory systems: a culture which prioritizes risk-avoidance and legal compliance above all else. It will be argued that navigating these conflicting imperatives – autonomy versus risk-avoidance – required staff to exercise a significant amount of (largely unrecognized and thus unsupported) discretion. By the end of the presentation, participants will be able to identify this intersection of policies in practice and consider ways to support frontline staff in exercising their discretion toward more person-centered outcomes.

#### **SESSION 425 (SYMPOSIUM)**

##### **HOUSING FOR AGING IN PLACE: GLOBAL PERSPECTIVES**

**Chair:** E. Hwang, *Virginia Tech, Blacksburg, Virginia*

**Discussant:** E. Hwang, *Virginia Tech, Blacksburg, Virginia*

Creating supportive housing and living environments has been an emerging challenge for many countries in supporting aging-in-place. In this session, research conducted in three countries representing diverse cultures, populations, and geographic regions will be presented. The first presentation provides an overview of the scientific literature and national policies on housing options that support family caregiving and aging in place. The second presentation showcases intentional community designs developed in an aging-in-place design workshop held in rural southwest Virginia, USA. The "rural", "suburban", and "urban" prototypes incorporate the values, culture, and norms of residents as well as facilitate the ability of persons to age in place. The third presentation reveals the voices of homeless seniors as they experience aging-in-place in inner city disadvantaged neighborhoods in metro-Vancouver, Canada. Findings indicate that pathways into homelessness in old age are complex and multi-dimensional. Experiences of individuals are clearly gendered and culturally situated around notions of home and place. The fourth presentation outlines how unique living space norms that reflect local culture in Jeju Island, Korea, affect the care provided to seniors and their quality of life. Analysis of the layouts of vernacular housing (shared yard but separate kitchens) and implications of living with adult children will be discussed. The fifth presentation highlights the continuing challenges faced by persons with disabilities and accessibility using the 2011 American Housing Survey. Together, the five presentations demonstrate that aging-in-place is a layered concept that is influenced by public policy, community resources, personal responsibilities, place, culture, social norms and values.

##### **DISABILITIES AND HOME ACCESSIBILITY OF SENIORS LIVING ALONE: THE 2011 AMERICAN HOUSING SURVEY**

H. Kwon<sup>1</sup>, E. Hwang<sup>2</sup>, J.O. Beamish<sup>2</sup>, 1. *Purdue University, West Lafayette, Indiana*, 2. *Virginia Tech, Blacksburg, Virginia*

The purpose of this study is to examine older adults' residential satisfaction related to their disabilities, home accessibility features, and home accessibility problems. This study used the 2011 American Housing Survey data. The useable sample was 11,520 single-person households, age 55 years and over. The dependent variable was residential satisfaction, and independent variables included disabilities, demographics, kitchen and bathroom accessibility features, and kitchen

and bathroom accessibility problems. T-test, ANOVA, correlation, and SEM were used to analyze the relationships. Participants who were older, female renters with less education and income, who lived in multifamily housing in urban areas had more disabilities and reported more home accessibility problems. Those who had more disabilities and home accessibility problems showed lower residential satisfaction scores. Having accessible housing can improve the residential satisfaction of older adults and vulnerable senior households need cost effective modifications and accessible solutions to improve their quality of life.

#### **AGING-IN-PLACE: FINDINGS FROM A RURAL HOME AND COMMUNITY DESIGN WORKSHOP**

N. Brossoie, *Center for Gerontology, Virginia Tech, Blacksburg, Virginia*

The Aging in Place Design Workshop evolved out of a need for public dialogue on the need for new or remodeled housing stock to accommodate the growing number of older adults in rural southwest Virginia. Architects, building contractors, aging service providers, community planners, housing professionals, academics, and community members participated in a half day workshop to discuss the meaning of aging in place and to design new intentional housing options for the regions' rural, suburban, and urban areas. The resulting homes and communities were designed around current community infrastructure and resources and included accessibility features. Space for businesses and services was included to stimulate sense of community. Most importantly, community designs reflected regional values, priorities, and culture by incorporating features that support resident independence and self-determination, facilitate social interactions, and promote use and conservation of the natural environment. Next steps include vetting designs in communities with regional planners and builders.

#### **AGING-IN-PLACE FOR HOMELESS SENIORS: RESULTS FROM MULTI-STAKEHOLDER COMMUNITY DIALOGUE**

R. Woolrych<sup>1</sup>, N. Gibson<sup>3</sup>, A. Sixsmith<sup>1</sup>, J. Sixsmith<sup>2</sup>, *I. Simon Fraser University, Vancouver, British Columbia, Canada, 2. Northampton University, Northampton, United Kingdom, 3. Homeless Community of Practice, Vancouver, British Columbia, Canada*

Aging populations and housing insecurity in inner city areas has increased the numbers of seniors who are homeless or at risk of becoming homeless. The aging-in-place agenda has not fully considered the needs of homeless seniors, as a group who are deprived of home, displaced from community and find it difficult to access the services they need. To address this gap, a multi-stakeholder, community dialogue approach was undertaken in Metro Vancouver to discuss the challenges of senior homelessness and to propose strategies and solutions to address the issue. Ten community dialogue sessions were held with 109 participants comprising older adults, senior's organizations, service providers and local government. The findings identified that pathways into homelessness in old age are complex, highly gendered and culturally situated around notions of home and place. The dialogues identified recommendations for the development of community supported housing, integrated services, and long-term interventions to address the cyclical nature of senior homelessness and support aging-in-place.

#### **MODERN FUNCTION AND ROLE OF THE VERNACULAR HOUSING OF JEJU, KOREA**

S. Koh, S. Lee, *Jeju Development Institute, Sout Korea, Jeju, Republic of Korea*

The vernacular housing of particular region reflects a characteristic life style and culture in residence for the elderly. It is likely to be meaningful to figure out the functions and roles in the traditional dwellings of Jeju Island, Korea, since it is a basic facility and life space that has enabled elderly people to live actively and independently. Furthermore, it has some implication for modern society which emphasizes "Active

Aging." The purpose of this study is to examine old ones' life and family dynamics in a vernacular housing focusing on the elderly care system. Ethnographic literature review and in-depth interview were carried out. This is to investigate unique characteristics of Jeju's traditional housing, the role and status of old people among family members, diversity of elderly care and nursing, and other factors to affect the elderly welfare system. This research implies somewhat significance that elder people's independent life-style eligible to the residence space in Jeju island has a function and role of sustaining their autonomy and dignity.

#### **HOUSING OPTIONS THAT SUPPORT FAMILY CAREGIVING TO ENHANCE AGING IN PLACE**

J.O. Beamish, *Virginia Tech, Blacksburg, Virginia*

While home services and family caregiving often work together to support aging in place, the design of the housing environment can also play a role in supporting seniors who wish to remain at home. Options include home modifications to existing homes to improve accessibility, universally designed new homes, and accessory units that provide separate living spaces for the older adult or caregiver. Case study analysis identified qualities and factors that could improve the home environment and support older adults and their families including improved convenience, accessibility, privacy, and monitoring. However, barriers exist that could impede the implementation and execution of helpful housing options, including availability, costs, regulations, and timeliness. Community programs and policies could be implemented to alleviate the barriers associated with the housing options that support caregiving.

#### **SESSION 435 (SYMPOSIUM)**

#### **REVERSE TRANSLATION: NEW MOLECULAR INSIGHTS FROM LARGE COHORT STUDIES FOR THE DEVELOPMENT OF THERAPEUTIC INTERVENTIONS TO PREVENT AGE-RELATED MOBILITY LOSS**

**Chair:** R. Fielding, *NEPS Laboratory, Tufts University, Boston, Massachusetts*

In recent years, emerging evidence from large observational studies has identified novel mechanistic links between the age-related changes in the components of body composition (muscle, fat, and bone) and distal outcomes related to deficits in muscle performance (strength, power, endurance), mobility declines, reduced physical functioning, role disability, and life expectancy. Evidence and target identification from these studies has led to novel physiological experiments that have uncovered the underlying biological mechanisms responsible for these changes. Finally, armed with this information, clinical trials of therapeutic (behavioral and pharmacological) interventions that target mobility loss continue to provide insights into the prevention and treatment of this syndrome. In this Presidential Symposium, three scientific experts will share insights into the epidemiology of mobility from loss large observational studies (Dr. Harris), provide evidence from physiological studies on the specific biological pathways that affect mobility loss in aging (Dr. Ferrucci), and highlight the role of physical activity/exercise as a potential therapeutic in intervention to counteract mobility loss (Dr. Goodpaster). Finally, the chair (Dr. Fielding) will integrate the presentations and highlight the importance of a translational science approach to mobility loss in the context of gerontological research.

#### **PHYSICAL ACTIVITY, EXERCISE AND HEALTHY AGING: BRIDGING MECHANISMS AND PRACTICE**

B. Goodpaster, *Florida Hospital & Sanford Burnham Translational Research Institute for Metabolism and Diabetes, Orlando, Florida*

Age-related loss of strength and slower walking speed predisposes frailty, impaired mobility, falls, hospitalization and ultimately early mortality. Moreover, the most contemporary definitions of sarcopenia include strength and walking speed. However, very little is known

about the potential unifying mechanisms responsible for both the loss of strength and slow walking speed with aging. Identifying these mechanisms could lead to more refined targets and ultimately treatments for sarcopenia. Mitochondria likely play a central role in aging muscle. This broad consensus, however, is based on evidence from animal models and small-scale human studies. Exercise preserves mitochondrial function, slows muscle loss and prevents several phenotypes of aging, including insulin resistance. Human studies of skeletal muscle mitochondria in aging, however, have not adequately captured the complexity of mitochondrial energetics. We have shown that mitochondrial energetics are associated with slower walking speed among older adults. Further translational studies are needed in order to more fully understand the mechanisms by which impaired mitochondrial energetics influences human aging, and whether these defects can be prevented with exercise or other interventions.

#### **LESSONS FROM THE BALTIMORE LONGITUDINAL STUDY OF AGING**

L. Ferrucci, *NIA/NIH, Bethesda, Maryland*

The Baltimore Longitudinal Study on Aging (BLSA) is the oldest longitudinal study of aging, spanning more than 50 years. A considerable part of our current knowledge about aging comes from studies performed in the BLSA. When Nathan Shock designed the BLSA, one of the main goals was to demonstrate that diseases and aging can be dissociated. For this reason, participants are enrolled in the BLSA when they are still very healthy and free of major diseases. Recently, very strict, standard criteria were established to define “healthy” status. Because aging affects many physiological systems, BLSA participants are examined from multiple perspectives, making it impossible to provide a comprehensive picture of the collected variables.

#### **MUSCLE, FAT, AND BONE IN HEALTH ABC: A MOLECULAR EPIDEMIOLOGY TRIANGLE**

T.B. Harris, *National Institute on Aging, National Institutes of Health, Bethesda, Maryland*

It is known that muscle, adipose tissue, and bone are all derived from the same progenitor cell, the mesenchymal stem cell. It might be thought that all would also share a common fate with aging, changing synchronously in the body. However, data suggest that instead both muscle and bone have a somewhat reciprocal relationship with adipose tissue; that is, as bone is lost over time, contributing to osteopenia, the amount of adipose in the bone marrow increases and as muscle is lost over time, contributing to sarcopenia, the amount of adipose in the muscle increases. Because the change in muscle appears to be follow a pattern similar to disuse in various muscles, it is unclear how much of the infiltration into bone and muscle is related to ‘aging’ and how much is related to ‘disuse’ and whether factors that accelerate the loss of one tissue are related to factors that accelerate loss of the other. It is also unclear whether these tissues are lost in parallel, a relationship that would support the theory of ‘mechano-loading’ versus each tissue progressively lost at an individual rate. Data from the Health, Aging, and Body Composition Study (Health ABC) will be used to illustrate the relationship of bone, muscle, and adipose to each other and to molecular markers including interleukins and other acute phase-related proteins. These data will be used to explore the underlying relationships in the four race-gender groups included in Health ABC: white men and women and African-American men and women. Data that support or contradict the data from Health ABC will also be utilized to explore these relationships and longitudinal outcomes of disability and death will be examined.

## **SESSION 440 (SYMPOSIUM)**

### **GSA.NCCA SYMPOSIUM: GENE D. COHEN RESEARCH AWARD IN CREATIVITY AND AGING**

**Chair:** L.S. Noelker, *Benjamin Rose Institute, Cleveland, Ohio*  
**Discussant:** J. Jeffri, *National Center for Creative Aging, Washington, District of Columbia*

The Gerontological Society of American in partnership with the National Center for Creative Aging, an affiliate of George Washington University, will present the 6th Annual Gene D. Cohen Research Award in Creativity and Aging to Rita Charon, M.D., Ph.D, who is a Professor of Medicine and Executive Director, Program in Narrative Medicine, at Columbia University Medical Center. Dr. Charon will report on her research studying patient-physician communication and the outcomes of narrative training for medical students and health professionals. Her findings show that narrative training helps to increase empathy and reflection in health professionals and students. This presentation will be supported by two others, one that examines the state of the field of research related to the arts and human development with a focus on later life. Important directions for future research studies are discussed. The third presentation focuses on the significant influence that the role of listener has in narrative encounters. It reports on research showing that comments by listeners validated the read stories and enhanced the story tellers’ experience. The symposium will showcase these pioneering studies that help to establish a new role for humanities and the arts across the spectrum of aging research, education and practice.

### **LISTENING: THE FORGOTTEN SIDE OF NARRATIVES IN AGING**

K. de Medeiros, *Sociology and Gerontology, Miami University, Oxford, Ohio*

Although narrative gerontology has increasingly gained attention in recent years, with numerous research studies, books, and presentations being offered, there is one important aspect of narrative that is often overlooked: the role of the listener. While many studies focus on the content of narratives in various research settings and recognize the interviewer as playing an influential part in what stories are told, few studies have explored the specific role that active listening plays in the narrative encounter as a way of validating the narrative. In this research, discourse analysis was used to examine listeners’ reactions to stories being read in the context of an 8-week structured autobiographical writing workshop. Results revealed that supportive comments from listeners functioned to validate participants’ stories. Participants who received such comments described greater perceived emotional growth than those who did not read their work aloud. Overall, findings point to the need to pay greater attention to role of listening in narrative work.

### **BUILDING THE SCIENCE: CREATIVITY AND AGING IN GERIATRIC EDUCATION**

G. Hanna, *National Center for Creative Aging, Washington, District of Columbia*

Linking the research of Gene D. Cohen MD PhD with the research of Rita Charon MD PhD to build a contemporary model for geriatric education will be the focus of this paper. Examining the research of Cohen on the impact of mastery and social engagement in redefining quality improvement in geriatric healthcare delivery systems will be expanded by the exploration of Charon’s research findings related to narrative medicine focusing on geriatric education specifically. This paper will address geriatric education through the use of the arts and humanities to increase capacity of healthcare professionals in shifting clinical practices from ones based on signs and symptoms to ones based on strength and satisfaction in terms of person centered care. This paper will additionally demonstrate the importance of the use of arts and humanities to develop innovative instructional strategies as well

as a means to evaluate the effectiveness of training across healthcare settings.

## SESSION 445 (SYMPOSIUM)

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### HOSPITAL READMISSIONS: ORGANIZATIONAL APPROACHES TO REDUCE READMISSIONS

**Chair:** R. Weech-Maldonado, *Health Services Administration, University of Alabama at Birmingham, Birmingham, Alabama*

**Discussant:** C. Johnson, *University of Washington, Seattle, Washington*

Hospital readmissions represent a preventable patient-level adverse outcome and are an important measure of overall health system performance. Prior research has linked higher rates of readmissions with poorer outcomes including increased mortality. Readmissions are expensive; the annual cost for the Medicare fee-for-service program is estimated at \$17 billion with nearly 20% of the beneficiaries readmitted within 30 days of discharge. Reasons for the high rate of readmissions include poor quality of care, premature hospital discharges, and improper transitions of care. Policymakers have increasingly stressed the importance of reducing hospital readmissions as it represents an opportunity to increase quality while lowering costs. In October 2012, the Centers for Medicare and Medicaid Services began to reduce Medicare payments to hospitals that have above average 30-day readmission rates for three conditions (heart failure, acute myocardial infarction, and pneumonia); this program will subsequently be expanded to other conditions in 2014. In addition, the Patient Protection and Affordable Care Act (ACA) includes further incentives to reduce readmissions through value-based purchasing and accountable care organizations. In this symposium, we explore organizational strategies that have the potential to reduce readmissions. In addition, we explore whether reducing payments to hospitals with higher readmission rates may exacerbate racial/ethnic disparities. The first presentation discusses the use of hospitalists as a strategy to reduce pneumonia rehospitalizations. The second presentation examines whether having a hospital-based skilled nursing facility reduces readmission rates. The third presentation explores whether hospitals with a higher proportion of minorities have higher readmission rates and lower financial performance.

### DO HOSPITALS WITH SKILLED NURSING UNITS HAVE LOWER READMISSION RATES?

S. Gupta, R. Weech-Maldonado, *The University of Alabama at Birmingham, Birmingham, Alabama*

Hospital-based skilled nursing facilities (HBSNFs) may allow hospitals to improve their continuum of care, thereby reducing their readmission rates. This study seeks to examine if hospitals with HBSNFs have lower readmission rates. Data include a national sample of hospitals (2008-2010) from the AHA Annual Survey, ARF, and CMS Hospital Compare. The dependent variables are 30-day risk adjusted readmission rates for Acute Myocardial Infarction, Heart Failure, and Pneumonia. The binary lagged independent variable represents the presence or absence of a HBSNF. A panel logistic regression with facility and year fixed effects is used for the analysis, controlling for organizational and market factors. Fixed effects would address selection bias and control for unobserved, time-invariant organizational characteristics. Results of this study could assist policymakers in developing strategies (such as incentivizing HBSNFs) promoting better coordination of care for patients, who are not well enough to be discharged and need to be kept under supervision.

### MINORITY-SERVING HOSPITALS: IMPACT ON READMISSIONS AND FINANCIAL PERFORMANCE

R. Weech-Maldonado, L. Hearld, F. Zengul, *Health Services Administration, University of Alabama at Birmingham, Birmingham, Alabama*

Research suggests that hospitals caring for a larger proportion of minority patients have lower quality of care. Furthermore, minority-serving institutions are oftentimes teaching hospitals and resource constrained. As such, policies that financially penalize hospitals for higher readmission rates may exacerbate racial/ethnic disparities in care. This paper assesses the relationship between the proportion of inpatient minorities and financial and quality performance. The study uses longitudinal data (2010-2012) for hospitals in California, Florida, and New York from: HCUP State Inpatient Database; AHA Annual Survey; Medicare Cost Reports; and Area Resource File. The dependent variable consists of hospital readmission rates (acute myocardial infarction, heart failure, and pneumonia) and financial performance (operating margin and total margin). The independent variable consists of percent of total admissions for non-Hispanic Blacks, Hispanics, Asian/Pacific Islanders, and Other (reference: non-Hispanic Whites). Data are analyzed using panel regression with hospital and year fixed effects, controlling for organizational and market factors.

### DO HOSPITALISTS REDUCE PNEUMONIA READMISSION RATES?

J. Epane<sup>1</sup>, R. Weech-Maldonado<sup>2</sup>, L. Hearld<sup>2</sup>, *1. Health Care Administration and Policy, University of Nevada Las Vegas, Las Vegas, Nevada, 2. University of Alabama at Birmingham, Birmingham, Alabama*

Hospitalists have grown rapidly in hospitals, with the number of FTE hospitalists increasing from 1,001 in 2007 to 2,362 in 2010. Hospitalists may provide better coordination and continuity of care, which may result in lower readmissions. Using a national sample of hospitals (N=3,294), our longitudinal (2008-2010) study explores the relationship between use of hospitalists and pneumonia readmissions. Data from the AHA Annual Survey, ARF, and CMS' Hospital Compare were used for this study. A panel design with facility and year fixed effects regression was conducted for this analysis, controlling for organizational and market factors. Our results indicate that an increase in the use of hospitalists, staffing intensity (high proportion of FTE hospitalists), and contracted hospitalists were associated with lower pneumonia readmissions. This supports prior research showing that hospitalists reduce pneumonia readmissions. Furthermore, our findings suggest that an adequate staffing level of hospitalists is critical to achieve the desired outcome.

## SESSION 450 (SYMPOSIUM)

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### IMPLEMENTING A HERMENEUTIC APPROACH - A WAY TO ADDRESS CHALLENGING BEHAVIOR IN NURSING HOMES

**Chair:** M. Roes, *German Center for Neurodegenerative Disease (DZNE), Witten, Germany*

Challenging behavior in persons with dementia is one of the major issues for staff in nursing homes. thus, nurses are confronted with demanding and complex care situations on a daily basis. Challenging behavior is also associated with staff distress and burden. Challenging behavior may be understood as a response to unmet needs, this requires a comprehensive approach and is a key feature of person-centered care. The principles of a hermeneutic circle supports critical thinking, and provides the opportunity to analyze the complex needs and situations of the individuals with dementia. This 'approach' is toward the nature of understanding, thus the primary intention is to reveal conditions that facilitate understanding. The principles of a hermeneutic circle are used in 12 Nursing homes: two different 'ways to understand' challenging

behavior are implemented, using a stepped-wedge-design. At the end of the project (2015) 24 sessions audio taped. Preliminary results (analysis of 4 sessions) will be presented.

## **HOW TO IDENTIFY NEEDS OF VULNERABLE PEOPLE - CONTRIBUTIONS OF QUALITATIVE RESEARCH METHODOLOGY**

M. Roes<sup>1</sup>, K. Abbott<sup>2</sup>, 1. *German Center for Neurodegenerative Disease (DZNE), Witten, Germany*, 2. *Polisher Research Institute of the Madlyn and Leonard Abramson Center for Jewish Life, North Wales, Pennsylvania*

This is a symposium from members of the GSA qualitative research interest group. Most of the time qualitative research methods are used when 'we don't know nothing' about a problem that occurred in practice or when no instrument exist to measure a phenomena or outcome. This understanding may have been stimulated through a methodological progress of the 'causal model of explanation' as a prototype for research. On the other side, qualitative research provides empiric knowledge based on an understanding of reality which is constructed both individually and socially. There is still a high need for qualitative research projects: (A) to get a better, more detailed understanding of highly sensitive issues (e.g. mistreatment); to learn how people address topics (e.g. articulating needs); to observe (e.g. behavior in specific situations) or to reflect the own perspective (e.g. hermeneutic's), and (B) to include people into our research studies who might not be able to participate otherwise (like people with cognitive impairment or dementia). Qualitative research methods are grounds for reasonable understanding, and reflecting reasoning contexts, on which the researcher's interpretation is based. Problems in connecting 'proper' understanding in an interpretative process are discussed in the light of different interpretation schemes. Three different projects will presented: (a) How qualitative methods (e.g. interviews, observation) helped to understand elder mistreatment, physician behavior, and practice (Amanda E. Sokan, PhD, MHA, LL.B.) (b) using focus-group technique to identify the needs of caregivers' of people with dementia attending a Day Center (Debra Hain, PhD) (c) how hermeneutic circle can be used to address challenging behavior issues in nursing homes (Martina Roes, Prof., PhD, MA, RN)

## **ELDER MISTREATMENT AND PHYSICIAN BEHAVIOR AND PRACTICE: CONNECTING THE DOTS?**

A.E. Sokan, *Texas State University, San Marcos, Texas*

Qualitative research assiduously attends to point of view in representing the empirical. Whatever the topic of research... those involved experience what they do from a particular point of view. There is no neutral standpoint." - Jaber Gubrium, 1992. Quantitative methods have long been accepted as *de riguer* in research, yet qualitative methods steeped as they are in traditions that include recognition of the importance of obtaining participant(s) perspectives and experiences, provide avenues to obtain rich, nuanced understanding of the phenomenon of study. More so, this is relevant when dealing with highly sensitive issues such as elder mistreatment. Participant interviews for example, afford the opportunity to interact, observe behavioral as well as spoken responses, and the option to adapt questions as necessary to yield a higher degree of detail. This presentation illustrates how the use of qualitative methods helped clarify issues, identify underlying constraints, and unearth critical information pertinent to understanding physician behavior/practice.

## **DETERMINING NEEDS OF CAREGIVERS' OF PEOPLE WITH DEMENTIA ATTENDING A DAY CENTER**

D.J. Hain, G. Engstrom, *College of Nursing, Florida Atlantic University, Boca Raton, Florida*

Despite having day centers with excellent activity programs for people with dementia, unmet caregiver needs may exist. To inform future programs, focus groups were used to identify the needs of caregivers of

people with dementia who attended a day center in Southeast Florida. Caregivers (60% female) with mean age 76.5 years (SD 8.9) of persons with dementia (n = 22) participated in a onetime focus group session. The transcribed interviews were analyzed using qualitative content analysis. Three themes emerged: 1) needing help with communication; 2) need for behavior management program; 3) needing to connect with others. Trustworthiness was established through credibility, dependability and transferability. The findings support the need to inquire about caregivers' needs and perceptions of current programs in an effort to tailor interventions that meet caregivers' needs. It is hoped by addressing the needs of caregivers, caregiver burden will be reduced.

## **SESSION 455 (SYMPOSIUM)**

### **HARTFORD CHANGE AGENTS WORKING IN INTERPROFESSIONAL TEAMS TO IMPROVE THE OUTCOMES OF OLDER ADULTS**

**Chair:** M. O'Connor, *Villanova University, Villanova, Pennsylvania*  
**Discussant:** K.H. Bowles, *School of Nursing, University of Pennsylvania, Philadelphia, Pennsylvania*

The majority of practicing health care providers have not been trained to work in integrated teams. The Institute of Medicine has called for "active collaboration" among disciplines and recommends redesigning care processes in order to narrow the quality chasm. It is believed that the collective skills and experience of interprofessional team members improves the quality and effectiveness of care. The timely new initiative of the John A. Hartford Foundation, "Hartford Change AGents", is designed to support interprofessional collaborators as they work together to improve care provided to older adults. This symposium reflects the interprofessional and collaborative research of four academic institutions and several Hartford Change AGents, as all first authors have been direct recipients of funding from the Hartford foundation. Our first presentation describes results from four interprofessional focus groups conducted to elicit home health clinician and physician knowledge about the factors considered important to determine readiness for discharge from home health services among older adults. Next, innovative social work and nursing interviews reveal conjoint efforts to minimize resident to resident aggression in nursing homes. Third, an interprofessional research team describes their efforts to predict which older adults with heart failure discharged from the hospital to home health are at risk for rapid rehospitalization. Then a method to evaluate interprofessional education programs is explored. Our final presentation suggests that interprofessional teams may result in higher value care for complex older adults. This symposium highlights the value of interprofessional collaboration even across academic institutions to improve the outcomes of older adults.

### **RESIDENT-TO-RESIDENT AGGRESSION IN NURSING HOMES: SOCIAL WORK INVOLVEMENT AND COLLABORATION WITH NURSING COLLEAGUES**

R.P. Bonifas, *Social work, Arizona State Univ, Phoenix, Arizona*

Resident-to-resident aggression (RRA) is the most common form of abuse occurring in nursing homes. A frequent strategy employed to address RRA is to make a referral to the facility social worker, yet studies are non-existent regarding how social workers respond to such referrals or how they collaborate with other professionals in doing so. This presentation reports findings from individual and group interviews with 90 social work and nursing personnel regarding conjoint efforts to minimize RRA. Results reveal that social workers have both independent and collaborative responsibilities in assessment and intervention, and that licensed nurses are their primary behavioral management partners. Solo duties include addressing psychosocial harm in victimized residents, delivering psychosocial interventions, and serving as a communications liaison with family members. Collaborative duties include determining factors that triggered aggressive incidents, planning

person-centered intervention strategies, organizing delivery of environmental interventions, and performing reciprocal roles that capitalize on each discipline's professional strengths.

#### **HOME- AND COMMUNITY-BASED SERVICES FOR MEDICAID/MEDICARE DUAL ELIGIBLE INDIVIDUALS**

J. Van Cleave<sup>1</sup>, S. Brosch<sup>2</sup>, E. Wirth<sup>2</sup>, M. Lawson<sup>3</sup>, B.L. Egleston<sup>4</sup>, E. Sullivan-Marx<sup>1</sup>, M.D. Naylor<sup>5</sup>, *1. New York University College of Nursing, New York, New York, 2. New York University Langone Medical Center, New York, New York, 3. Mount Sinai Medical Center, New York, New York, 4. Fox Chase Cancer Center, Philadelphia, Pennsylvania, 5. University of Pennsylvania, Philadelphia, Pennsylvania*

Federal and state governments are developing initiatives to promote cost effective care models for vulnerable populations such as Medicaid/Medicare dual eligible individuals. We extracted data from two capitated Home- and Community-Based Services Programs' (HCBS) medical records to compare providers' hours and personnel costs in delivering care. The study population consisted of 49 dual eligible individuals newly enrolled in the study Health Related Quality of Life: Elders in Long Term Care Study (Mary D. Naylor, PI). Findings from this small sample suggest that inter-professional teams emphasizing primary care services and senior centers may provide higher value care for dual eligible individuals than coordination of care with in-home services. Findings also suggest the need for policy initiatives that facilitate inter-professional team members' communication, promote team members' professional practice to the full extent of their education, and foster services that meet dual eligible individuals' needs and desires.

#### **INTERPROFESSIONAL COLLABORATIVE PRACTICE TO IMPROVE CARE FOR OLDER ADULTS: EMPLOYING RELATIONAL COORDINATION TO EVALUATE AND STRENGTHEN COORDINATION PROCESSES**

A. Rao, R. Trotta, *School of Nursing, University of Pennsylvania, Philadelphia, Pennsylvania*

Interprofessional education and practice are frequently cited as means to improve care coordination and quality. Yet, methods to evaluate interprofessional programs are not well-developed. Relational Coordination (RC) is a theory describing the relational dynamics of coordinating work. RC is assessed via a validated survey that evaluates the quality of communication and relationships among disciplines. This paper describes pilot findings of a longitudinal study that employs RC to evaluate and strengthen coordination among interprofessional teams caring for older-adult inpatients. To prime medical inpatient teams to engage effectively in interprofessional collaborative practice (IPCP), team members participated in a training framed by the Core Competencies for IPCP (Interprofessional Education Collaborative, 2010). Prior to and three months following this education, nurse, physician, social work, and pharmacist team members completed RC surveys; they will complete subsequent surveys every six months. We will discuss how RC survey results inform targeted team-based coaching to strengthen coordination processes.

#### **PREDICTING EARLY VERSUS LATER READMISSION AMONG HOME HEALTH CARE PATIENTS WITH HEART FAILURE**

O. Jarrin<sup>1</sup>, C. Zhu<sup>2</sup>, K.H. Bowles<sup>1</sup>, M. O'Connor<sup>3</sup>, C.M. Murtaugh<sup>4</sup>, *1. University of Pennsylvania, Philadelphia, Pennsylvania, 2. Ichan School of Medicine at Mount Sinai, New York, New York, 3. Villanova University, Villanova, Pennsylvania, 4. Center for Home Care Policy & Research, Visiting Nurse Service of New York, New York, New York*

Through incentives, penalties and bundled payment initiatives, the Affordable Care Act has placed a premium on improving care and reducing cost, especially related to avoidable hospitalizations. With

more than one-quarter of 30-day all-cause rehospitalizations occurring within 1 week, this study aims to predict which patients with heart failure discharged to home health care are at risk for rapid rehospitalization. We hypothesized that variables useful for predicting rapid rehospitalization exist in the assessment data collected by Registered Nurses during the standardized home health intake assessment, reported in the Outcome and Assessment Information Set (OASIS). Logistic regression and discriminant function analysis were used to test a parsimonious set of variables predicting which high-risk patients with heart failure are re-hospitalized within 7 days versus later. The findings have practical implications for hospitals, home health agencies and electronic medical record software systems trying to rapidly identify patients who most need intensive monitoring and support.

#### **IDENTIFYING CRITICAL FACTORS IN DETERMINING READINESS FOR DISCHARGE FROM SKILLED HOME HEALTH SERVICES**

M. O'Connor<sup>1</sup>, R.M. Madden-Baer<sup>2</sup>, K.H. Bowles<sup>3</sup>, *1. Villanova University, Villanova, Pennsylvania, 2. Visiting Nurse Service of New York, New York, New York, 3. School of Nursing, University of Pennsylvania, Philadelphia, Pennsylvania*

Medicare relies upon home health clinicians and physicians to evaluate beneficiary needs and to decide to discharge from skilled home health or recertify patients for an additional 60-day episode of care. However, there are no national, empirically derived decision support tools to assist in making these common but important decisions regarding determining readiness for discharge. We conducted 4 focus groups among home health clinicians (RNs, PTs, OTs, STs, MSWs), supervisors and physicians to elicit interprofessional knowledge about the factors considered important to determine readiness for discharge from skilled home health services among older adults. Among the key emergent themes that resulted from the content analysis included patient safety and caregiver availability. This study is the first step in building a standardized approach to discharge decision-making that will assist direct-care clinicians to determine readiness for discharge from skilled home health services among older adults who are vulnerable for poor outcomes.

### **SESSION 460 (SYMPOSIUM)**

#### **IMPLEMENTING AUTONOMY INTO THE DAILY LIVES OF RESIDENTS WITH DEMENTIA: CHALLENGES IN ASSISTED LIVING**

**Chair:** A. Frankowski, *UMBC, Baltimore, Maryland*

**Co-Chair:** R. Rubinstein, *UMBC, Baltimore, Maryland*

**Discussant:** K. Macmillan, *School of Social Work, University of Maryland, Baltimore, Maryland*

Autonomy - independence, control, freedom, agency - important in American culture - becomes increasingly difficult to sustain as one ages. It is even more formidable for residents who live in institutional settings. In this symposium we examine the unique challenges that cognitive impairment presents to implementing autonomy into the everyday experience of residents with dementia who live in assisted living (AL) and dementia care units (DCUs). Examining data from five research sites and integrating the perspectives of residents, families, frontline staff, and managers, we explore (a) the concepts of culture change and person-centered care and how they can best be used to incorporate autonomy within the core social model of AL; (b) the challenges to increase autonomy for all residents when individuals with moderate to severe dementia are housed within the general AL population; (c) the DCU as a positive space to enhance autonomy for both residents and staff; (d) the role families play in crafting autonomy into the everyday lives of their relatives living in DCUs; and (e) how care workers understand, classify, and define residents with dementia and the way this affects how autonomy is fostered or constrained in AL. Ethnographic

data (field notes and interviews) for this symposium are drawn from an NIA-funded, 4-year qualitative study, "Autonomy in Assisted Living: A Cultural Analysis" and a 14-month NIA-funded supplement into three DCUs from the parent grant. Five diverse Mid-Atlantic AL sites ranging in size from 16 to 100 residents are represented.

### **AUTONOMY IN ASSISTED LIVING: OBSERVATIONS OF DEMENTIA AS A COMPLICATING FACTOR**

P.J. Doyle, A. Frankowski, R. Perez, G.G. Tucker, *Center for Aging Studies, Sociology/Anthropology Department, University of Maryland Baltimore County, Baltimore, MD*

Fostering autonomy has been a central component of the efforts to improve the quality of life for older adults living in nursing homes (NHs) and assisted living (AL) settings. The construct of autonomy has been introduced within culture change, person-centered care, NH regulations, and the core social model of AL. However, cognitive impairment in these environments presents unique challenges to the realization of this ideal. This paper focuses on how an organizational goal of "maintaining residents' autonomy" can be difficult in the context of dementia. Ethnographic data collected in five diverse ALs were analyzed for this paper where we integrate the perspectives of residents with dementia, their family members, and frontline staff to examine the challenges faced when seeking an autonomous life with dementia. The findings are used to discuss how AL communities can overcome the challenges of dementia care and ensure autonomy for residents with dementia.

### **WHOSE AUTONOMY? CHALLENGES OF INTEGRATING PERSONS WITH DEMENTIA IN ASSISTED LIVING POPULATIONS**

L. Morgan, A. Frankowski, R. Perez, *Sociology & Anthropology, UMBC, Baltimore, Maryland*

Many assisted living (AL) settings integrate residents with dementia into the general population rather than segregating them in special units, retaining them as long as possible, even as their dementia progresses. This paper addresses challenges raised by the resulting diversity in behavior and capacities of residents, and the impact this has on the autonomy of all residents sharing life in AL. In this paper we analyze two ALs and examine the influence of AL and staff philosophies on managing dementia; how efforts to maximize autonomy for all can result in both successful and unpleasant or dangerous encounters among residents; and how ALs favor "special residents" with dementia relative to others, thereby providing them greater autonomy. Outcomes involving the use of shared and personal spaces, autonomy-enhancing social activities, and dynamics of communal interactions, such as meals and social gatherings suggest dementia-integrated settings face challenges to provide equal autonomy for all.

### **BEHIND LOCKED DOORS: "FREE" EXPRESSION OF AUTONOMY IN DEMENTIA CARE UNITS**

A.D. Peoples<sup>1</sup>, C.R. Bennett<sup>1,2</sup>, G.G. Tucker<sup>1</sup>, A. Frankowski<sup>1</sup>, *J. Gerontology, University of Maryland, Baltimore County, Baltimore, Maryland, 2. Doctoral Program in Gerontology, UMBC/UMB, Baltimore, Maryland*

Dementia care units (DCUs) are often viewed as controlled physical environments with restricted movement for a small group of residents within assisted living (AL) settings. Behind the locked doors of the DCUs, however, residents and frontline staff find considerable freedom and independence. Residents are actively involved in time-consuming day-to-day decision-making, and staff members are more able to tailor their care to residents' needs individually. Drawing on data from participant observation and ethnographic interviewing conducted over twelve months in three DCUs, we focus in this paper on how the locked door providing a safe space (the DCU) becomes the mechanism for enhancing the autonomy of both residents and frontline staff. Further, we examine the ways that autonomy is expressed, the forms it takes,

and the effect it has on everyday life and work. We conclude with a discussion of how autonomy impacts the overall climate of the DCU.

### **FAMILY INVOLVEMENT IN DEMENTIA CARE UNITS: PROMOTING AUTONOMY IN EVERYDAY LIFE**

A. Frankowski, C.R. Bennett, M. Brazda, G.G. Tucker, A.D. Peoples, M.C. Nemecek, R. Hrybyk, R. Perez, *UMBC, Baltimore, Maryland*

Family involvement is often key to residents' initial adjustment to life in assisted living and later to their transition into dementia care units (DCUs). In this paper, we first explore the role that families play in the lives of their relatives in the DCU and then examine the relationships that families have with frontline staff and managers. Drawing on ethnographic data from participant observation and interviewing conducted sequentially over fourteen months in three DCUs with residents and staff, we focus on families' long-standing concern with safety; the process of, and change in, residents' decision-making; attitudes toward formation of social relationships by residents; privacy; and the degree and expression of independence permitted in the DCU. We conclude with an examination of how residents' family members, partners, and friends work in concert with staff and management to promote autonomy in the everyday experience of residents in the DCU.

### **THE INFLUENCE OF STAFF MEMBERS' CLASSIFICATIONS OF RESIDENTS WITH DEMENTIA ON RESIDENTS' AUTONOMY**

R. Rubinstein<sup>2,1</sup>, P.J. Doyle<sup>1</sup>, J. Eckert<sup>2,1</sup>, M. Brazda<sup>1</sup>, *1. Center for Aging Studies, Sociology/Anthropology Department, University of Maryland Baltimore County, Baltimore, MD, 2. Department of Sociology and Anthropology, UMBC, Baltimore, Maryland*

The way care workers understand, classify, and define the nature and characteristics of the residents with whom they work affects the extent to which residents' autonomy is fostered or, conversely, constrained within an institutional context (e.g., assisted living). Frontline staff and managers in five diverse assisted living (AL) communities were interviewed as part of an ethnographic study of autonomy. Their narratives were analyzed to determine their perspectives and classifications of residents with dementia, and observations were noted on how they interacted with residents under their care. Using these data, this paper explores the ways that AL staff members' classifications of residents with dementia shape aspects of residents' autonomy. These findings provide insight into the profound influence that AL staff members' perspectives of residents has on the residents' quality of life, social environment, and expression of autonomy.

## **SESSION 465 (SYMPOSIUM)**

### **CONTEMPORARY "AGES OF ME": NEW INSIGHTS INTO SOCIAL AND SELF PERCEPTIONS OF AGE**

**Chair:** N. Notthoff, *Institute of Personality and Social Research, University of California, Berkeley, Berkeley, California*

**Co-Chair:** J.M. Montepare, *Lasell College, Newton, Massachusetts*

**Discussant:** M.L. Hummert, *University of Kansas, Lawrence, Kansas*

Research on age-related social and self-perceptions has generated a wide range of enlightening findings. For example, it is well known that people hold systematic age stereotypes which may manifest themselves in explicit or implicit ways (Nelson, 2004). These social perceptions have far-reaching consequences (Meisner, 2012). Research on subjective self-perceptions of age has shown that adults often experience discrepancies between their actual and subjective age, typically holding younger identities (Montepare & Lachman, 1989; Rubin & Berntsen, 2006). Like social perceptions, these self-perceptions have broad personal implications (Boehmer 2007; Kotter-Gruehn, Kleinspehn-Ammerlahn, Gerstorf, & Smith, 2009). In addition to broadening our under-

standing of how age impacts our social and personal worlds, existing findings are a catalyst for new questions. In this symposium we bring together several lines of research which explore such new questions. Notthoff and colleagues expand our understanding of age-related social perceptions by probing the power of brief vocal cues to inform perceivers about speakers' age and other attributes such as their cognitive status. Kotter-Gruehn and Gruehn extend work on basic age group categorization with their in-depth inquiry into the interaction of age and gender in shaping perceivers' impressions of the ideal adult. Brothers and colleagues disentangle previously observed relationships between personal views of future time horizons and well-being by considering the intervening role of self-awareness of aging. Finally, Montepare explores the extent to which formerly documented relationships between subjective age perceptions and body image hold true in the contemporary aging landscape.

### **I HEAR YOU! EXTRACTING INFORMATION ABOUT AGE AND CHARACTERISTICS OF OTHERS FROM VOICE RECORDINGS**

N. Notthoff<sup>1</sup>, J.M. Montepare<sup>2</sup>, M.L. Hummert<sup>3</sup>, M. Lachman<sup>4</sup>,  
1. *Institute of Personality and Social Research, University of California, Berkeley, Berkeley, California*, 2. *Lasell College, Newton, Massachusetts*, 3. *University of Kansas, Lawrence, Kansas*, 4. *Brandeis University, Waltham, Massachusetts*

People can be remarkably accurate in quickly forming impressions of others based on "thin slices" of behavior (Ambady & Rosenthal, 1992). How good are they when snippets of information are available through one channel only? We examined the accuracy of 20 young (18-20 years, M=18.45) and 20 older (62-99 years, M=79.70) listeners' perceptions of 102 speakers (34-84 years, M=60.42) formed based on voice recordings in which speakers repeated five numbers. Speakers were participants from the Boston subsample of the MIDUS-study. Listeners rated each speaker's age, intelligence, stress level, and attractiveness. Listeners tended to underestimate speakers' age (Mean Discrepancy=-16.05, SD=11.27,  $p<.001$ ). Ratings of speakers' age were related to speakers' subjective age ( $r=.45$ ,  $p<.001$ ) and to speakers' cognitive performance. Ratings of speakers' intelligence were predictive of actual intelligence indicators ( $B=.59$ ,  $SE=.21$ ,  $p=.006$ , controlling for age). Implications for interactions in a world in which virtual communications are becoming increasingly common will be discussed.

### **CAN AGE STEREOTYPES OVERRIDE GENDER STEREOTYPES? PERCEPTION OF IDEAL ADULTS DEPENDS ON AGE AND GENDER**

D. Kotter-Gruehn<sup>1</sup>, D. Grün<sup>2</sup>, 1. *Department of Psychology and Neuroscience, Duke University, Durham, North Carolina*, 2. *North Carolina State University, Raleigh, North Carolina*

Aging research has mainly focused on the perception of older adults based on age categorizations. Individuals do, however, belong to more than one social category and stereotypes resulting from categorizing people may reflect more than one domain (e.g., age and gender). We examined whether the attributes that characterize an ideal adult differ as a function of age and gender of the ideal adult and/or age and gender of the participant. 302 younger and 146 older adults were assigned to one of three conditions in which they rated (1) the ideal adult/woman/man; (2) the ideal adult/young woman/young man; and (3) the ideal adult/old woman/old man on stereotypical sex-role items. Results show that young adults rate older targets as least similar to an ideal person whereas older adults rate younger targets as least similar to the ideal adult. This effect was further moderated by the gender of the target.

### **DOES AWARENESS OF AGING EXPLAIN THE RELATIONSHIP BETWEEN FUTURE TIME PERSPECTIVE AND PSYCHOLOGICAL WELL-BEING?**

A.F. Brothers<sup>1</sup>, M. Miche<sup>2</sup>, H. Wahl<sup>2</sup>, M.K. Diehl<sup>1</sup>, 1. *Human Development and Family Studies, Colorado State University, Fort Collins, Colorado*, 2. *Department of Psychological Aging Research, University of Heidelberg, Heidelberg, Germany*

Although many older adults report relatively high levels of psychological well-being (PWB), a more limited future time perspective (FTP) is common in later life, and is associated with lower PWB. The perception of one's own aging may explain this seemingly discrepant trend, because the way in which one's own aging is experienced when the future is limited may shape a person's sense of well-being. Therefore, we examined if two broad dimensions (i.e., gains vs. losses) of adults' awareness of age-related change (AARC) mediate the association between FTP and PWB. The sample consisted of 586 community-residing adults 40-102 years old. As expected, AARC gains and losses were significant mediators and findings were consistent with partial mediation for all six PWB dimensions. The findings were stronger for AARC losses than gains, suggesting that the conscious awareness of negative age-related changes accounts for a substantial portion of the association between FTP and PWB.

### **SAME OLD, SAME OLD: PERSISTENT RELATIONS BETWEEN WOMEN'S BODY IMAGE AND SUBJECTIVE AGE**

J.M. Montepare, *Lasell College, Newton, Massachusetts*

Twenty years ago, research documented links between women's negative body image and perceptions of themselves as old (Montepare, 1996). Since then, shifting age demographics have purportedly prompted changes in how aging is viewed and valued. This research explored the extent to which previously observed age-related body perceptions may have also changed. 152 women (51 to 84 years) completed a survey about aspects of their body image (BESAA; Mendelson et al., 2001) and subjective age. Age awareness (the extent to which age is viewed as an important personal attribute) was also explored in light of its suggested intervening role in age-related perceptions. As observed two decades ago, many women held negative body attitudes and older age identities. Moreover, now this was especially true for women with high age awareness. Subjective age predicted attitudes more strongly than did actual age. Determinants and implications of these persistent age perceptions are discussed.

## **SESSION 470 (SYMPOSIUM)**

### **IMPACT OF PENSION REFORMS: EMPLOYMENT TRENDS, WOMEN'S PERSPECTIVES AND STRATEGIES IN IRELAND**

Chair: N. Duvvury, *NUI, Galway, Galway, Ireland*

Demographic ageing and its accompanying increased pension costs have led many western countries to implement pension reforms and other policies to extend working life. Ireland has recently introduced such reforms and has simultaneously experienced a prolonged economic recession, accompanied by austerity policies. This paper draws on national employment datasets to analyse differentiated gendered trends in employment participation and pension coverage for older workers. It uses qualitative interview data from a recent cross-border study of Older Women Workers and Pensions (Duvvury et al, 2012) to explore the current and likely future impacts for women of the introduction of such policies. In particular, it uses a lifecourse analytic approach and explores whether and how women in various sectors use 'extended work' or 'delayed retirement' as a strategy to combat cumulative disadvantage they may experience in income and pension-building. This enhances our understanding of how women construct pensions and retirement.



## IS SEVENTY THE NEW SIXTY? GENDER AND THE EXTENSION OF WORKING LIFE

D. Street, *Department of Sociology, University at Buffalo, SUNY, Buffalo, New York*

By the 1990s, the average age of retirement had declined to 57 in the United States and 61 in Canada. Since then, the age of retirement has inched up several years in both countries, and current North American workers anticipate staying in paid work even longer in the future. Such broad trends in the relationship between older ages and labor market participation, however, mask persistent differences between women and men workers in liberal welfare states, where 20th century employment and retirement policies were built on the male breadwinner model of employment. Using national level employment data from the United States and Canada, I show how national trends among older workers are gendered, and critically analyze how recent public policy innovations and employment practices are implicated in the extension of working life for women and men.

## REINVENTING RETIREMENT IN THE UK: A GENDERED PERSPECTIVE

W.A. Loretto, *Business School, University of Edinburgh, Edinburgh, United Kingdom*

Across industrialised nations demographic changes have prompted a raft of policies focused on extending working lives to accommodate the economic and social costs of ageing populations. Government interventions, local labour market demands, and individual preferences have led to a 'loosening' of retirement, with the traditional model of 'cliff-edge' retirement becoming increasingly irrelevant. Instead, more people are engaging in some form of phased retirement, e.g. taking on bridge jobs, becoming self-employed and even 'un-retiring' (for an overview, see Loretto and Vickerstaff, 2013). This 'reinvention' of retirement (Maestas, 2010) has thus far focused mainly on paid work. Significantly, by ignoring other forms of 'work' such as volunteering or unpaid care, the current focus serves to marginalise the position of older women. Drawing on a recent survey of 1500 over-50s in the UK, this paper will explore gendered aspects of retirement reinvention.

## EXTENDED WORKING LIFE AS A CHALLENGE AND POSSIBILITY: A GENDER PERSPECTIVE OF THE SWEDISH CASE

C. Krekula, *Dept of Social and Psychological Studies, Karlstad, Sweden*

Sweden has a flexible pension age between 61–67 years, and is one of many countries that are considering an extended working life. Therefore, a national investigation into retirement age was conducted in 2011 to establish an overview of retirement-related age limits and investigate the possibilities of encouraging an extended working life. By using Carole Bacchi's 'What's the Problem?' approach, I will analyse the results of the investigation, 'Measures for a prolonged working life'. My analysis will problematize the challenges that an extended working life is expected to present and also illustrate how gender is constructed in the review's conceptions of problems and possibilities. Finally, I will argue that older workers are constructed narrowly and in a manner whereby important characteristics differ from the way in which younger workers are viewed. This means that older women's opportunities to continue working at an older age have become more problematic

## CROSS-NATIONAL GENDER PERSPECTIVES ON OLDER WORKERS

A. Ni Leime<sup>1</sup>, S.A. Vickerstaff<sup>2</sup>, *1. Irish Centre for Social Gerontology, NUI, Galway, Galway, Ireland, 2. University of Kent, Canterbury, United Kingdom*

Both International agencies and national governments have reacted to demographic aging by implementing policies designed to extend working life. While the pace of reactions has varied, policies that include

raising state pension ages/delaying retirement have been introduced in many countries. Yet these policy initiatives do not take into account the differentiated implications of such policies for men and women. Extended working life/postponed retirement processes are gendered, in that women's and men's labor market trajectories and employment sectors typically differ. This symposium will facilitate discussion of differences and similarities in the gendered impacts of such policies across five countries with different policy and socio-economic contexts; the United States (US), Canada, the United Kingdom (UK), Sweden and Ireland. Paper 1 interrogates retirement policy in the US and Canada, using national employment data to explore gendered policy trends and analyse the impacts of new policies. Paper 2 analyses quantitative national survey data and discusses the differentiated impacts by gender of the reinvention of retirement in the UK. Paper 3 critically analyses current and future policy formulation regarding extended working life in Sweden from a gender perspective. Paper 4 critically assesses impacts of policy reforms in Ireland analysing pension trends, using qualitative data to identify older workers' strategies. Aims: 1. Gain understanding of commonalities and differences of the likely impacts of introducing extended working life policies for men and women across five national policy contexts. 2. Stimulate debate and inform future policy on the gender impacts of extended working life policies.

## SESSION 475 (SYMPOSIUM)

### HUMAN GENETICS OF AGING AND LONGEVITY

**Chair:** M.E. Levine, *University of Southern California, Los Angeles, California*

**Discussant:** T.T. Perls, *Boston University School of Medicine, Boston, Massachusetts*

Significant evidence exists supporting the role genetic factors in aging and longevity. Twin studies estimate that genetic differences account for approximately 25-30% of the variation in human lifespan, and there is evidence to suggest that this proportion may be even higher for persons surviving to extreme ages, or individuals exposed to hazardous environmental conditions. With the recent availability of large genetic data sets, researchers now have the resources needed to further investigate the role genes and gene-environment interactions play in aging. The overall goal of this symposium is to present multiple methods for identifying genetic factors that predict a variety of aging and longevity outcomes. The talks will discuss the insights that have been gained from family and twin studies, and describe longevity-associated phenotypes and genotypes which predict survival duration among exceptionally long-lived individuals. Additionally, aside from traditional phenotypes for longevity, such as centenarians, talks will also discuss how using other phenotypes, such as, 1) long-lived smokers as a model for physiological stress resilience, or 2) biomarker algorithms to estimate aging in middle-aged populations, may facilitate discovery of genetic factors that impact aging and longevity. Finally, although many studies in the literature have focused on the effects of individual genes, talks from this symposium will also provide evidence for the importance of additive (polygenic) or multiplicative (epistatic) gene effects, using prior knowledge of gene-disease associations, biological pathways, and protein-interactions, and then demonstrate how these can be used to create risk scores that successfully predict other aging and longevity related outcomes.

## MITOCHONDRIAL DNA COPY NUMBER IN HUMAN PERIPHERAL BLOOD CELLS ASSOCIATE WITH AGE, SURVIVAL AND GENERAL HEALTH AMONG ELDERLY

J. Mengel-From, M. Thinggaard, C. Dalgård, K.O. Kyvik, K. Christensen, L. Christiansen, *Epidemiology, Biostatistics & Biodemography, University of Southern Denmark, Odense C, Denmark*

The role of the mitochondria has drawn much attention. Thus we aim to pursue the mitochondria role on aging, survival and health. In our study including 1,067 Danish twins and singletons (18-93 years of age), mainly including elderly and oldest old, the relative quantity of mitochondrial DNA compared to nuclear DNA, i.e. the mitochondrial DNA copy number (mtDNA CN) was measured in peripheral blood cells. We estimated a significant cross-sectional mtDNA CN decline of 0.54 per year for those older than approximately 50 years of age. However, the longitudinal yearly decline within the same individual was more than twice as steep as that estimated in the cross-sectional analysis. Subjects with low mtDNA CN were poorer in terms of all-cause mortality, cognitive performance, physical strength, and self-rated health. Hence, the mtDNA CN mortality association can contribute to the smaller decline in the population (cross sectional) compared to the individual longitudinal decline.

## HIGH-DENSITY LIPOPROTEIN CHOLESTEROL PHENOTYPE AND GENOTYPE PREDICT SURVIVAL IN INDIVIDUALS WITH EXCEPTIONAL LONGEVITY

S. Milman<sup>1</sup>, G. Atzmon<sup>1</sup>, P. Cohen<sup>2</sup>, J. Crandall<sup>1</sup>, N. Barzilai<sup>1</sup>, *1. Albert Einstein College of Medicine, Bronx, New York, 2. University of Southern California, Los Angeles, California*

Individuals with exceptional longevity exhibit a unique high-density lipoprotein (HDL) cholesterol phenotype, which is associated with a CETP gene polymorphism. We hypothesized that longevity-associated HDL phenotype and CETP genotype can predict survival in exceptionally long-lived individuals (median age 97, IQR 96-100). Females (n=326) with HDL levels above the mean had significantly longer survival compared to females with HDL levels below the mean, p<0.01. A similar trend was noted in men (n=106). In addition, participants with higher APOA-1 levels and larger HDL particle size survived longer than those with lower levels and smaller particle size, p<0.01 and p=0.02, respectively. CETP 405VV genotype was associated with extended survival, p=0.03. In stratified multivariable adjusted models, positive association between HDL levels and survival was specific to individuals with elevated insulin-like growth factor-1 levels, p<0.05. These results confirm that longevity-associated HDL cholesterol phenotype and genotype are predictive of life expectancy in individuals with exceptional longevity.

## POLYGENIC RISK FOR COMMON CHRONIC HEALTH CONDITIONS AND THE PACE OF AGING AT MIDLIFE

D. Belsky, *Center for the Study of Aging and Human Development, Duke University, Durham, North Carolina*

How do genetic risks discovered for age-related disease affect the pace of aging in healthy individuals? I studied a birth cohort of 1,000 individuals followed prospectively through their fourth decade of life. I measured cohort members' individual pace of aging using repeated measures of a biomarker panel tracking cardiovascular, metabolic, renal, hepatic, and pulmonary function. I validated aging measures against objective and subjective measures of physical and cognitive function. I next used DNA data and published genome-wide association study results to construct measures of polygenic risk for common chronic diseases—genetic risk scores. I then tested whether individuals at elevated genetic risk for chronic disease exhibited an accelerated pace of aging by midlife. Finally, I tested the extent to which genetic risks discovered for diseases of a specific organ system have consequences

for physiology outside of that organ system. Results suggest novel applications of genetic information in studies of aging.

## THE WHOLE IS GREATER THAN THE SUM OF ITS PARTS: USING NETWORK ANALYSIS TO IDENTIFY LONGEVITY GENES

M.E. Levine, *University Southern California, Los Angeles, California*

This study uses long-lived smokers—a biologically-resilient phenotype—to identify gene networks associated with longevity. A genome-wide association study was run on 90 current smokers ages 80+ and 730 current smokers under age 70 from the Health and Retirement Study. Single nucleotide polymorphisms with P<5x10<sup>-03</sup>, were used to create a functional interaction (FI) network and identify the sub-networks comprising it. Finally, polygenic risk scores (PRS) for the whole network (n=208 genes), as well as for each sub-network were created and evaluated using multiple longevity phenotypes. Overall, the PRS predicted whether smokers were long-lived with 99% accuracy (AUC=0.988). Furthermore, the PRS was significantly associated with survival to age 90 among never-smoking African Americans (OR: 1.08, p=.02)—another presumably resilient group. Finally, we found that including statistical interactions between the sub-networks improved the ability of the PRS to predict survival to age 90 among both Caucasian and African American never-smokers.

## SESSION 480 (SYMPOSIUM)

### THE ROLE OF SUBSTANCE ABUSE IN ELDER ABUSE

**Chair:** K.J. Conrad, *Chestnut Health Systems, Oak Park, Illinois, Univ. of Illinois at Chicago, Chicago, Illinois*

This paper tests a theory of the influence of abuser substance abuse (SA) and victim SA (with controls for abuser and victim factors) on isolation and five types of elder abuse: financial, physical, sexual, emotional, and neglect. Which has stronger influence: abuser SA, victim SA, or the combination on isolation and abuse? The analyses included regression models and structural equation models. Preliminary analyses on financial exploitation indicated that abuser SA predicted financial exploitation whereby less abuser SA was significant. Victim SA was not significant. Final analyses will include over 1500 substantiated cases. Participants will be able to compare the influence of substance abuse by abusers and victims across types of abuse.

### SUBSTANCE USE AND ABUSE IN LATER LIFE: LINKING SOCIAL CONTEXTS, SOCIAL NETWORKS, AND INDIVIDUAL FACTORS

S.L. Canham<sup>1</sup>, C. Egan<sup>2</sup>, J. Culbertson<sup>3</sup>, *1. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 2. VA Connecticut Healthcare System, West Haven, Connecticut, 3. Texas Tech University, Health Science Center, Lubbock, Lubbock, Texas*

Considerable research has acknowledged the growing rates of alcohol, prescription, and illicit drug use in later life and the importance of studying this emerging public health problem. However, diversity of social contexts and networks complicate our understanding of how social factors influence individual patterns of substance use. This symposium will include presentations from a group of interdisciplinary researchers representing multiple perspectives across the Health Sciences, Behavioral and Social Sciences, and Social Research, Policy, and Practice Research sections. A presentation by a clinical psychologist will use a social-ecological framework to present empirical literature published over the past decade to update our knowledge of older adults' abuse of alcohol, prescription, and illicit drugs. A second presentation will review alcohol and tobacco use data collected from a sample of adults in rural Louisiana enrolled in a disease self-management education program and discuss associations between exercise frequency, health ratings, and healthcare utilization and alcohol abuse. A third

presentation will review the role of substance abuse in elder abuse, testing a theory of the influence of abusers' and victims' substance abuse on isolation and five types of elder abuse—financial, physical, sexual, emotional, and neglect. Finally, a fourth presentation will review results of an analysis of the Health and Retirement Study, specifically addressing how neighborhood-level factors are associated with drinking quantity and frequency in middle-aged and older adults. To conclude this symposium, a geriatrician with extensive experience in addictions research will summarize these individual papers from a clinical and health services perspective and discuss implications.

### **NEIGHBORHOOD DISORDER, NEIGHBORHOOD SOCIAL COHESION, AND DRINKING IN MIDDLE-AGED AND OLDER ADULTS: FINDINGS FROM THE HEALTH AND RETIREMENT STUDY**

S.L. Canham<sup>1,2</sup>, L. Chen-Edinboro<sup>1</sup>, C.N. Kaufmann<sup>1</sup>, P. Mauro<sup>1</sup>, M. Scherer<sup>3</sup>, 1. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*, 2. *IRMACS Centre, Simon Fraser University, Burnaby, British Columbia, Canada*, 3. *Pacific Institute for Research and Evaluation, Calverton, Maryland*

Social context, including neighborhood factors, have been linked to depression; correlates of depression, such as drinking, may also be associated with social context. We studied adults aged 51+ who completed a leave behind questionnaire for the 2008 wave of the Health and Retirement Study. Participants reported neighborhood physical disorder and neighborhood social cohesion/trust, which were our primary predictors, and current drinking status (“ever drinking”). Overall, 54.6% of participants reported ever drinking. In separate adjusted logistic regression models, the odds of ever drinking increased as scores on both social cohesion/trust (odds ratio (OR)=1.07, 95% confidence interval (CI)=1.00-1.14, p=0.050) and physical disorder (OR=1.12, 95% CI=1.01-1.24, p=0.040) increased. Additionally daily drink quantity increased as scores of social cohesion/trust and physical disorder increased; however, these scores were not associated with drinking frequency. Results suggest that drinking is associated with these neighborhood factors and should be considered in understanding how social contexts influence health.

### **ALCOHOL AND TOBACCO USE AMONG RURAL-DWELLING OLDER ADULTS WITH CHRONIC DISEASE CONDITIONS**

K. Kopera-Frye<sup>1</sup>, R.A. Harris<sup>2</sup>, D.G. Ryman<sup>1</sup>, 1. *University of Louisiana at Monroe, Monroe, Louisiana*, 2. *University of San Francisco, San Francisco, California*

Alcohol and tobacco use among Louisiana adults remains a critical public health problem. Your Life, Your Health! (YLYH) is a chronic disease self-management education program which was implemented in Louisiana. The participants consisted of 512 primarily female and Caucasian older adults, with an average education of over 12 years; most having two or more chronic conditions. Pre- and post-program multiple assessment surveys included questions on frequency of exercise, self-rated health, health distress, energy level, communication with physicians, and number of hospitalizations. Alcohol and tobacco use questions included the NMASSIST and CAGE, both of which screen for alcohol and tobacco abuse. Alcohol abuse, as assessed by the CAGE, significantly predicted only decreased exercise frequency post-program; surprisingly, it did not predict health rating, energy levels, healthcare utilization, or communication with physicians. Daiquiri and liquor drive through stands are prominent, and alcohol abuse in this rural area remains of great concern.

### **RISK AND PROTECTIVE FACTORS FOR OLDER ADULT SUBSTANCE ABUSE: A COMPREHENSIVE LITERATURE REVIEW**

C. Egan, *West Haven VA, West Haven, Connecticut*

Understanding the factors that increase and decrease older adults' potential for substance misuse and abuse can provide a foundation for the development of prevention and treatment interventions. A comprehensive literature review was conducted to investigate the risk and protective (R&P) factors associated with older adults' misuse/abuse of alcohol, prescription and illicit drugs. Multiple databases were searched (CINAHL, PsycINFO, PubMed, Social Work and Sociological Abstracts) for empirical literature published from 2004-2014 based on samples of U.S. adults aged 55 and older. R&P factors were conceptualized within a social-ecological framework comprised of individual, peer, family, and community domains. Factors associated with alcohol misuse/abuse were the most commonly researched. Social support, marital status, substance use history, medical status, and religiosity were identified as factors with the strongest research support. Factors with moderate research support included peer norms, mental health history, and chronic pain. Literature review findings and implications will be discussed.

### **SESSION 485 (SYMPOSIUM)**

#### **INTERNET PROGRAMS FOR DEMENTIA CAREGIVERS: GLOBAL DEVELOPMENTS, BENEFITS AND NEXT STEPS**

**Chair:** A. Pot, *Program on Aging, Netherlands Institute of mental health and Addiction, Utrecht, Netherlands, VU University, Amsterdam, Netherlands*

**Discussant:** S.J. Czaja, *University of Miami Miller School of Medicine, Miami, Florida*

Family is the cornerstone for people with dementia around the world. Since the number of people with dementia will triple until 2050, the number of family caregivers will follow this demographic trend. The detrimental impact of providing care to a family member with dementia is well documented and include psychological distress and poorer immune function. Therefore, efficient and effective support for family caregivers is needed more than ever. The Internet offers opportunities to provide available, accessible, and affordable support for dementia caregivers. The first presentation of this symposium is meant as an introduction into the field and will provide an overview of ICT interventions for dementia caregivers. Then, the content and outcomes of internet-based programs to decrease distress in dementia caregivers from three continents are discussed: North America, Asia and Europe. The last presentation focuses on the development of a global internet intervention for dementia caregivers by the World Health Organization (WHO). This intervention is especially developed for the support of family caregivers in Lower and Middle Income Countries (LMIC) and tries to take different cultural backgrounds into account. We finish by discussing the next steps to be taken in this field, such as culture sensitive content, the relationship between program content and caregivers' outcomes and how to increase compliance. Dr. Sara Czaja will be our discussant.

#### **A SYSTEMATIC REVIEW OF ONLINE SUPPORTS TAILORED TO CAREGIVERS OF PERSONS WITH DEMENTIA**

J.M. McMillan<sup>1</sup>, J. Holroyd-Leduc<sup>2,3</sup>, 1. *Internal Medicine, University of Calgary, Calgary, Alberta, Canada*, 2. *Alberta Health Services, Calgary, Alberta, Canada*, 3. *University of Calgary, Calgary, Alberta, Canada*

Background: The purpose of this review was to evaluate the evidence regarding web-based resources as an avenue for providing support to dementia caregivers. Methods: We performed a systematic review using search terms such as “dementia”, “caregiver”, “support”,

and “interventions”. We searched Ovid Medline, Pubmed, Embase and CINAHL to October 2013. Studies were included if they were English language, and were systematic reviews, randomized controlled trials or other intervention studies that examined internet or web-based interventions for caregivers of persons with dementia. Results: Of the 190 abstracts identified, 28 were reviewed as full text articles and 13 met all eligibility criteria. These included 2 systematic reviews, 6 randomized controlled trials, 1 meta-analysis and 4 non-randomized intervention studies. Positive outcomes included increased caregiver confidence, self-efficacy, improved perceptions of the positive aspects of caregiving, and significant reductions in stress, strain, anxiety and depression in caregivers. Discussion and Conclusion: The potential for caregivers to access support services from the convenience of their own home, such as internet resources, is attractive.

#### **EXPLORING THE EFFECTIVENESS OF AN INTERNET-BASED PROGRAM FOR REDUCING CAREGIVER DISTRESS USING THE ICARE STRESS MANAGEMENT E-TRAINING PROGRAM**

D. Gallagher-Thompson<sup>2,1</sup>, M. Tzuang<sup>1,2</sup>, L. Thompson<sup>2</sup>, *1. Stanford Geriatric Education Center, Stanford, California, 2. Dept. of Psychiatry and Behavioral Sciences, Stanford, California*

Adapted from the psychoeducational program “Coping with Caregiving” (CWC) developed by Gallagher-Thompson and colleagues in the U.S., iCare is a web-based program designed to enhance caregivers’ skills to deal with the demanding tasks of caring for a person with dementia, reduce stress and improve quality of life. The uniqueness of this program is that professional actors were used to portray different relationships and various stressful situations that are common for most caregivers, show the typical responses first, and followed by more effective ways of managing the same situation. This method of presentation enables caregivers to role-model the skills being taught. Results from a randomized trial (N=150) found that iCare participants showed a decrease in level of depressive symptoms and stress, and improvement in quality of life. A “translated” evidence-based web-based program such as this has the potential to reach a larger number of caregivers who otherwise may not have access to it.

#### **EFFECTIVENESS OF ONLINE COUNSELING ON CHINESE FAMILY CAREGIVERS OF PEOPLE WITH DEMENTIA**

T. Kwok<sup>1</sup>, A.M. Au<sup>2</sup>, F. Ho<sup>3</sup>, *1. Medicine & Therapeutics, the Chinese University of Hong Kong, Shatin, Hong Kong, 2. The Hong Kong Polytechnic University, Hung Hom, na, Hong Kong, 3. Jockey Club Centre for Positive Ageing, Shatin, Hong Kong*

Purpose: Family caregivers of persons with dementia (PWD) may receive caregiver training because of logistical constraints and privacy concerns. This pilot trial examined the effectiveness of online counseling in improving self efficacy of family caregivers of PWD in managing behavioral and psychological symptoms of dementia (BPSD). Subjects and methods: 36 family caregivers of people with dementia participated in a 9-week online intervention based on the cognitive behavioral therapy model. Four subjects dropped out and 26 had post intervention assessment. Outcomes of the intervention were measured by the Chinese version of the Neuropsychiatric Inventory Questionnaire and two domains of the Revised Scale for Caregiving Self-Efficacy. Results: After participating in the online counseling program, total score in NPI-Q (12-item) reduced significantly ( $p = 0.003$ , two-tailed). Similarly, caregiver distress score (12-item) decreased significant ( $p = 0.012$ , two-tailed). No significant change was found in caregiving self-efficacy. Conclusion: Online cognitive behavioral therapy on family caregivers reduced BPSD of PWD and the related distress in the caregivers. A randomized controlled trial is being planned for.

#### **THE EFFECTIVENESS OF ‘MASTERY OVER DEMENTIA’, A GUIDED INTERNET INTERVENTION TO IMPROVE CAREGIVERS’ MENTAL HEALTH**

A. Pot<sup>1,3</sup>, M. Blom<sup>2</sup>, J. Bosmans<sup>3</sup>, P. Cuijpers<sup>3</sup>, S.H. Zarit<sup>4</sup>, *1. Program on Aging, Netherlands Institute of mental health and Addiction, Utrecht, Netherlands, 2. Dutch Alzheimer Association, Amersfoort, Netherlands, 3. VU University, Amsterdam, Netherlands, 4. Penn State University, State College, Pennsylvania*

The content, effectiveness and costs of the Internet Intervention ‘Mastery over Dementia’ (MoD) will be presented and discussed. MoD has been developed by the Netherlands Institute on Mental health and Addiction, in collaboration with the Dutch Alzheimer Association and Geriant, a care provider. In a Randomized Controlled Trial (RCT), caregivers in the experimental group (N=149) receiving MoD, have been compared to caregivers who received a minimal intervention consisting of e-bulletins (N=96). Results based on intention to treat analysis show beneficial effects on several mental health outcomes, including symptoms of depression and anxiety and mastery.

#### **DEVELOPMENT OF ‘ISUPPORT’: A GLOBAL WHO SELF-HELP INTERNET PROGRAM TO SUPPORT CAREGIVERS**

T. Dua<sup>1</sup>, D. Gallagher-Thompson<sup>3</sup>, M. Varghese<sup>6</sup>, M. Wortmann<sup>2</sup>, A. Pot<sup>4,5</sup>, *1. World Health Organization (WHO), Geneva 27, Switzerland, 2. Alzheimer Disease International (ADI), London, United Kingdom, 3. Stanford Geriatric Education Center, Stanford, California, 4. Netherlands Institute on Mental Health and Addiction (Trimbos), Utrecht, Netherlands, 5. VU University, Amsterdam, Netherlands, 6. Natl Inst of Mental Health & Neuro Sciences(NIMHANS), Bangalore, India*

In 2012 the World Health Organization (WHO) and Alzheimer’s Disease International (ADI), jointly developed the report Dementia: a public health priority. This report is aimed at raising global awareness of dementia as a public health priority, to articulate a public health approach and to advocate for action at (inter)national levels based on the principles of evidence, equity, inclusion and integration. As a second step, the WHO has taken the lead to develop an Internet program aimed at the support of caregivers of people with dementia worldwide, including low and middle income countries (LMIC). Experts from around the world are involved in shaping the program. Naturally, much attention is paid to the cultural differences and how to address them. For this purpose, focus groups are held with professionals and caregivers in the U.S. and India among others. First results will be presented and discussed.

#### **SESSION 490 (SYMPOSIUM)**

##### **THE UTAH POPULATION DATABASE: VALUE OF LINKED MEDICAL AND FAMILY RECORDS FOR AGING RESEARCH**

**Chair:** K. Smith, *University of Utah, Salt Lake City, Utah, Huntsman Cancer Institute, Salt Lake City, Utah*

To expand our understanding of the etiology of aging and health risks, especially for questions linking early conditions to later outcomes, it is important that we organize sources of data and methods that span entire lives and cover many decades. Achieving this goal for entire populations is particularly valuable because of the gerontological insights and research designs that can be leveraged. In this symposium, we present four distinctive analyses that rely on the Utah Population Database (UPDB) a unique and powerful data resource that links, at the individual level, comprehensive population-based medical/Medicare, cancer, genealogical, geospatial, and vital records. Because of its scope (7.7 million individuals organized into multigenerational pedigrees), the UPDB allows for both full population-based analyses as well as studies that are based on recruitment into studies from select subpopulations drawn from UPDB. Two papers examine the full population: Hanson considers how cancer and its treatment affect later-life dementia and

Smith examines low birth weight and preterm birth as risks for cardiovascular disease phenotypes. Two other papers rely on samples of elderly that rely on the UPDB data: Queen considers the effects of familial history of longevity on cognitive functioning and Norton examines early life conditions and dementia risk. After attending this Symposium, participants will be able to discuss the research value of linking a wide range of administrative records AND they will be able to discuss how a number of important later-life outcomes (heart disease, dementia, cognitive functioning) are affected by conditions earlier in life.

#### **PROFILES OF COGNITIVE FUNCTIONING: IS FAMILIAL EXCESSIVE LONGEVITY A PROTECTIVE FACTOR IN OLDER AGE?**

T.L. Queen, C.A. Berg, H. Hanson, K.R. Smith, *Department of Psychology, University of Utah, Salt Lake City, Utah*

Protective factors to cognitive functioning in later life include education, cardiovascular health, and an engaged lifestyle. In this study, we examine whether a genetic propensity for longevity (familial excessive longevity, FEL) also acts as a protective factor to cognition in older adulthood. Proband selected for high FEL and age-matched controls along with their offspring and controls completed cognitive tests measuring working memory, verbal meaning, perceptual speed, and cognitive status (Mini-Mental State Exam). Proband performed better on average on the MMSE compared to controls and displayed a greater FEL advantage on this task. After controlling for age and gender, probands also performed better on the perceptual speed task. Offspring displayed a trend for performing better on the speed task. The FEL advantage for offspring may not yet be observed given that this group is younger and experiencing fewer cognitive deficits. We will discuss the potential relationship between FEL, cognition, and health.

#### **UNDERSTANDING THE LINK BETWEEN CANCER AND DEMENTIA: EVIDENCE FROM THE UTAH POPULATION DATABASE**

H. Hanson<sup>1,2</sup>, K. Smith<sup>1,2</sup>, K.P. Horn<sup>2</sup>, K. Rasmussen<sup>2</sup>, J. Hoffman<sup>1,2</sup>, *1. University of Utah, Salt Lake City, Utah, 2. Huntsman Cancer Institute, Salt Lake City, Utah*

The underlying chronic systemic inflammation that increases the risk of developing cancer may also increase the risk of developing dementia and in particular, AD. Using the Utah Population Database (UPDB), a longitudinal population-based resource of linked medical and genealogical records, this study investigates the link between cancer and dementia by: (1) using a sample of 109,344 individuals to test the hypothesis that primary breast, prostate, colon, and melanoma cancer diagnoses are associated with an increased risk of dementia after age 65 when accounting for the competing risks of mortality using Medicare data linked to the UPDB, and (2) leveraging 12,985 sibling sets to control for unobserved factors shared by siblings that might contribute to the risk of cancer and dementia. The results of these analyses will provide fundamental insights into whether or not there is an underlying association between systemic inflammation, cancer, and dementia.

#### **THE ROLE OF EARLY STRESSORS AND LATE-LIFE DEMENTIA: THE CACHE COUNTY MEMORY STUDY LINKED TO THE UPDB**

M. Norton<sup>1</sup>, K.R. Smith<sup>2</sup>, H. Hanson<sup>2</sup>, J. Tschanz<sup>1</sup>, *1. Utah State University, Logan, Utah, 2. University of Utah, Salt Lake City, Utah*

Epidemiologic studies have traditionally relied on self-reports of participants' medical, social, and psychological histories. Subjective self-reports (especially over a lifetime) have known problems with retrospective recall bias. Large vital statistics and medical databases afford a more objective assessment of disease onset and progression, and assessment of risk/protective factors. For studies examining individuals with memory deficits and dementia diagnoses, it is crucial to secure data obtained from other objective sources. The subjects described in this

study are from the Cache County Memory Study and have been linked to the Utah Population Database (UPDB), a rich source of linked population-based information for demographic, genetic, epidemiological, and public health studies. Through the Lifespan Stressors and Alzheimer's Disease Study (N=5092), we found significantly faster cognitive decline in late life among persons experiencing offspring death in young adulthood without subsequent live births, and significantly higher AD risk for parental death without remarriage of widowed parent.

#### **LOW BIRTH WEIGHT AND PRETERM BIRTHS AND THEIR EFFECTS ON CARDIOVASCULAR DISEASE: A RETROSPECTIVE COHORT STUDY OF 20,000**

K. Smith<sup>2,1</sup>, H. Hanson<sup>2,1</sup>, B.D. Horne<sup>3</sup>, S. Knight<sup>3</sup>, K. Curtin<sup>2,1</sup>, *1. Huntsman Cancer Institute, Salt Lake City, Utah, 2. University of Utah, Salt Lake City, Utah, 3. Intermountain Healthcare, Salt Lake City, Utah*

The fetal origins theory describes how, during early life, the environment alters development that may have long term effects on later health and disease risk. This study tests the hypothesis that low/high birth weight (BW) and gestational age (GA) are associated with excess risk of specific phenotypes and biomarkers cardiovascular disease (CVD) after controlling for a key set of early and mid-life conditions. Subjects are drawn from the catheterization laboratory (CATH Lab) registry of the Intermountain Heart Collaborative Study (IHCS) established by Intermountain Healthcare that have been linked to the Utah Population Database (UPDB). What is novel about this study is the sample size (N=20,000) where people have both BW/GA (from birth certificates in UPDB) and CVD phenotypes (from the CATH Lab) This study will provide new information about specific elements of the vascular system that early adversity to cardiovascular disease in ways not examined before.

### **SESSION 495 (PAPER)**

#### **AGING AND THREATS TO SAFETY**

##### **ENHANCING DISASTER PREPAREDNESS OF BLACK, COMMUNITY-DWELLING OLDER ADULTS**

L.M. Brown, K.A. Frahm, *School of Aging Studies, University of South Florida, Tampa, Florida*

A small but growing literature shows that financially or socially disadvantaged older Black adults are disproportionately affected by disasters. In general, older adults are the least prepared subgroup of the population despite historically having the highest rate of disaster-related deaths. However, little is known about what kinds of information are most beneficial or the most effective medium for delivery of information to enhance disaster preparedness. This exploratory study assessed reading ability, beliefs about disasters, social support, financial resources, health status, disaster literacy, current level of preparedness, and preferences for delivery of information by administering a structured questionnaire and disaster readiness assessment to 36 community-dwelling, Black older adults prior to their participation in one of five focus groups. Focus groups provided qualitative data on preferred delivery of information, as well as perceived barriers to and facilitators of disaster preparedness. A separate focus group (n=8) was also conducted with local religious and community leaders to obtain their perspective on elders' needs and ability to prepare for disasters. Our research revealed that most participants planned to use informal sources, such as family, friends, or neighbors as their primary source of information and not rely on written instructions or official directives to guide their preparedness efforts. Effective interventions that promote disaster preparedness are needed as people who plan ahead for disasters typically fare better during the response and recovery phases. A peer-to-peer approach may be beneficial for older adults who are at increased risk for adverse outcomes during disasters because of inadequate preparation.

## EMERGENCY PREPAREDNESS AMONG COMMUNITY-DWELLING OLDER ADULTS WITH LONG-TERM CARE NEEDS: FAMILY PERSPECTIVES

T. Wakui<sup>1,2</sup>, E. Agree<sup>3</sup>, T. Saito-Kokusho<sup>4</sup>, I. Kai<sup>5</sup>, 1. Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan, 2. Population, Family and Reproductive Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 3. Johns Hopkins University, Baltimore, Maryland, 4. National Center for Geriatrics and Gerontology, Obu, Japan, 5. The University of Tokyo, Tokyo, Japan

The Great East Japan Earthquake of 2011 highlighted a key challenge faced in aging societies: older people with special needs are especially vulnerable to disasters. Family will be the first to provide both guidance and hands-on help, and they have both the responsibility and the opportunity to improve the preparedness of older family members. The objective of this study was to identify support needs for emergency preparedness of older adults with informal caregivers and to understand potential barriers to implementing disaster plans. The 2011 wave of the Fukui Longitudinal Caregiver Survey collected open-ended answers on disaster planning and concerns from 1101 family caregivers of older Japanese with long-term care needs. We used SPSS Text Analytics for Surveys to extract the key concepts, and we categorized and coded them thematically. Most caregivers (73%) were female and the mean age was 65 years old. The family caregivers reported a lack of information on where to evacuate, how to evacuate, and whom they can rely on in time of emergency. Caregivers of older adults with mobility needs were most concerned about evacuation planning, and expected support by others but they had no plans for such support. Those caring for persons with cognitive impairment worried if they would have extra help for their older adults not only in time of evacuation but also at shelters. Targeted information on older adults with mobility and cognitive impairments would be helpful to promote disaster preparation among community-dwelling older adults and their families.

## DEVELOPMENT OF DISASTER STAKEHOLDER OUTCOMES IN A NATURAL DISASTER

R. Ferreira<sup>1</sup>, A.C. Faul<sup>2</sup>, J.G. D'Ambrosio<sup>2</sup>, 1. Tulane University, New Orleans, Louisiana, 2. University of Louisville, Louisville, Kentucky

Communities worldwide are affected by daily fatal disasters. In March 2012, a rural area agency on aging responded to a tornado affecting 5500 households. The impact of the disaster resulted in an overload of cases handled by lay disaster case-managers. A social work evaluation team, contracted to assist the agency on aging, found roadblocks, including delay in response to email, reluctance to question case-managers and clients and concern that responses would reveal shortcomings in services. Through a series of alliance building meetings, the agency and social workers co-created an evaluation plan. A mixed-methods evaluative post-test design was used to evaluate services per the National Voluntary Organizations Active in Disaster (2011) procedural guide. The design included surveys to clients and focus groups with case-managers. The client survey measured service satisfaction, resilience and post-traumatic stress (PTSD). Results indicated overall client satisfaction with services. A major obstacle for older adults in the rural areas affected was PTSD experienced after the event. Limited mental health services in the rural areas exacerbated PTSD symptoms. Lack of employment opportunities and housing were among other obstacles identified that made adjustment after the tornadoes difficult for the older clients served. Case-manager focus group content analysis revealed stress, large caseloads, and lack of resources. Strength and encouragement were found in client stories of resilience and cohesiveness of communities. The evaluation team learned without alliance it's impossible to provide external objective evaluations of services delivered to older adults. The study identified community, direct case-worker and social service agency strengths

## CONTINUES EXPOSURE TO COLLECTIVE TRAUMA IN DIFFERENT TYPES OF COMMUNITIES: PSYCHOLOGICAL EFFECTS

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Most of the existing studies in the field of national trauma have focused on short-term exposure to a security threat, mainly among children, adolescents, and adults. However, there is a lack of knowledge about the ways elderly people adapt to the ongoing security threat and predictors of psychological distress. Thus, the current study aimed to compare the impact of prolonged exposure to missile attacks among elderly people in different types of communities (urban and rural). Another aim was to examine the impact of personal resources (self-esteem, social support, and cognitive appraisals) on psychological distress. Specifically, we examined the correlations of demographic characteristics, personality traits (self esteem), and cognitive appraisals (threat, challenge, and efficacy) with the dependent variable (psychological distress – PTSD). Questionnaires were collected from 298 elderly people residing in the southern region of Israel, which has been a target of missile attacks over the last decade. The results revealed that the urban residents reported higher psychological distress (PTSD) than did their counterparts residing in rural communities. Economic situation contributed significantly to explaining PTSD among elderly rural residents. In contrast, cognitive variables – especially sense of threat – contributed significantly to explaining PTSD among the elderly urban residents. The findings support Hobfoll's COR theory (1989), which sheds light on the importance of personal and environmental resources.

## INTERNATIONAL COMPARISON OF FIREARM POLICY AND FATAL HOUSEHOLD VIOLENCE IN MID AND LATER LIFE

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The U.S. ranks number one in firearms owned per capita (88.8 per 100) compared to 178 other nations (UNODC, 2012). Guns are involved in the majority of American homicides (70%) and suicides (51%) (CDC, 2010). Other industrialized countries have substantially fewer firearm deaths due to restrictions. In the U.S. approximately one third of households contain at least one gun. Widespread availability of firearms will play a role in the aging of the population. Suicide has been problematic for elderly white men (29 deaths per 100,000 population; 47 for those 85+) and rates are alarmingly high among Baby Boomers (17.6 per 100,000), which is predicted to increase with age (CDC 2013). Home protection has been the aim of the gun culture in the U.S. However, firearms are far more likely used by a household member to commit homicide, suicide or combination of both. Women are more at risk of intra-familial homicide, while men are more vulnerable to suicide (Kriener & Walsh, 2010). Our study content analyzed 729 intimate partner homicide suicide events (1600 deaths) in the U.S. 1999-2005. Results corroborate the victimization of women, the perpetration patterns of men, and describe the increased lethality of firearm methods. "Suicide pacts" and CDC "mercy killings" were rare. Firearm policy was compared in the other industrialized countries and gun related homicide and suicide rates for those in mid/late life were noted. Firearm availability was related to the lethal outcomes of family violence. Implications for safe homes and violence prevention are discussed.

## NEW RESEARCH ON DISABILITY AND MOBILITY

**COGNITION IMPACTS MOBILITY: RESULTS FROM TWO PILOT RCTS OF THE HEALTHY BRAIN, HEALTHY BODY STUDY**R. Smith-Ray, *Univ of Illinois at Chicago, Chicago, Illinois*

Impaired mobility is a major risk factor for falls. It is becoming clear that the link between the central nervous system and mobility is multifaceted with cognition playing an important role. To date, six studies have intervened on cognition to improve gait and balance, including two pilots conducted by our study team. The purpose of this presentation is to present findings from our two pilot trials. Ninety-six participants were recruited to the Healthy Brain, Healthy Body studies. Both studies used a RCT design and tested the hypothesis that 10-week cognitive training intervention improves balance and gait in older adults. Participants were randomly assigned to a cognitive training intervention or measurement-only control. The intervention was implemented at independent living communities (STUDY1) and senior centers (STUDY2). Primary outcomes included gait speed, distracted gait speed, and balance as measured by Timed Up and Go (TUG) and Berg Balance Scale (BBS). Measures were collected at baseline and 10-weeks. Participants in STUDY1 (N=51) had an average age of 82.0. Participants in the STUDY2 (N=45) had an average age of 72.5. After 10 weeks, intervention participants in both studies performed significantly better than controls on balance (STUDY1: TUG [F(2,36) = 4.47, p = 0.036]; STUDY2: BBS [F(1,31)=5.68, p=0.038]. Participants in STUDY2 also performed better than controls on gait speed post-intervention [F(1,29)=6.57; p=0.016]. Results from these two studies demonstrate the feasibility of a cognitive training intervention across different settings and provide a consistent picture of the link between cognition and balance among older adults.

**ASSOCIATION BETWEEN RACE, MULTIMORBIDITY AND MOBILITY LIMITATION AMONG MEN IN THE UNITED STATES**R. Thorpe<sup>1</sup>, V. Johnson-Lawrence<sup>2</sup>, *1. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 2. University of Michigan, Flint, Michigan*

Little is known about the relationship between multimorbidity and mobility limitation and if this relationship varies by race among men. Using data from 1999-2010 waves of the National Health and Nutrition Examination Surveys (NHANES), this study assessed the associations of multimorbidity and self-reported limitations, in the contexts of age and race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, other) among men (n=5119) aged 50+ years. Multimorbidity was defined as the count of any of 10 chronic conditions: asthma, arthritis, heart disease, stroke, emphysema, chronic bronchitis, hypertension, cancer, diabetes, or chronic kidney failure. Mobility limitations were based on whether respondents reported having any difficulty walking up 10 steps or walking a quartile mile. Complex survey sampling weights were applied in the analyses to account for the sampling design of the NHANES. Logistic regression models showed that greater multimorbidity (OR=1.54, 95% CI= 1.44-1.65) was associated with more limitations among men independent of age, race/ethnicity and marital status. Non-Hispanic black men were more likely to report limitations (OR = 1.42, 95% CI= 1.13-1.78) than non-Hispanic white men. No significant interaction terms of race and multimorbidity were observed in association with mobility limitations. Future work to identify the additional risk factors associated with limitations independent of multimorbidities are warranted, particularly among African American men given their excess chronic disease risk and high rates of premature

**RESOLUTION OF UNMET NEED FOR ASSISTANCE WITH ADL DISABILITIES REDUCES RISK FOR FALLING**L.P. Sands, Z. Haas, *School of Nursing, Purdue Univ, West Lafayette, Indiana*

**BACKGROUND:** Falling increases risk for morbidity and mortality, especially among older adults with activities of daily living (ADL) disability. Unmet need for help with ADL disabilities increases risk for falling, but little is known about whether resolution of unmet ADL need reduces risk for falling. **METHODS:** Data from the 2011 and 2012 rounds of the National Health & Aging Trends Study provide information about ADL functioning, unmet need for help with ADL disabilities, and self-reported falls in the month before the interview. The analytic sample included 608 community-living older adults who reported unmet need for assistance for at least one ADL disability in 2011. **RESULTS:** Half of those who reported unmet ADL need in 2011 did not report unmet ADL need in 2012. In 2011, 29% reported falling. In 2012, 27% reported falling. Compared to those who continued to report unmet ADL need in 2012, those who resolved their unmet ADL needs were half as likely to report falling in 2012 (OR= 0.54; 95% CI= 0.29 – 1.00). Among those who reported falling in 2011, 34% of those with resolved unmet ADL need and 48% of those with continuing unmet ADL need reported falling in 2012 (p=0.05). Among those who did not report falling in 2011, 15% of those with resolved unmet ADL need and 26% of those with continuing unmet ADL need reported falling in 2012 (p = 0.01). **CONCLUSIONS:** Resolution of unmet ADL need reduces risk for falling. The results highlight the importance of interventions that resolve unmet ADL need.

**REDUCING EXCESSIVE FEAR OF FALLING WITH EXPOSURE THERAPY PLUS EXERCISE**J. Wetherell<sup>1,2</sup>, C. Merz<sup>3</sup>, A. Petkus<sup>4</sup>, E.S. Bower<sup>4</sup>, *1. VA San Diego Healthcare System, San Diego, California, 2. Dept. of Psychiatry, UCSD, La Jolla, California, 3. Washington University, St. Louis, Missouri, 4. SDSU/UCSD Joint Doctoral Program in Clinical Psychology, San Diego, California*

Approximately 10% of older adults living independently in the community, including more than 5% of those who have never fallen, experience moderate to severe fear of falling (FoF) and avoid multiple activities as a result. Excessive FoF leads to decreased physical activity, disability, loss of independence, depression, anxiety, reduced social engagement, poor quality of life, and falls. We developed an in-home, physical therapist-delivered intervention (“Activity, Balance, Learning, and Exposure,” or ABLE) that integrates exposure therapy with exercise and a home safety evaluation for older adults with excessive and disabling FoF. We randomly assigned 40 adults over age 65 with severe FoF and low to moderate objective fall risk to ABLE (n=19) or in-home fall prevention education (FPE; n=21). Participants included 30 women and 10 men, 33% ethnic minority, with a mean age of 78.3 (SD = 7.4, range 65-91). Attrition rates were 2/19 from ABLE and 0/21 from FPE. Participants receiving ABLE improved more than those receiving FPE on fear of falling, as measured by the Falls Efficacy Scale International, F (4, 38) = 5.45, p = .001, and avoidance, as measured by the Adapted Activity Card Sort, F (2, 38) = 4.08, p = .02. Participants in ABLE experienced 6 falls during the intervention, vs. 5 falls in the FPE group. These data suggest that ABLE may be more efficacious than fall prevention education at reducing fear and avoidance in older adults with excessive fear of falling.

## **DON'T LOSE YOUR BRAIN AT WORK – WORK TASK MOBILITY IS ASSOCIATED WITH GREATER BRAIN VOLUME IN FRONTAL AND STRIATAL REGIONS**

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Despite age-related declines in some facets, cognitive functioning retains the potential for enhancement throughout the lifespan. Characteristics of the work context such as job complexity have been positively related to adult cognitive functioning (Schooler, 2007). To date, the (neurophysiological and neuropsychological) mechanisms underlying these associations are not well understood. To control for the influence of education and SES, the present study investigates the effect of repeated work-related task changes (=work task mobility; WTM) at a low to medium level of education. Of 3,500 assembly line workers from a production company in northern Germany who had been full-time employed with that company over the last 16 years, 179 persons returned a screening questionnaire. This allowed us to identify 10 (n=20) pairs of participants who differed in WTM (high/low) but were optimally matched for age, sex, job complexity as well as academic performance, openness to new experience and leisure time activity in young adulthood. In order to investigate long-term effects of WTM on a neurophysiological level, we collected structural MR images and used voxel-based-morphometry (VBM) to assess cerebral volume differences between high and low mobile participants. First results revealed that high as compared to low WTM was significantly related to more volume in prefrontal and striatal regions. Two areas that are typically affected by the age-related cognitive decline but seem to be particularly important when it comes to cognitive functioning. Within the limitations of the matching process, these initial results highlight the importance of cumulative effects of work on brain aging.

## **SESSION 505 (PAPER)**

### **SUBJECTIVE WELL-BEING IN LATER LIFE**

#### **DEVELOPING A CONSUMER DRIVEN DEFINITION OF FINANCIAL WELL-BEING FOR OLDER AMERICANS**

H.L. Ortiz<sup>1</sup>, A. Drever<sup>2</sup>, 1. Office for Older Americans, Consumer Financial Protection Bureau, Washington, District of Columbia, 2. Corporation for Enterprise Development (CFED), Washington, District of Columbia

What is financial well-being? Past research has often alluded to financial well-being without actually defining it, or has used income, savings or assets to infer it. We conducted semi-structured hour-long interviews with 30 practitioners and 56 consumers from a wide range of backgrounds, ages, and regions of the US in order to develop a definition of financial well-being grounded in consumers' everyday experiences. The results of our qualitative analysis tended to converge naturally toward, a single, broadly applicable definition of financial well-being. In summary: financial well-being is freedom from worry about one's finances. It entails having control over one's finances, having the capacity to absorb a financial shock, being on-track to meet financial goals and being able to make choices that allow one to enjoy life. The research also investigated the drivers of financial well-being within the domains of financial behavior, financial knowledge, and personal characteristics. As part of the research we explored whether financial well-being means the same thing to Americans 62 and older and Americans between the ages of 18 and 61. We found that although the same financial well-being definition was relevant for both groups, financial well-being manifests differently in the two populations. And these differences have important measurement, program and policy implications.

## **DEFINING WELLNESS THROUGH THE VOICE OF COMMUNITY-DWELLING OLDER ADULTS**

A.L. Hartzler<sup>1</sup>, K. Osterhage<sup>2</sup>, T. Beeson<sup>2</sup>, G. Demiris<sup>3</sup>, E.A. Phelan<sup>4,2,5</sup>, S.M. Thielke<sup>6,7</sup>, A.M. Turner<sup>2,8</sup>, 1. University of Washington - The Information School, Seattle, Washington, 2. University of Washington - Department of Health Services, Seattle, Washington, 3. University of Washington - Biobehavioral Nursing and Health Services, Seattle, Washington, 4. University of Washington - Medicine/Gerontology and Geriatric Medicine, Seattle, Washington, 5. Group Health Research Institute, Seattle, Washington, 6. University of Washington - Department of Psychiatry and Behavioral Sciences, Seattle, Washington, 7. Geriatric Research, Education, and Clinical Center, Puget Sound VA Medical Center, Seattle, Washington, 8. University of Washington - Department of Biomedical Informatics and Medical Education, Seattle, Washington

As a core component of community living for aging individuals, wellness programs are designed to meet the diverse needs of older adults. Many programs align support services with traditional models of wellbeing comprised of physiological, cognitive, and social dimensions of health defined by theoretical frameworks. Despite these initiatives, little attention has been paid to how older adults themselves define wellness in the context of community living. To address this gap, we are exploring the concept of wellness by engaging community-dwelling older adults in ongoing focus groups (10 participants across 2 sessions to date). Group discussions about participants' goals and activities for staying healthy support and extend existing frameworks. Rather than framing wellness in terms of health-related deficits (e.g., loss of mobility), participants expressed wellness from a position of personal strength – primarily focusing on the ways they stay physically and mentally healthy. For example, participants engage in regular fitness and activities to stay mentally active (e.g., reading, watching game shows, memorizing poetry). The social context of community living illustrated rich interactions among social, physical, and mental dimensions of wellbeing, including peer exercise programs and social activities (e.g., book club, bridge group). Wellness barriers also surfaced (e.g., physically challenging fitness programs), which were often mediated through support obtained from family, friends, and staff. Because wellness is an important concept that drives both policy and service delivery for aging individuals, incorporating the voice of older adults is critical to understanding and meeting their diverse needs.

## **RETIREMENT AND TRAJECTORIES OF LIFE SATISFACTION: THE ROLE OF EDUCATION AND LAST LABOR MARKET STATUS**

M. Wetzel, O. Huxhold, German Centre of Gerontology, Berlin, Germany

Objectives. The research project examines trajectories of life satisfaction at the transition to retirement. Following a life course perspective, we analyze the impact of education and last labor market status on retirement transition for different temporal episodes. Methods. We used data from the German Socio-Economic Panel to estimate a multi-group, multi-episodes dual change score model. For 3,361 retirees with almost 28,000 observations the trajectories of life satisfaction from six years prior, over shortly after, and up to eight years after retirement were modeled discontinuously. Results. Retirement significantly changes the development of life satisfaction in the short-term as well as in the long-term. Educational class was associated with differential long-term developments of life satisfaction. Prior unemployment was accompanied mostly by a positive short-term effect on retirement. Overall, the model fitted the data very well (CFI = 0.981; RMSEA = 0.021). Discussion. The results indicate that retirement is a major change in living conditions which the higher educated process better in the long-term. Last labor market status differences decrease in the short-term but remain in the long-term. Hence, retirement functions in



the long-term as a step of cumulative inequality as well as in the short-term as a leveler of inequality.

### **THE IMPACT OF ADOLESCENT PERSONALITY AND EXPERIENCES ON LATER LIFE SATISFACTION IN PROJECT TALENT**

D.L. Achorn<sup>1</sup>, J.M. Parisi<sup>2</sup>, D. Battle<sup>1</sup>, V. McSorley<sup>1</sup>, S.J. Lapham<sup>1</sup>, G. Rebok<sup>1,2</sup>, 1. *American Institutes for Research, Washington, District of Columbia*, 2. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Individual and contextual early life factors, including personality, family structure, and social support may contribute to life satisfaction in adulthood. Several studies have shown the contemporaneous relations between socio-demographic characteristics and life satisfaction within younger populations (Sastre & Ferriere, 2000; Suldo & Huebner 2004; Zullig, Valois, Huebner, & Drane, 2005). However, relatively little is known about how these early life factors interact with one another to influence life satisfaction in later adulthood. Within the context of the Project Talent (PT) study, we examined the association between personality and life factors in adolescence and life satisfaction in later life. In 1960, PT was initiated to assess the knowledge, personality, interests, and abilities of approximately 400,000 US high school students. The current analysis includes a sample of the original study population who also participated in a 2011-12 collection (N =1,952; M = 68 years). Preliminary longitudinal analyses suggest that adolescent personality and early life factors measured in 1960 are associated with life satisfaction in 2012 and that these associations differ by sex. Specifically, for women, general academic aptitude, mother's involvement before age 18, and the personality dimension of vigor were positively associated with later adult life satisfaction ( $p < 0.01$ ). For men, not having trouble with the police before age 18 and the personality dimensions of vigor, self-confidence, leadership, and calmness were positively associated with life satisfaction 50 years later ( $p < 0.01$ ).

### **FACTORS OF SUCCESSFUL AGING AND THE EFFECT ON THE LIFE SATISFACTION OF KOREAN BABY BOOMERS**

M. Kim<sup>1</sup>, L.S. Park<sup>2</sup>, 1. *Department of Community Development and Welfare, Daegu University, Gyeongsan, Gyeongbuk, Republic of Korea*, 2. *School of Social Work, University of Wisconsin, Madison, Wisconsin*

Descriptions: Rowe and Kahn's successful aging consists of three parts: avoiding disease and disability, high cognitive and physical function, and engagement of life. However, this model is based on western countries with relatively good retirement plans and does not consider economic factors. Also, when considering "continuity" as a good adapting method to the old age era, preparation for older life is another important successful aging factor. The inclusion of preparation for old age shifts the perspective on successful aging as a process. Without a successful aging process, the outcome of successful aging is impossible. This study examines how three successful aging factors and the preparation for old age affect the life satisfaction of Korean Baby Boomers (born between 1955 and 1963). Method: This study used individual data from the KReIS (Korean Retirement and Income Studies). The factors of successful aging were derived from the third wave data collected in 2009. The life satisfaction and preparation for old age data were derived from the fourth wave data (2011). The sample size for this study was 517. Hierarchical multiple regressions were used to test factors affecting life satisfaction. Findings: For Korean Baby Boomers, their job, marital status, disability, education, and psychological health were important factors affecting life satisfaction. The preparation for aging period and economic independence, which Rowe and Kahn do not consider as factors of successful aging, were found to be important aspects affecting life satisfaction. This cross-cultural perspective expands the model with strong practice and policy implications for successful aging.

## **SESSION 510 (PAPER)**

### **MINORITY AGING AND SOCIAL SUPPORT**

#### **SEXUAL AND GENDER MINORITIES CARING FOR CHRONICALLY ILL ADULTS**

D.L. Albright, K.T. Washington, J.A. McElroy, D. Parker Oliver, A. Lewis, S.E. Meadows, S.G. Elliot, *School of Social Work, University of Missouri, Columbia, Missouri*

A number of marginalized communities receive inadequate attention in the extensive body of existing research on informal caregivers; this is particularly true of the sexual and gender minority (SGM) community. This paper features a review of the evidence regarding the experiences of SGMs involved in the informal care of chronically ill friends or family members and examines the specific research strategies that have been involved in developing knowledge in this area. The review found that the SGM caregiving experience is characterized by experienced and anticipated sexual and gender prejudice within health and social service systems, involvement of families of choice, and the invisibility of the needs of SGM caregivers as a community and as individuals. Existing research in this area, which is largely qualitative, provides rich description of caregiver experiences; however, the evidence base would be strengthened by research including a more diverse range of methods, particularly studies aimed at generating results generalizable to the broader SGM community.

#### **BLACK-WHITE DIFFERENCES IN LONELINESS AMONG ELDERS IN THE US**

K.G. Emerson, A.P. Glass, *Institute of Gerontology, University of Georgia, Athens, Georgia*

BACKGROUND: Increasing numbers of researchers are finding that loneliness is a significant risk factor for morbidity and mortality. However, much of the research has focused on the overall older population, with few researchers focusing on potential racial differences in loneliness among elders. OBJECTIVES: To determine Black-White differences in prevalence of loneliness in the United States. RESEARCH DESIGN: Data were drawn from the 2010 Health and Retirement Study Leave Behind Questionnaire. The key outcome variable was based on the three-item loneliness scale, where higher scores indicate higher levels of loneliness (range 3-9). T-tests were used to calculate differences in average levels of loneliness by race. Linear regression models were used to test the association between race and loneliness controlling for covariates. SUBJECTS: A total of 1,156 non-Hispanic Black and 5,513 non-Hispanic White elders completed all three items on the loneliness scale. Ages ranged from 51-101 (mean=67), with a majority (57%) female and married (62%). RESULTS: The mean score for Blacks on the loneliness scale was 4.76, which was significantly higher than for Whites (mean 4.35). Blacks were significantly more likely to have higher scores on loneliness ( $p$ -value .013) even when controlling for gender, age, living arrangement, marital status, urban/rural living, and number of health conditions. CONCLUSIONS: Among community-dwelling elders in the US, loneliness was significantly higher among Blacks compared to Whites, even after controlling for a number of other factors. Loneliness is a significant public health topic and results suggest a need for more targeted assessment and interventions across race groups.

#### **SOCIAL SUPPORT TRAJECTORIES AND THE MORTALITY RISK OF OLDER MEXICAN AMERICAN WOMEN AND MEN**

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Although numerous studies have shown that social support tends to favor longevity, very little research has been devoted to linking trajectories of social support and mortality risk. Because the bulk of previous

work has focused on predominantly non-Hispanic white and black populations, more research is needed to explore processes related to social support and longevity in Hispanic populations. Employing seven waves of data collected from the original cohort of the Hispanic Established Populations for the Epidemiologic Study of the Elderly (H-EPESE), we used growth mixture modeling (GMM) to estimate latent classes of social support trajectories. We then used the Cox proportional hazard regression model to estimate the relative risk of all-cause mortality as a function of the social support trajectories. Our GMM results revealed three social support trajectories in the data (consistently high, consistently moderate, and consistently low). Our Cox regression results showed that older Mexican American men who were assigned to the low social support trajectory exhibited a higher mortality risk than their counterparts who were assigned to the high social support trajectory. The social support trajectories were unrelated to the mortality risk of women. A statistically significant gender\*social support interaction term confirmed that social support was more strongly associated with the longevity of men than women. Our results extend previous work by identifying multiple latent social support trajectories and by documenting gender variations in the link between social support and mortality risk in the older Mexican American population.

### THE LIVES OF LGBT OLDER ADULTS: UNDERSTANDING CHALLENGES AND RESILIENCE THROUGH THE ADDRESSING MODEL

N. Orel<sup>1</sup>, C.A. Fruhauf<sup>2</sup>, *1. Gerontology, Bowling Green State University, Bowling Green, Ohio, 2. Colorado State University, Fort Collins, Colorado*

The co-editors of the soon to be released book titled “The Lives of LGBT Older Adults: Understanding Challenges and Resilience” will provide a comprehensive overview of cutting-edge research on LGBT older adults and their families and provide practical implications for policy and practice related to LGBT aging individuals and their families. The presenters will pay particular attention to the research that has focused on the strengths and resiliency of the LGBT older adult population and the innovative ways in which individuals have overcome heterosexism and homophobia throughout their lives. The focus on strengths and resiliency is an important advancement in the field as much of the previous literature on LGBT older adults has neglected to address such topics. The presenters will also pay particular attention to the diversity that exists within the LGBT older adult population by “ADDRESSING” the intersectionality of ten cultural factors and personal attributes. Drawing upon the work of Hays (1996, 2008), the acronym ADDRESSING is proposed as a helpful guide that illustrates the cultural factors and personal attributes that influence aging and the importance of these constructs in physical health, mental health, familial relationship, social relationships, and overall wellness. This model will specifically be used to illustrate how cultural factors and personal attributes contribute to the ability of LGBT older adults to access services and shed light to the difficulty in designing services and programs that would meet the needs LGBT older adults and their families.

### MINORITY STRESS AND SEXUAL MINORITY OLDER ADULTS: AGEISM, HETEROSEXISM, AND QUALITY OF LIFE

B.L. Perkins, G.I. Caskie, *Lehigh University, Bethlehem, Pennsylvania*

Meyer’s (2003) Minority Stress Theory posits that people who identify as lesbian, gay, or bisexual (LGB) may experience additional stressors due to having a stigmatized identity. These stressors are related to discrimination and prejudiced attitudes, which are negatively related to mental health, loneliness, and quality of life. However, whether Meyer’s model applies to LGB older adults, including the unique social stressor of ageism, has yet to be assessed. Thus, the current study explored whether experiences of ageism, heterosexism, internalized homonega-

tivity, and outness were related to loneliness, life satisfaction, quality of life, and psychological distress in a sample of 98 LGB-identified adults aged 50 and older. Results indicated a significant relationship at the multivariate level (Wilks’ lambda = .671,  $p = .002$ ), with significant variance explained for life satisfaction ( $p = .001$ ), quality of life ( $p < .001$ ), and psychological distress ( $p = .029$ ). Univariate results indicated that greater perceived ageism and outness were significantly related to poorer quality of life ( $p = .010$  and  $p = .006$ , respectively). Greater ageism was also significantly predictive of poorer life satisfaction ( $p < .001$ ). None of the individual predictors were significantly related to psychological distress or loneliness. The influence of biological sex, gender identity, age, ethnicity, and other demographic variables will be assessed. In general, these findings suggest that Meyer’s model may be a useful framework for understanding the unique experiences of LGB older adults, with support for the inclusion of the social stressor of ageism to the original model.

## SESSION 515 (SYMPOSIUM)

### AGING, THE CNS AND MOBILITY PRECONFERENCE SERIES: FINDINGS AND FUTURE PLANS

**Chair:** S. Studenski, *NIA, Baltimore, Maryland*

**Co-Chair:** W.G. Chen, *NIA, Baltimore, Maryland*

**Discussant:** M. Wagster, *NIA, Baltimore, Maryland*

Loss of independent mobility with aging is a major cause of late life disability. Much is known about cardiopulmonary and musculoskeletal contributors to loss of mobility but only recently recognized is the significant contribution of the CNS to age-related mobility loss, even in the absence of overt CNS disease. A 3 year NIA-funded GSA preconference series focused on multidisciplinary, translational approaches to this topic. This 5-presentation symposium will describe the conference, its findings and plans for the future, including first; a series overview and summary of current knowledge and techniques; second; a translational exploration of potential contributors to CNS-mediated mobility loss, third; findings from this year’s preconference on potential interventions; fourth; future plans for the series and fifth; perspectives from NIA.

### REVIEW THE BEST EVIDENCE TO DATE IN SUPPORT OF CNS CONTRIBUTION TO MOBILITY IMPAIRMENT

C. Rosano, *University of Pittsburgh, Pittsburgh, Pennsylvania*

Evidence from basic, clinical, and epidemiological studies strongly support the role of the Central nervous system (CNS) as an important contributor to mobility limitations in older adults without overt neurologic disease. A review of neuroimaging studies indicates that specific brain networks would be related to control of impaired mobility in older adults and clarifies the biological rationale underlying the association between the CNS and mobility. These results raise interesting possibilities that the variance of mobility impairment in older adults may result from different degrees of brain plasticity that may buffer the disabling potential of other systems’ impairment. This differential for brain compensation could potentially explain not only why the relationship of exposure to risk factors or to neuromuscular impairment with disability is highly variable but also why the response to rehabilitative intervention is quite different from individual to individual.

### CAUSAL PATHWAYS TO CNS-MEDIATED MOBILITY LOSS

F. Sorond<sup>1</sup>, C. Rosano<sup>4</sup>, S. Studenski<sup>4</sup>, S. Black<sup>3</sup>, L. Lipsitz<sup>2</sup>, *1. Brigham and Women’s Hospital/Harvard Medical School, Boston, Massachusetts, 2. Hebrew SeniorLife/Harvard Medical School, Boston, Massachusetts, 3. Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada, 4. University of Pittsburgh, Pittsburgh, Pennsylvania*

The central nervous system (CNS) plays a key role in the control of mobility. Some CNS pathologies that disrupt neural networks respon-

sible for gait and balance have a very strong aging component (e.g. PD and vascular disease) while others are modified by age (e.g. MS). However, a key area of knowledge gap is the lack of mechanistic insight into the causal CNS pathways which lead to age-related mobility decline. There is a need for longitudinal studies testing possible mechanisms and studies which manipulate pathological components and identify compensatory mechanisms. We also need uniform measures and nomenclature to facilitate cross-institutional studies. These efforts will advance our understanding of mobility in the context of brain networks, cognition, neuromuscular activation and even the autonomic nervous system. This knowledge will help identify targeted interventions that will integrate neuroplasticity and endogenous compensatory mechanisms towards ameliorating age-related mobility disability.

### **EXTEND THE STUDY OF AGING, CNS AND MOBILITY INTO THE FUTURE**

C. Rosano<sup>1</sup>, F. Sorond<sup>2</sup>, 1. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *Brigham and Women's Hospital Department of Neurology, Boston, Massachusetts*

Collectively, these workshops have generated important new knowledge, and suggest priority topics and strategies for future research—especially regarding opportunities for future studies and novel uses of previously funded NIH or other data sets. There was consensus that novel approaches that cut across disciplines and go beyond conventional disease-based models are needed to understand the variability of mobility impairment in community-dwelling older adults and identify effective interventions to ameliorate mobility problems. Another programmatic priority is designing new training approaches that integrate concepts and methodologies from individual disciplines, focus on emerging methodologies, and prepare investigators to assess complex, multisystem associations. The aim of the renewal is to facilitate the translation of research results into interventions that will improve mobility for community-dwelling older adults and to spur interest toward new training models. The proposal encourages collaborations among experts in complementary fields of aging, cognitive neuroscience, neurology, neuroimaging, biomedical engineering, neuropsychology, and epidemiology.

### **FINDINGS FROM YEAR 3: REVIEW OF INTERVENTIONS TO PREVENT AND DELAY MOBILITY IMPAIRMENT**

M. Carlson, *Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

This workshop builds on evidence from the first two workshops regarding modifiable risk factors and causal neural mechanisms underlying mobility difficulties. The third workshop evaluates a range of pharmacologic, sensory, electrical, and behavioral interventions that target modifiable risk factors and apply novel methods to more precisely measure the mechanistic pathways identified in Workshop 2 (e.g., inflammation, neuroplasticity) underlying potential benefit. We will review the strengths and limitations of various intervention designs and opportunities to integrate approaches across cognitive and mobility studies in community-based, clinical populations, and animal models to address gaps in our understanding of the role of the CNS on mobility.

### **SESSION 520 (SYMPOSIUM)**

#### **EXPLORING FUNCTION IN THE OLDER ADULT WITH CHRONIC LOW BACK PAIN: THE DELAWARE SPINE STUDIES**

**Chair:** G. Hicks, *University of Delaware, Newark, Delaware*  
**Discussant:** J.F. Bean, *Spaulding Rehabilitation Hospital, Cambridge, Massachusetts*

Improving physical function is a key goal of geriatric rehabilitation clinicians and researchers. Recent literature demonstrates that low back pain (LBP), the most commonly reported symptom among geriatric

patients, is specifically linked to functional decline. The goal of this symposium is to highlight recent work exploring factors that explain the relationship between LBP and physical function among community-dwelling older adults using data from a series of Delaware Spine Studies projects. The first paper will utilize data from a comparative study of older adults with and without chronic LBP to examine differential associations between cardiovascular risk factors and physical function. The second paper will use the same dataset to explore the relationship between self-reported and performance-based function in older adults with chronic LBP, as well as the influence of psychosocial factors on each method of measuring function. The third paper will use longitudinal data from Delaware Spine Studies Project 2 to examine the relationship between changes in trunk range of motion and changes in performance-based function. Lastly, the final paper will use data from a pilot randomized trial of older adults with chronic LBP to assess the impact of trunk muscle training augmented with neuromuscular electrical stimulation on physical function compared to trunk muscle training alone. The overall findings of these papers suggest that there are multiple factors that impact function in older adults with LBP and that there is potential to improve function through the development of empirically-driven interventions.

#### **CONTRIBUTIONS OF CARDIOVASCULAR RISK FACTORS TO PHYSICAL PERFORMANCE IN OLDER ADULTS WITH CHRONIC LOW BACK PAIN**

V. Allen, P.C. Coyle, T. Velasco, J. Sions, G. Hicks, *University of Delaware, Newark, Delaware*

Among older adults, reduced physical function is associated with increased cardiovascular (CV) risk. Given that older adults with chronic low back pain (CLBP) have reduced function, they may also have increased CV risk profiles. Therefore, we explored associations between CV risk, LBP and function. In our sample, community-dwelling older adults with CLBP (n=66) had increased CV risk, compared to those without LBP (n=57), including elevated numbers of current/past CV conditions (p=.021), higher BMI (p=.017) and larger waist circumference (p=.004). Among LBP participants, linear regression analyses indicated that BMI and waist circumference, beyond demographic covariates and LBP intensity, explained an additional 30.3 and 15.0% of the variance in SF-36 physical function and gait speed (p<.05), respectively. Among participants without LBP, BMI and waist circumference did not explain any additional variance in either measure of physical function (p>.05). Addressing CV risk factors among CLBP patients may be critical in optimizing physical function.

#### **PSYCHOSOCIAL CONTRIBUTORS TO DIFFERENCES IN PERFORMANCE-BASED VS. SELF-REPORTED FUNCTION AMONG OLDER ADULTS WITH CHRONIC LOW BACK PAIN**

G. Hicks, J. Sions, T. Velasco, *University of Delaware, Newark, Delaware*

Functional limitations, which can be measured through performance-based or self-reported methods, are common among older adults with chronic low back pain (CLBP), but differences in these two methods have not been explored in CLBP. Therefore, we explored the differences in psychosocial contributors to the Short Physical Performance Battery (SPPB) and the Physical Function (PF) subscale of the SF-36 among 66 older adults with CLBP. SPPB was correlated with PF (r=.58, p<.001), but only accounted for 34% of the variance. Separate multivariate linear regression models for SPPB and PF explained 44 and 45% of the variance, respectively. Pain catastrophizing, fear avoidance beliefs and kinesiophobia were not significant contributors to either model (p>.05). Depressive symptoms contributed significantly to both models, but explained more variance in PF score than SPPB score (16 vs. 6%). Performance-based and self-reported measures capture differ-

ent aspects of function, with self-reported function being more closely linked to depressive symptoms.

### IMPROVED TRUNK MOBILITY IS LINKED TO BETTER PHYSICAL FUNCTION IN OLDER ADULTS WITH CHRONIC LOW BACK PAIN

P.C. Coyle, V. Allen, T. Velasco, M. Sions, G. Hicks, *Physical Therapy, University of Delaware, Newark, Delaware*

Older adults with chronic low back pain (CLBP) have limitations in physical function compared to those who are pain-free, particularly in chair rise performance. Limited trunk range of motion (ROM) may be a contributing factor to dysfunction in this population. Using data from a cohort of 58 community-dwelling older adults with CLBP enrolled in a randomized clinical trial exploring the effectiveness of two physical therapy interventions, we assessed whether changes in trunk ROM were related to changes physical function. Immediately following the twelve week intervention period, there were significant improvements in trunk flexion ( $p=.014$ ) for the entire sample. After controlling for age, sex, body mass index and intervention group, increases in trunk flexion explained 7.9% ( $p=.030$ ) and 8.8% ( $p=.033$ ) of the variance in chair rise performance at 12 and 24 weeks, respectively. Improving trunk flexion may improve physical function, specifically chair rise performance, in older adults with CLBP.

### CHRONIC LOW BACK PAIN INTERVENTION: EXERCISE + NEUROMUSCULAR ELECTRICAL STIMULATION VERSUS EXERCISE

J. Sions, G. Hicks, *University of Delaware, Newark, Delaware*

Interventions addressing skeletal muscle [e.g. lumbar exercises (EX) and paraspinals neuromuscular electrical stimulation (NMES)] may improve pain and function in adults with chronic low back pain (CLBP). We conducted a 6-week, randomized, controlled pilot study to determine if EX+NMES was superior to EX for improving pain, multifidus muscle asymmetry, physical and psychosocial function. Thirty-six, community-dwelling adults, aged 60-85 years were recruited. Pre- and post-intervention data was collected, including pain, multifidus activity via ultrasound imaging, function per Short-Form 36, paraspinals endurance, and physical performance tests. Significant between-group differences were found only for pain favoring EX ( $p=.040$ ); those who received EX+NMES had a trend toward greater multifidus activity symmetry. Both groups demonstrated significant improvements in self-reported physical function, paraspinals endurance, Timed Up and Go, and repeated chair stands ( $p<.05$ ); but, only individuals in the EX+NMES had significant improvements in functional reach and gait speed ( $p<.05$ ). Further research may confirm the results of this pilot study.

## SESSION 525 (SYMPOSIUM)

### THE FRAILTY CONNECTION: ASSOCIATION WITH CHRONIC DISEASE AND HEALTH OUTCOMES

**Chair:** R. Roiland, *GRECC, William S. Middleton Memorial Hospital, Madison, Wisconsin*

**Co-Chair:** J. Alderden, *College of Nursing, University of Utah, Salt Lake City, Utah*

**Discussant:** R. Roiland, *GRECC, William S. Middleton Memorial Hospital, Madison, Wisconsin*

Frailty in older adults is defined as an enhanced state of vulnerability to disease and poor health outcomes. While frailty conveys a general state of vulnerability, the connection between frailty and specific diseases and health outcomes is variable. The presenters in this symposium will explore these various connections and discuss the implications of frailty within specific populations of older adults. Ms. Denfeld's presentation focuses on the conceptualization and measurement of frailty in older adults with heart failure. Her literature review will focus on how frailty manifests within the context of heart failure and identify

important dimensions to include in the measurement of frailty within this population. Dr. Tocchi's presentation focuses on the development and validation of the Frailty Index for Elders (FIFE) instrument. Within this study, frailty is conceptualized as multi-dimensional concept with connections to various bio-psychosocial outcomes in both community-dwelling and assisted living facility dwelling older adults. Dr. Roiland's presentation focuses on a pilot study examining the feasibility and acceptability of assessing frailty in hospitalized older Veterans. In addition, the relationship between frailty and transitional care outcomes (e.g., re-hospitalization) will be explored. And finally, Dr. Zavlasky's presentation focuses on long-term mortality in frail, older women and the role various physiological and behavioral factors play in predicting mortality in this population. Together, these presentations will demonstrate the importance of the concept of frailty and its connection to various aspects health among older adults.

### CONCEPTUALIZATION AND MEASUREMENT OF PHYSICAL FRAILTY IN HEART FAILURE

Q.E. Denfeld<sup>1</sup>, J. Bennett<sup>1</sup>, J.M. Gelow<sup>2</sup>, J.O. Mudd<sup>2</sup>, C.S. Lee<sup>1,2</sup>,  
*1. School of Nursing, Oregon Health & Science University, Portland, Oregon, 2. Oregon Health & Science University Knight Cardiovascular Institute, Portland, Oregon*

As conditions of biological aging, both physical frailty and heart failure (HF) are highly prevalent among older adults. Among those with HF, physical frailty significantly increases adverse clinical and patient-oriented outcomes. However, there remains uncertainty in how to conceptualize and subsequently measure physical frailty in HF. The purpose of this paper is to clearly delineate the conceptual definition of physical frailty specifically in HF in order to then distinguish how to measure this concept. Through a review of the literature, individual dimensions of physical frailty in HF will be identified, including how physical frailty manifests in HF and the shared underlying pathophysiological mechanisms therein. Physical frailty will also be clearly defined in relation to similar, yet distinctly different, concepts. Finally, we will put forth recommendations for how to measure physical frailty in HF based on this conceptual definition.

### CORRELATES OF LONG TERM RISKS OF DEATH AMONG FRAIL ELDERLY: OBSERVATIONS FROM THE WOMEN'S HEALTH INITIATIVE OBSERVATIONAL STUDY

O. Zaslavsky<sup>1</sup>, A. Zisberg<sup>1</sup>, E. Shadmi<sup>1</sup>, N.F. Woods<sup>2</sup>, B.B. Cochrane<sup>2</sup>, A.Z. LaCroix<sup>3</sup>,  
*1. Department of Nursing, University of Haifa, Haifa, Israel, 2. University of Washington, Seattle, Washington, 3. University of California in San Diego, San Diego, California*

**Background:** We used Women's Health Initiative Observational Study data to examine factors that are associated with long-term survival among frail participants. **Methods:** Women ages 65+ screened positively for frailty were analyzed. Components of frailty were self-reported low physical function, exhaustion, low physical activity, and unintended weight loss. Logistic regressions characterized the association of baseline risk factors with long-term survival. **Results:** Frailty was classified in 13,193 participants; among those 37.1% had death reported by December 2013. Older age, more severe frailty, abnormal hemodynamic measures, selected chronic conditions, smoking status, and ADL deficits were positively associated with elevated risks of mortality, whereas income, overweight or obese categories, and self reported health were inversely associated. Relative to normotensive participants, systolic blood pressure >139 mm Hg or diastolic blood pressure < 65 mmHg were associated with respective 1.19 (95% CI=1.07-1.32) and 1.17 (95% CI=1.05-1.30) increased risk of mortality. **Conclusion:** The findings might indicate important targets for intervention.

## **FRAILITY AND TRANSITIONAL CARE OUTCOMES IN HOSPITALIZED, OLDER VETERANS: A FEASIBILITY STUDY**

R. Roiland<sup>1</sup>, J. Porter<sup>1,2</sup>, B. Polnaszek<sup>3</sup>, M.L. Hovanes<sup>1,2</sup>, L.L. Jensen<sup>1</sup>, A. Kind<sup>1,2</sup>, *1. William S. Middleton Memorial Hospital, Geriatric Research Education and Clinical Center, Madison, Wisconsin, 2. University-Madison School of Medicine and Public Health, Division of Geriatrics and Gerontology, Madison, Wisconsin, 3. University-Madison School of Medicine and Public Health, Madison, Wisconsin*

Frailty in hospitalized older adults is predictive of outcomes such as nursing home admission and mortality, but its relationship to transitional care outcomes (e.g., re-hospitalization) is not known. The purpose of this study was to evaluate feasibility and acceptability of assessing frailty in hospitalized older Veterans eligible for transitional care programs within the local Veterans Administration hospital. A total of 12 Veterans were recruited and assessed within 48 hours of hospital admission. Eight were classified as frail and four as pre-frail. On average, assessments were completed in approximately 16 minutes (range: 9 - 40) and all participants reported the assessments were acceptable. Three participants, 2 frail and 1 pre-frail, were re-hospitalized or visited the emergency department within 30 days of hospital discharge. Frailty assessment is feasible and acceptable within the hospital setting, but a larger study is needed to better understand the relationship between frailty and transitional care outcomes.

## **DEVELOPMENT OF A FRAILITY MEASURE FOR OLDER ADULTS: THE FRAILITY INDEX FOR ELDERLY (FIFE)**

C. Tocchi<sup>1,3</sup>, M.D. Naylor<sup>2</sup>, J. Dixon<sup>3</sup>, R. McCorkle<sup>3</sup>, *1. Nursing, New York University, New York, New York, 2. University of Pennsylvania, Philadelphia, Pennsylvania, 3. Yale University, New Haven, Connecticut*

**Background/Purpose** Frailty is a significant challenge for health-care. Therefore, it is important to identify frail individuals. Currently no studies have utilized administrative datasets to measure frailty in older adults. The purpose of this study was to develop a concise multidimensional frailty instrument and test determinants of frailty in two groups of older adults. **Methods** Instrument development encompassed: delineation of content domains; item generation; content validity; quantitative content validity analysis; and psychometric analysis through the use of secondary analysis of data derived from an on-going longitudinal prospective descriptive study. **Results** Findings indicated: 1) frailty is a complex concept; 2) FIFE is comprised of 10 items; 3) FIFE was able to predict depression; 4) FIFE was able to differentiate differences in demographic profiles by social support environment. **Conclusion** FIFE is a valid instrument. FIFE can be used to study the relationships among frailty determinants; provide standardized measurement; and develop and measure interventional studies.

## **SESSION 530 (SYMPOSIUM)**

### **CONCEPTUALIZING, IMPLEMENTING, AND EVALUATING DEMENTIA-FRIENDLY MODELS OF CARE: AN INTERNATIONAL PERSPECTIVE**

**Chair:** M. Boltz, *New York University, New York, New York*

**Co-Chair:** K. Wolf-Ostermann, *University of Bremen, Bremen, Germany*

**Discussant:** K. Maslow, *Institute of Medicine National Academies, Washington, District of Columbia*

Dementia-friendly care environments support the function and well-being of persons with dementia (PwD). Relationships with staff, care practices, organizational policies and procedures, the built environment, and connectivity with family and the larger community all interact to impact the outcomes and experiences of PwD. Given that the PwD typically engages with a continuum of health care and social

services, the need for a unifying framework of dementia-friendly care and evidence-based interventions across settings is apparent. Bringing together academic researchers from multiple disciplines in Canada, Germany, the Netherlands, and the United States, this symposium will present cross-setting research advancing dementia-friendly care and services. The presenters will describe: 1) an evidence-based conceptual framework for developing and evaluating dementia-friendly hospital care, developed by the Vancouver Island Health Authority; 2) a family-centered, system level intervention designed to improve post-acute outcomes for PwD and family caregivers in the US; 3) the structures, processes of care, as well as health outcomes of local dementia care networks in Germany; 4) the characteristics and outcomes of person-centered care in nursing homes in the Netherlands; and 5) a monitoring tool used by family caregivers to monitor the health and well-being of community-residing PwD as well as their response to care. Together, these studies illustrate the benefits of addressing the social and ecological factors impacting care delivery to older persons with dementia. Research gaps and implications for policy and practice will be addressed.

### **DEMENTIA CARE NETWORKS PROVIDING MULTIPROFESSIONAL CARE AND SUPPORT – THE DEMNET-D-STUDY**

K. Wolf-Ostermann<sup>1</sup>, J. Gräse<sup>1</sup>, S. Meyer<sup>1</sup>, W. Hoffmann<sup>2</sup>, J. Thyrian<sup>2</sup>, B. Holle<sup>3</sup>, S. Schäfer-Walkmann<sup>4</sup>, *1. University of Bremen, Bremen, Germany, 2. German Center for Neurodegenerative Diseases (DZNE), Rostock/ Greifswald, Germany, 3. German Center for Neurodegenerative Diseases (DZNE), Witten, Germany, 4. Baden-Wuerttemberg Cooperative State University, Stuttgart, Germany*

In Germany, local networks of stakeholders (community care services, medical doctors, therapists, hospital facilities, self-help organizations, local authorities, etc.) are engaged in providing multiprofessional care and support for the growing number of PwD in the community. The Demnet-D-study surveys structures and processes of 13 dementia care networks (DCN) all over Germany as well as health related outcomes of PwD being supported by them. The study objective is to raise knowledge about useful structures of DCN and to prove effectiveness in terms of organizing better support for PwD and their relatives; 560 PwD and 452 relatives participated in the study. PwD mostly have a severe dementia but still report a moderate quality of life and sufficient social participation. Satisfaction with care and support by DCN seems to be high. Further results will shed some light on the question how to improve care and social participation of PwD in the community.

### **AN INTERVENTION TO IMPROVE TRANSITIONAL OUTCOMES IN HOSPITALIZED PERSONS WITH DEMENTIA AND FAMILY CAREGIVERS**

M. Boltz<sup>1</sup>, T. Chippendale<sup>1</sup>, B. Resnick<sup>2</sup>, J. Galvin<sup>1</sup>, *1. New York University, New York, New York, 2. University of Maryland, Baltimore, Maryland*

As compared to other older patients, hospitalized persons with dementia (PwD) are more likely to experience functional decline, unresolved delirium, and unplanned rehospitalizations within 30 days of discharge. In addition, the stay for the family caregiver (FCG) is often associated with intense anxiety and stress, as well as increased strain during and after the hospital stay. Family-centered function-focused care, (Fam-FFC) addresses the social ecological factors impacting the functional recovery of hospitalized PwD. Components of the intervention include environmental assessment /modifications; dementia-specific staff training and family education; FCG engagement in assessment, treatment planning and evaluation; and post-acute follow-up. Fam-FFC begins early in the hospital stay and continues through the post-acute period. This intervention has the potential to improve FCG preparation

for caregiving and affective response, and improve the health outcomes (recidivism, delirium duration and severity, function) of PWD.

### **FACILITATED FAMILY CAREGIVER ASSESSMENT OF DEMENTIA SYMPTOMS**

J. Galvin, *NYU School of Medicine, New York, New York*

Alzheimer's disease (AD) is a complex syndrome of cognitive, functional, and behavioral symptoms that reduce quality of life for patients and family caregivers (FCGs). Increasingly, FCGs are viewed by healthcare providers (HCPs) as part of the care team, but little effort has been made to provide them with necessary tools to perform home assessments and make informed decisions regarding care planning. The Healthy Aging Brain Care Monitor (HABC-M) can be used by FCGs to capture, quantify, and monitor cognitive, functional, and behavioral symptoms. This approach can improve: (1) assessment of AD-related symptoms; (2) symptom triage (home management versus bringing patient to medical attention); (3) development of strength-based plans that reflect patient input, values and preferences; and (4) communication with HCPs at the next visit. Use of the HABC-M for monitoring emergent AD symptoms and the effectiveness of individualized care protocols managing these symptoms may improve outcomes for patients and FCGs.

### **PERSON-CENTERED CARE IN NURSING HOMES FOR PEOPLE WITH DEMENTIA: PRE-CONDITIONS AND OUTCOMES**

A. Pot<sup>1,2</sup>, B.M. Willemse<sup>1</sup>, D. Smit<sup>1</sup>, J. de Lange<sup>1</sup>, *I. Netherlands Institute on Mental Health and Addiction, Program on Aging, Utrecht, Netherlands, 2. VU University, Amsterdam, Netherlands*

This presentation will focus on the pre-conditions and outcomes of person-centered care (PCC) in nursing home care for people with dementia, using data from the Living Arrangements for people with Dementia (LAD) – study. This is an ongoing study in The Netherlands, with measurements once every two years. For this presentation, we use data from the second data-collection wave in 2010/2011, including 142 homes for people with dementia, 1129 care staff, 1381 residents and 879 family members. Results show that the amount of small-scale care and the presence of an unambiguous care concept are important pre-conditions for PCC. Beneficial outcomes are found for indicators of quality of care, residents' functioning and quality of life, and caregivers' well-being. Although 80% of the care staff believe they provide PCC based on a self-report questionnaire, there is room for improvement, as will be discussed in further detail.

### **USING A DEMENTIA FRIENDLY HOSPITAL FRAMEWORK TO IMPROVE CARE**

B. Parke<sup>1,2</sup>, M. McLennan<sup>2</sup>, S. Somers<sup>2</sup>, C.E. Butcher<sup>2</sup>, M. Malone<sup>2</sup>, *1. University of Alberta, Edmonton, Alberta, Canada, 2. Vancouver Island Health Authority, Vancouver, New Brunswick, Canada*

Older people with dementia and their caregivers have special care needs when they encounter the hospital setting. When admitted to hospital their needs are complicated by multiple co-morbid problems that contribute to their vulnerability. As such, they are at risk for adverse outcomes associated with hospitalization, and caregivers are at additional risk for fatigue, and hospital acquired caregiver burden. The dementia-friendly acute care (D-FAC) conceptual framework is part of a larger Island Health dementia strategy that aims to ensure safe quality care across the care continuum. We present the D-FAC framework and illustrate how health care professionals working in a general medical hospital unit can mitigate adverse consequences. This involves predicting and preventing remediable problems through customized strategies that consider and address medical, functional, cognitive, and social issues, guided by the D-FAC.

## **SESSION 535 (SYMPOSIUM)**

### **THE HEALTH RISKS OF SEDENTARY BEHAVIOR**

**Chair:** A. Koster, *Maastricht University, Maastricht, Netherlands*  
**Discussant:** T. Harris, *National Institute on Aging, Bethesda, Maryland*

While most physical activity guidelines still solely focus on the health effects of moderate-to-vigorous physical activity, there is growing evidence that sedentary behavior is a health risk factor independent of moderate-to-vigorous physical activity. The objective of this symposium is to discuss the consequences of sedentary behavior in old age. Sedentary behavior has been associated with poor metabolic outcomes and increased mortality. Little is still known about the effects of sedentary behavior on physical function and disability in old age. Dr. Visser will show the functional consequences of sedentary behavior in old age in the Longitudinal Aging Study Amsterdam. Dr. Stenholm will present how sedentary behavior and physical inactivity over the lifecourse are associated with mobility limitation in old age in the InCHIANTI study. Next to total sedentary time, other aspects of sedentary behavior seem also important. Van der Berg has used data from the AGES-Reykjavik Study to examine whether movement during sedentary behavior is associated with metabolic health. Finally, it is not known how sedentary behavior increases health care costs beyond physical inactivity. This topic will be addressed by Dr. Peeters who will discuss the health care costs associated with prolonged sitting and inactivity in the Australian Longitudinal Study on Women's Health.

### **FUNCTIONAL CONSEQUENCES OF SEDENTARY BEHAVIOR IN OLD AGE**

M. Visser, *1. Health Sciences, VU University Amsterdam, Amsterdam, Netherlands, 2. VU Medical Center, Amsterdam, Netherlands*

We investigated the potential consequences of sedentary behavior in 1,278 participants aged 60-98 years from the Longitudinal Aging Study Amsterdam. Sedentary behavior (h/d, quartiles) was assessed by a validated questionnaire. Mobility disability (score 0-12) and performance (score 0-8) were assessed at baseline and after 3 years. Vital status was monitored for 4.5 years. Mean sedentary time was 7.7 (SD 3.1) h/d. Mean mobility disability and performance changes were -0.40 (1.6) and -0.3 (1.7) and 10.2% died. After adjustment for confounders (including physical activity and baseline value of outcome), higher sedentary time was associated with greater change in mobility disability (-0.6 versus -0.3, highest versus lowest quartile  $p < 0.05$ ) and mobility performance (-0.5 versus -0.3,  $p = 0.14$ ). Higher sedentary behavior was also associated with higher mortality risk (OR 1.58 versus 1.0,  $p = 0.09$  (p for trend  $p < 0.05$ )). The results suggest that sedentary behavior may have negative functional consequences in old age.

### **LIFE-LONG PHYSICAL INACTIVITY AND MOBILITY LOSS IN OLD AGE**

S. Stenholm<sup>1,2</sup>, A. Koster<sup>3</sup>, H. Valkeinen<sup>2</sup>, K. Patel<sup>4</sup>, S. Bandinelli<sup>5</sup>, J. Guralnik<sup>6</sup>, L. Ferrucci<sup>7</sup>, *1. University of Turku, Turku, Finland, 2. National Institute for Health and Welfare, Turku, Finland, 3. Maastricht University, Maastricht, Netherlands, 4. University of Washington, Seattle, Washington, 5. Azienda Sanitaria di Firenze, Florence, Italy, 6. University of Maryland, Baltimore, Maryland, 7. National Institute on Aging, Baltimore, Maryland*

This study examines whether physical inactivity over the lifecourse is associated with mobility disability in old age. A total of 641 men and women aged  $\geq 65$  years were followed for 9 years in the InCHIANTI Study. At baseline, participants retrospectively recalled their leisure time physical activity (LTPA) at 20-40 and 40-60 years of age, and reported LTPA in the year prior to baseline. Mobility status was defined as self-reported inability to walk 400 meters or climb and descend 10 steps without help from another person at the baseline, 3-, 6- and 9-year

follow-up. Participants who had been physically inactive (minimal or light LTPA) since age 20–40 reported almost three times more often mobility disability at 9-year follow-up (risk ratio 2.69, 95% CI 1.77–4.10) than those who had never been physically inactive after taking into account age, sex, education and other lifestyle factors at baseline.

### MOVEMENT DURING SEDENTARY TIME IS ASSOCIATED WITH METABOLIC OUTCOMES

J. van der Berg<sup>1</sup>, H. Bosma<sup>1</sup>, P. Caserotti<sup>2</sup>, G. Eiriksdottir<sup>3</sup>, R.J. Brychta<sup>4</sup>, C. Stehouwer<sup>5</sup>, T.B. Harris<sup>6</sup>, A. Koster<sup>1</sup>, *1. Department of Social Medicine/CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands, 2. Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark, 3. Icelandic Heart Association, Kopavogur, Iceland, 4. Diabetes Endocrinology and Obesity Branch, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, Maryland, 5. Department of Internal Medicine/Cardiovascular Research Institute Maastricht (CARIM), Maastricht University Medical Centre, Maastricht, Netherlands, 6. Laboratory of Epidemiology and Population Sciences, Intramural Research Program, National Institute on Aging, Bethesda, Maryland*

This study explored whether movement during sedentary time is meaningful, and examined the associations between sedentary movement and metabolic outcomes. 631 participants (aged 73–98 years) of the AGESII-Reykjavik Study wore a triaxial accelerometer (ActiGraph GT3X) for 7 consecutive days. Sedentary movement was defined as activity in the anteroposterior and/or mediolateral axes with an intensity  $\geq 100$  cpm during sedentary time ( $< 100$  cpm in the vertical axis). Metabolic outcomes included BMI, waist circumference (WC), HDL-cholesterol (HDL), triglycerides (TG), fasting glucose and C-reactive protein. Compared with those who had the most sedentary movement minutes, participants with fewer sedentary movement minutes had an up to 3.4 kg/m<sup>2</sup> higher BMI, an up to 8.3 cm larger WC, an up to 0.13 mmol/L lower HDL level and an up to 1.10 times higher TG level (all  $p < 0.05$ ). These findings suggest that movement during sedentary time could be a relevant aspect of sedentary behavior.

### HEALTH CARE COSTS ASSOCIATED WITH PROLONGED SITTING AND INACTIVITY

G. Peeters, G. Mishra, A. Dobson, W.J. Brown, *School of Human Movement Studies, The University of Queensland, Brisbane, Queensland, Australia*

Health-related costs from 2001 to 2010 were compared between categories of sitting time and physical activity in  $> 6000$  participants (born 1946–1951) from the Australian Longitudinal Study on Women's Health. National health insurance claims data were used to calculate annual costs (Australian Dollars [AU\$]). Differences in costs between categories of sitting time (low [0–4], moderate [5–7], high [ $\geq 8$  hours/day]) and leisure activities (inactive [ $< 40$ ], low [40–600], moderate [600–1200], high [ $\geq 1200$  MET.minutes/week]) were estimated using quantile regression with bootstrapped 95% CIs. In 2010, annual median costs were AU\$668 (IQR=270–1529) in highly active/low sitting participants and AU\$760 (IQR=288–1783) in inactive/high sitting participants. Median costs were AU\$94 (CI=57–131) higher in inactive than highly active participants. No associations were found between sitting time and costs. High sitting time did not add to the inactivity-associated increased costs. In conclusion, physical inactivity, but not prolonged sitting, was associated with higher health-related costs in mid-age women.

## SESSION 540 (PAPER)

### FALLS

#### CIRCUMSTANCES AND OUTCOMES OF FALLS AMONG HIGH RISK COMMUNITY-DWELLING OLDER ADULTS

J.A. Stevens<sup>1</sup>, H. Ehrenreich<sup>2</sup>, J.E. Mahoney<sup>1</sup>, *1. Centers for Disease Control & Prevention, Atlanta, Georgia, 2. University of Wisconsin Medical School, Madison, Wisconsin*

Background: Falls threaten the health and independence of older adults. We investigated the circumstances and injury outcomes of falls among community-dwelling older adults at high risk of falling. Methods: This was a secondary analysis of falls among 328 participants in the Dane County (Wisconsin) Safety Assessment for Elders (SAFE) Research Study. SAFE was a randomized controlled trial of a multifactorial falls intervention conducted from October 2002–December 2007. Participants were community-dwelling adults aged  $\geq 65$  who reported at least one fall in the year following enrollment. Information on falls was collected prospectively using monthly calendars and telephone interviews were conducted to determine the circumstances surrounding each event. Injury outcomes were defined as none, mild, moderate, and severe. Results: Data were available for 1,172 falls. A generalized linear mixed model analysis showed that being aged  $\geq 85$  (OR=2.1, 95% confidence interval [CI]=1.2–3.9), female (OR=2.1, 95% CI=1.3–3.4), falling backward and landing flat (OR=5.6, 95% CI=2.9–10.5), sideways (OR=4.6, 95% CI=2.6–8.0) and forward (OR=3.3, 95% CI=2.0–5.7) were significantly associated with the likelihood of injury. Of 783 falls inside the home, falls in the bathroom were more than twice as likely to cause an injury compared to falls in the living room (OR=2.4, 95% CI=1.2–4.9). Conclusions: In this population, most falls occurred inside the home and the likelihood of injury was strongly associated with the direction of the fall. These findings will help clinicians tailor fall prevention for their patients. They also have practical implications for retirement and assisted living communities.

#### CAN'T WE JUST ASK? AGREEMENT BETWEEN SURVEY AND REGISTER DATA ON INJURIOUS FALLS

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Background: The standard method to assess falls is through monthly fall-diaries. However, in large and long-term studies fall-diaries are challenging, and retrospective surveys are considered instead. One might expect that injurious falls are events that are recalled after a long time. Yet, little is known about the accuracy of survey-based recall of injurious falls. This study assessed whether injurious falls recorded in patients files were accurately reported by older people. Methods: 127 Finnish women aged 75 to 84 completed a survey with questions on whether they had fallen during the previous month (MO), previous year (Y), or had injurious falls 1–5 years ago (5Y). All injuries, treatment received and health care visits were asked. These data were compared with computerized patient files of the healthcare system. Results: 69 injurious falls (IF) were found in the patient files: 3 during MO, 10 during Y and 56 during 5Y. All IFs during MO and 80% during Y were correctly reported in the survey. However, during 5Y only 20 (36%) IFs were reported correctly, 6 (10%) incompletely, and 30 (54%) not at all. 6 of 20 fractures (30%) during 5Y were completely missed via the survey, and 3 (15%) were reported as an IF without fracture. All fractures during MO and Y (n=3) were correctly reported. Conclusions: Since over half the injuries sustained are missed in a survey, a questionnaire

is an unreliable method to assess injurious falls, especially over periods longer than one year.

### OBJECTIVE ASSESSMENT OF FALL RISK IN PARKINSON'S DISEASE USING A BODY-FIXED SENSOR WORN FOR THREE DAYS

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Background: Patients with Parkinson's disease (PD) suffer from a high fall risk. Previous evaluation approaches are based on self-report or testing at a given time point and may, therefore, be insufficient to optimally capture fall risk. We tested, for the first time, whether acceleration-derived 3-day metrics are associated with fall risk in PD. Methods: 107 patients (Hoehn&Yahr Stage: 2.6±0.7) wore a small, body-fixed sensor (3D accelerometer) on the lower back for 3-days. Walking quantity (e.g., step count) and quality (e.g., frequency-derived variability measures) were determined. Subjects were classified as fallers or non-fallers based on fall history and followed for one year to evaluate predictors of the transition from non-faller to faller. Results: Acceleration-derived 3-day measures significantly differed between fallers and non-fallers and were significantly correlated with previously validated fall risk measures. Walking quantity was similar in the two groups. In contrast, fallers walked with higher step-to-step variability (e.g., anterior-posterior width: fallers: 0.78±0.17 Hz, non-fallers: 0.71±0.07 Hz, p=0.012). Among the non-fallers, sensor-derived measures predicted the time to first fall during follow-up (p=0.0034), whereas many traditional measures (e.g., gait speed) did not. Anterior-posterior width was significantly (p=0.0039) associated with time to fall during follow-up, even after adjusting for traditional measures. Conclusions: These findings indicate that a body-fixed sensor worn continuously can evaluate fall risk in PD. This sensor-based approach was able to identify transitions from non-faller to faller, whereas many traditional metrics did not. This approach may facilitate earlier fall risk detection and may help reduce the high costs associated with falls.

### FNIRS STUDY LINKS FREEZING OF GAIT TO FRONTAL LOBE ACTIVATION IN PATIENTS WITH PARKINSON'S DISEASE

J. Hausdorff<sup>1,5,6</sup>, I. Maidan<sup>1,2</sup>, H. Bernad-Elazari<sup>1</sup>, E. Gazit<sup>1</sup>, N. Giladi<sup>1,3,4</sup>, A. Mirelman<sup>1</sup>, 1. *Tel Aviv Sourasky Medical Center, Tel Aviv, Israel*, 2. *Rivers Lab, Department of Rehabilitation and Movement Science, Rutgers Biomedical and Health Sciences, Newark, New Jersey*, 3. *Sagol School of Neuroscience, Tel Aviv University, Tel Aviv, Israel*, 4. *Department of Neurology, Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel*, 5. *Department of Medicine, Harvard Medical School, Boston, Massachusetts*, 6. *Department of Physical Therapy, Sackler Faculty of Medicine, Tel-Aviv University, Tel Aviv, Israel*

Recent studies suggest that deficits in executive function contribute to freezing of gait (FOG), an episodic disturbance that is common among patients with Parkinson's disease (PD). Direct evidence is, however, lacking. We examined the association between FOG and frontal lobe activation, i.e., oxygenated hemoglobin (HbO<sub>2</sub>), as patients with PD walked while instrumented with functional near-infrared spectroscopy (fNIRS). In 49 turns, HbO<sub>2</sub> increased by 0.16±0.04 μM before FOG (p=0.003), then reached a peak and declined during FOG. More specifically, increased activation was observed in FOG that occurred during anticipated turns. In contrast, HbO<sub>2</sub> did not significantly change before 44 turns that occurred without FOG, and decreased by 0.32±0.08 μM

(p=0.004) during these turns. These findings are the first evidence of a direct connection between FOG episodes and frontal brain activation and support the idea that executive function alterations play a key role in this transient motor disturbance that profoundly impacts mobility.

## SESSION 545 (SYMPOSIUM)

### IMPACT OF NURSE STAFFING MIX ON QUALITY OF CARE IN NURSING HOMES: AN INTERNATIONAL OVERVIEW

**Chair:** E. van Rossum, *Zuyd University of Applied Sciences, Heerlen, Netherlands, Maastricht University, Maastricht, Netherlands*

**Discussant:** E.E. Capezuti, *Hunter College of the City University of New York, New York, New York*

During the last three decades, there has been growing concern about nursing home quality in many industrialized countries. Poor care quality has often been associated with insufficient staffing levels, as staffing is presumed to affect the quality of care (QoC) and life (QoL) of nursing home residents. Research on the relationship between staffing and QoC in nursing homes has received considerable attention, especially in the United States. This symposium aims to provide an international perspective on assessing nurse staffing and QoC in nursing homes, with evidence from different countries. The first presenter will draw on data from a longitudinal randomized clinical study of Swedish nursing homes to examine how staffing levels and staff skill mix are related to QoC and QoL. The second presenter offers insights from a nationally (Swiss) nursing home study on the relationship between staffing, turnover and burden of long-term staff absence and QoC indicators. The third presenter will present findings from a study on staffing levels, staffing mix and QoC in Norwegian nursing homes. The fourth presenter will use a national sample of US data to show staffing trends, and the impact the relative changes in staffing-mix have on QoC. The fifth presenter will sum up the evidence from longitudinal studies assessing nurse staffing and QoC in nursing homes.

### STAFFING, SKILL MIX, QUALITY OF CARE AND RESIDENT OUTCOMES IN SWEDISH RESIDENTIAL AGED CARE

D. Edvardsson<sup>1,2</sup>, C. Juthberg<sup>2</sup>, K. Sjogren<sup>2</sup>, L.S. Bjoerk<sup>2</sup>, A.C. Backman<sup>2</sup>, 1. *Nursing, La Trobe University, Melbourne, Victoria, Australia*, 2. *Umea University, Umea, Sweden*

Background: Staffing levels and staffing skill mix are factors repeatedly assumed to influence quality of care and subsequently resident outcomes, even if conclusive evidence is yet to be accumulated. Methods: Randomised and nationally representative data on direct care staff (N≈ 6000) and residents (N≈ 6000) in the longitudinal Swedish National Inventory of Staffing and Care (Svenis) study is used to analyze relationships between staffing levels and skill mix relating to quality of care and resident health indicators such as behavioral and psychological symptoms, quality of life, thriving, and activity participation. Results: Preliminary analyses indicate relationships between staffing levels, staff skill mix and quality of care, and forthcoming analyses will confirm the significance of these relationships as well as how staffing is related to indicators of resident health and quality of life.

### STAFFING, TURNOVER AND LONG-TERM ABSENCES DO NOT RELATE TO QUALITY OF CARE IN SWISS NURSING HOMES

F. Zúñiga, D. Ausserhofer, S. De Geest, R. Schwendimann, *Institute of Nursing Science, Basel University, Basel, Switzerland*

Background: Studies on the relationship of careworker staffing with quality of care in nursing homes show inconclusive results. Methods: A national, representative, cross-sectional survey study was conducted in 163 Swiss nursing homes. Results: The median full-time equivalent



per 100 beds was 49 careworkers, 30% of which were registered nurses, median turnover was 10%, 21% of the units had a heavy burden of long-term absences. High quality of care was found, with e. g. 2% of nursing home residents with pressures ulcers, 2% with fall-related injuries, and 5% with weight loss. Neither staffing nor turnover or long-term absences were related to any of the measured quality indicators. Discussion: Swiss nursing homes seem to be sufficiently staffed for providing acceptable quality of care. Other organizational factors (e.g. nurses' work environment, rationing of care) may explain the variability observed in the quality of care indicators. This hypothesis will be tested in future analyses.

#### **STAFFING AND QUALITY OF CARE IN NORWEGIAN NURSING HOMES**

A.K. Havig<sup>1</sup>, A. Skogstad<sup>3</sup>, T. Romøren<sup>4</sup>, L. Kjekshus<sup>2</sup>, 1. *NOVA, Oslo, Norway*, 2. *University of Oslo, Oslo, Norway*, 3. *University of Bergen, Bergen, Norway*, 4. *Gjøvik University College, Gjøvik, Norway*

Background: Staffing levels and staffing mix have shown to be related to quality of care in nursing homes in US studies. However, few European studies have examined the relationship. Methods: A cross-sectional survey of forty nursing home wards throughout Norway was used to collect the data. Quality of care was assessed by relatives, staff and field observations. Results: Staffing levels and ratio of registered nurses were not significantly related to any of the quality of care indices. The ratio of unlicensed staff, however, showed a significant negative relationship to the quality of care indices. Conclusions: Nursing homes should minimize use of unlicensed staff. The study indicates, however, that the relationship between staffing levels, ratio of registered nurses and quality of care is complex. Increasing staffing levels or the ratio of registered nurses alone is not likely sufficient for increasing quality of care.

#### **CHANGES IN STAFF-MIX AND QUALITY IN NURSING HOMES**

N. Castle, *University of Pittsburgh, Pittsburgh, Pennsylvania*

Data used in this investigation came from surveys of nursing home administrators (N = 6,000); Nursing Home Compare; the Online Survey, Certification and Reporting data; and the Area Resource File. Staffing characteristics, quality indicators, facility, and market information from these data sources were all measured in 2010. The regression analyses showed that staffing factors (i.e., staffing levels, agency staff, stability, and professional staff mix) were associated with the six quality measures examined. In this investigation, the influence of changes in professional staff mix (i.e., RNs / CNAs) are investigated further. A more favorable professional staff mix is associated with the better quality. Some accounting professional staff mix is needed when examining staffing factors.

#### **NURSE STAFFING IMPACT ON QUALITY OF CARE IN NURSING HOMES: SYSTEMATIC REVIEW ON LONGITUDINAL STUDIES**

R. Backhaus<sup>1</sup>, H. Verbeek<sup>1</sup>, E. van Rossum<sup>2,1</sup>, E.E. Capezuti<sup>3</sup>, J.P. Hamers<sup>1</sup>, 1. *Maastricht University, Maastricht, Netherlands*, 2. *Zuyd University of Applied Sciences, Heerlen, Netherlands*, 3. *Hunter College of the City University of New York, New York, New York*

Background: While the effect of nurse staffing mix on quality of care (QoC) in nursing homes has been assessed for years, the supporting evidence is weak. This may partly be due to the heterogeneity in study designs. Therefore, we conducted a review focusing on studies with the highest level of evidence: longitudinal cohort studies. Methods: Searching databases led to the inclusion of 20 longitudinal studies; 2 low-quality studies were excluded from analysis. Results: Higher staffing levels were associated with both better (e.g., less restraints/

catheterization) and lower QoC (e.g. more restraints/catheterization). Discussion and conclusion: The evidence for a clear positive relationship between staffing and QoC is inconsistent. Major methodological weaknesses in study designs ask for a careful interpretation of findings. To gain a better insight into the effect of nurse staffing on QoC in nursing homes, further well-designed longitudinal studies are necessary.

### **SESSION 1825 (SYMPOSIUM)**

#### **POLICY SERIES: SELF-EMPLOYMENT AND ENTREPRENEURSHIP: THE AGING WORKFORCE'S "ENCORE"?**

Chair: G. O'Neill, *National Academy on an Aging Society, Washington, District of Columbia*

This session will provide: (1) a profile of older self-employed adults and entrepreneurs; (2) proposals for policies to promote self-employment and entrepreneurship in later life; and (3) insights from senior-focused entrepreneurship training and education programs.

### **SESSION 555 (SYMPOSIUM)**

#### **RECRUITMENT STRATEGIES FROM A PACE MODEL**

Chair: D.V. Petrovsky, *University of Pennsylvania, Philadelphia, Pennsylvania*

A Program of All-Inclusive Care for the Elderly (PACE) center, operated by the University of Pennsylvania School of Nursing, located in an urban Philadelphia neighborhood cares for dually eligible frail older adults with co-morbidities, including dementia (57%) and chronic mental illness (5.75%). Nearly all members (94%) are African American, a group that is difficult to engage in research. This unique model of care cultivates long term program enrollment of the members which has allowed continued researcher access to this understudied population. Evidence-based practice and research are at the core of the center's mission. Facilitators to research at this day center include the presence of a liaison, administration that fosters research endeavors, a Council of Elders, and facility-provided reliable transportation which promotes members' attendance. Research efforts have revealed some successful recruitment strategies. These include (1) purposeful sampling based on staff recommendation, (2) member-to-member referrals, and (3) targeted marketing with incentives.

#### **RECRUITING FOR HOME- AND COMMUNITY-BASED STUDIES OF DEMENTIA CARE NEEDS AND INTERVENTIONS: BARRIERS AND SOLUTIONS**

C. Kerssens<sup>1</sup>, R. Kumar<sup>1</sup>, A. Adams<sup>1,2</sup>, C. Knott<sup>3</sup>, 1. *R&D, SimpleC, LLC, Atlanta, Georgia*, 2. *Georgia Institute of Technology, Atlanta, Georgia*, 3. *Aptima, Inc., Washington, District of Columbia*

The National Plan to Address Alzheimer's Disease (<http://aspe.hhs.gov/daltcp/napa/NatlPlan2013.shtml>) calls for increased enrollment in clinical trials and other research through community outreach. At the same time, it is well-established that family caregivers for persons with dementia (PWD) are extremely burdened in caring for their loved-one and it is difficult to receive and adapt to a dementia diagnosis. In our experience, both factors significantly hamper research recruitment of community-dwelling PWD and their caregivers. We recently implemented several in-home studies of a person-centered dementia care intervention, and observed widespread sensitivities and reluctance to participate as well as high attrition rates. After tailoring recruitment and retention strategies more carefully to household dynamics, we were better able to complete the 3- to 12-week intervention trials (n=19). In this session, we present observations and data from all phases of research and discuss barriers and solutions to enrollment of this population along with implications for future studies.

## LESSONS LEARNED RECRUITING MINORITY PARTICIPANTS IN RESEARCH

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In the US Hispanic, elders are expected to increase 86% and African Americans by over 31% compared to a 15% increase in Anglos. The Institute of Medicine (IOM) report on unequal treatment and several other reviews suggest that racial/ethnic minorities less frequently receive appropriate care. To improve quality of life for minority elders, we need information on minority elders' cognitive function as they age. Twenty years of cognitive aging research have generated successful recruitment and retention of older adults from diverse ethnic and racial backgrounds. In this presentation, we discuss lessons learned in implementing trials in the community, and provide examples that lead to improved study outcomes. Categories include advertising and marketing of clinical trials, media relations, recruitment and retention strategies, intervention tailoring, and adaptation of psychometric instruments for diverse groups. The authors acknowledge the National Institute on Aging 1 R01 AG15384 for support with this research.

## RECRUITMENT AND RETENTION STRATEGIES OF ETHNICALLY DIVERSE OLDER ADULTS IN COGNITIVE AGING RESEARCH

G.M. Simpson<sup>1,3</sup>, M. Harris<sup>2</sup>, C. Kerssens<sup>4</sup>, 1. *University of Alabama, School of Social Work, Tuscaloosa, Alabama*, 2. *Harding University, Carr College of Nursing, Searcy, Arkansas*, 3. *Faculty Associate Center for Mental Health and Aging, Tuscaloosa, Alabama*, 4. *VP of Research and Clinical Innovation, Georgia, Georgia*

In the United States, empirical data indicate racial and ethnic elders are the fastest growing segment of the older adult population. The National Institutes of Health (NIH) reported racial and ethnic elders, women, and individuals with chronic and disabling conditions, are vulnerable for cognitive impairments and face greater health disparities. Legislation of the National Alzheimer's Project Act (NAPA) mandated federal, state, and local community collaborations for successful recruitment and retention of ethnically diverse older adults in cognitive aging research. One of NAPA's major goals is to solicit partnership with funded researchers about effective recruitment strategies of community-dwelling, racial and ethnic elders in cognitive aging research. In this symposium, four funded researchers provide successful recruitment and retention strategies to increase enrollment of community dwelling older adults and their family members in cognitive clinical trials and longitudinal interventions. Graham and Simpson discuss strategies implemented to recruit and retain Hispanic and African American elders for a longitudinal memory training study. Petrovsky and colleagues discuss successful community-based recruitment strategies to overcome barriers in an urban environment for enrollment of older African American adults with cognitive impairments into a Program of All-Inclusive Care for the Elderly (PACE). Aaron identifies and discusses culturally relevant recruitment strategies to reduce African American caregivers' perception of stigma associated with caring for older adults with dementia. Kerssens and colleagues present successful adaptation to traditional research methods for improving recruitment and retention efforts of community-dwelling persons with dementia and their family caregivers.

## LESSONS LEARNED WITH RECRUITING AFRICAN AMERICAN FAMILY CAREGIVERS OF PERSONS WITH DEMENTIA

C.S. Aaron, *Menonite College of Nursing, Illinois State University, Normal, Illinois, Illinois*

An important implication recruitment barrier to address with older African American dementia caregiver is the role of stigma. The stigma of caring for a person with dementia created recruitment difficulties in a mixed method study of women caring (n=50) for persons with dementia. The presenter describes recruitment strategies to reduce caregivers' perception of stigma associated with caring for older adults with dementia and presents culturally relevant strategies to reduce their perceptions inferred with family caregivers' enrollment into cognitive aging research studies. Religious beliefs of African American participants and potential participants have concerning caring for a person with dementia, made them fearful of sharing their experiences of caregiving with the PI. A mixed methods approach revealed insight into validation of the "spiritual reasons" for reluctance to participate in research studies, caregiver support groups and clinical trials. The Author acknowledges the John A. Hartford Foundation for support with this research.

## SESSION 560 (SYMPOSIUM)

### RAINBOW RESEARCH SYMPOSIUM: TRANSGENDER PERSPECTIVES ON RISK, RESILIENCE AND SUCCESSFUL AGING

**Chair:** K. Porter, *UMASS Boston, Quincy, Massachusetts*

**Co-Chair:** V. Fabbre, *University of Chicago, Chicago, Illinois*

**Discussant:** R. Moone, *University of Minnesota, Minneapolis, Minnesota*

This symposium will highlight transgender aging experiences as distinct, and not simply a mirror of "LGB" (lesbian, gay, bisexual) aging experiences, within which they are often presented. The symposium will present five scholarly papers grounded in a range of methodological approaches that explore risks and resilience in this population, differences by sexual orientation, and the conceptualization of successful aging and minority stress within national and global samples of transgender older adults. The interpretive analyses presented in the first paper challenge traditional conceptualizations of successful aging through the application of queer theory to the experiences of transgender persons who pursue a gender transition in later life. The second paper will analyze the biographical narratives of older transgender persons for critical themes of transphobia and the need for client-centered health and social services for this population. In addition, two studies present findings from data gathered through the Trans MetLife Survey. The first descriptively explores attributes of those who report successful aging, and more specifically the differences in the area of self-actualization. The second reports on significant characteristic differences (t-test and chi-square) between heterosexual and non-heterosexual transgender older adults (N=346), as well as, the significant association found between aging fears and successful aging. In the fifth paper, a national study of transgender older adults (N=146) will be presented that used structural equation modeling to examine the relationships between minority stressors, chronic disease, and psychological distress, and differences between non-transgender LGB older adults and transgender older adults.

### GENDER TRANSITIONS IN LATER LIFE: A QUEER PERSPECTIVE ON SUCCESSFUL AGING

V. Fabbre, *University of Chicago, Chicago, Illinois*

This study explores the experiences of transgender persons who contemplate or pursue a gender transition in later life in order to develop culturally diverse conceptualizations of health and wellness in older age. Using extended case method (ECM), in-depth interviews were conducted with male-to-female identified persons (N=22) who have seriously contemplated or pursued a gender transition past the age of 50.

In addition, 170 hours of participant observation was carried out at three national transgender conferences generating ethnographic field notes on the topics of aging and gender transitions in later life. Interpretive analyses suggest that many transgender older adults experience challenges to their gender identities that risk their emotional and physical well-being. Contemporary queer theory is used to understand these experiences by expanding on traditional notions of success and arguing that greater attention to experiences of “queer failure” may be an integral aspect of growth and development for LGBTQ older adults.

#### **SAMPLE CHARACTERISTIC DIFFERENCES BY SEXUAL ORIENTATION FROM THE TRANS MET LIFE SURVEY**

K. Porter, C. Ronneberg, *UMASS Boston, Quincy, Massachusetts*

This study compares differences by sexual orientation in 346 transgender older adults. Quantitative analyses (t-tests and chi-square) revealed numerous statistically significant differences. Heterosexual transgender older adults were more likely to have a masculine gender self-perception and a male driver’s license sex ( $p=.000$ ), while the opposite was found for sexual minority (SM) transgender older adults. SMs were more likely to make lower incomes, not have children, and not have a partner/spouse than heterosexuals ( $p<.05$ ). SMs were more likely to be out about their gender identity to everyone ( $p=.000$ ), and be out to friends, healthcare providers, and religious leaders ( $p<.01$ ) than heterosexuals. Logistic regressions found an association between several aging fears and successful aging in this population, although there were no differences by sexual orientation. The findings of this study highlight the importance of studying transgender older adults, not simply including the “T” in the “LGBT” group umbrella.

#### **IT’S NOT ALL SCYLLA AND CHARYBDIS: SUCCESSFUL AGING AND RESILIENCE IN THE TRANSGENDER COMMUNITY**

T.M. Witten, *Center for the Study of Biological Complexity, Virginia Commonwealth University, Richmond, Virginia*

Much research has shown that the global trans-identified population suffers significant stigma, violence and abuse at the hands of healthcare workers, caretakers, and many other groups. Further, this abuse is often repeated and frequent and takes place across the whole lifespan; from early life until a trans-person is elderly. Yet, in the face of this extremely negative environment, many trans-persons say that they have aged successfully. In this presentation we will explore the Trans MetLife Survey (TMLS) respondent answers to questions around successful aging, resilience and other factors that allow trans-persons to see their lives as successful. We will examine how this is both the same and different from the traditional heterosexual community and we will close with what trans-persons can teach us about aging well.

#### **THE MENTAL HEALTH OF TRANSGENDER OLDER ADULTS: MECHANISMS OF RISK**

C.P. Hoy-Ellis, K.I. Fredriksen-Goldsen, *School of Social Work, University of Washington, Seattle, Washington*

Exceedingly limited research on transgender older adults suggests they experience poorer mental and physical health than their non-transgender lesbian, gay, and bisexual (LGB) peers. The minority stress model suggests that unique stressors, such as concealment of minority identity and internalized stigma contribute to higher rates of psychological distress. Other research indicates that chronic disease also increases the risk for psychological distress. This study uses structural equation modeling to examine the relationships between minority stressors, chronic disease, and psychological distress among 146 transgender adults aged 50 and older. After controlling for age, income, and education, findings indicate that concealment, internalized stigma, and chronic disease are each associated with psychological distress among non-transgender LGB older adults, but only internalized stigma is significant among transgender participants. Implications for applying

the minority stress model and conducting research with this distinct population are discussed.

## **SESSION 565 (SYMPOSIUM)**

### **MAKING CONNECTIONS: PROMOTING SUSTAINABILITY AND DIVERSITY IN VILLAGE AGING IN PLACE INITIATIVES**

**Chair:** J.K. Davitt, *University of Maryland, Baltimore, Maryland*

This symposium will highlight the critical connections between research and practice to promote aging in place. The symposium brings together findings from national and state level research with local practice wisdom of providers of Village services. This session will address two key challenges currently facing operating and developing Villages: 1) sustainability, and 2) engaging members with diverse needs and backgrounds. Highlighting research and practice examples from Village programs across the country, the symposium presents results from a national survey of Villages, a survey of Villages in California, and examples of practical challenges and some promising practices implemented by one Village in Baltimore, MD. The first paper presents findings from a second wave of data collection in a national survey of operating Villages, and will focus on challenges and strategies related to the sustainability of these organizations. Using data from the same national survey, the second paper will focus on challenges and strategies related to recruiting, serving, and retaining diverse members, as well as how programs are defining diversity. The third paper will focus on understanding the intersection of sustainability and diversity among Villages operating in one particular state. Drawing on the experiences of one Village operating in Baltimore, MD, the fourth paper focuses on explicating the strategies used at the micro level to enhance member diversity and program sustainability. Presenters will highlight the connections between research, policy and practice in order to enhance translation of best practices to communities, policy makers, and older adults.

### **CHALLENGES TO VILLAGE SUSTAINABILITY: FINDINGS FROM A NATIONAL STUDY**

A.J. Lehning<sup>1</sup>, J. Price Wolf<sup>2</sup>, H. Wiseman<sup>1</sup>, *1. University of Maryland, Baltimore, Maryland, 2. Prevention Research Center, Oakland, California*

While nearly 100 Villages are currently in operation and at least another 100 are in some stage of development, the long-term sustainability of organizations offering this model for aging in place remains unclear. We analyzed quantitative (online survey) and qualitative (telephone interview) data collected in 2012 and 2013 from leaders in 58 Villages to examine the potential facilitators and barriers to the long-term survival of these organizations. Analysis of change between baseline and follow up suggested that while indicators of sustainability (e.g., total membership) are increasing, perceptions of the likelihood the organization will survive are decreasing. Content analyses of follow up interview data indicated that uncertainty about the feasibility of relying on membership fees for funding, fears about meeting the future service needs of an aging membership, and a lack of succession planning for volunteer and professional leadership explain this drop in confidence in sustainability.

### **MAKING CONNECTIONS: ENABLING AGING IN PLACE FOR DIVERSE OLDER ADULTS**

J.K. Davitt, A.J. Lehning, *University of Maryland, Baltimore, Maryland*

This paper presents data from a national survey of operating Villages in the US. The data are derived from a baseline survey in 2012 (N=69) and follow-up conducted one year later (N=58). Results indicate that Villages, on average, are serving mostly white women between the ages of 65-84 who are not impoverished or economically insecure. Further-

more, 75% of respondents indicated that recruiting diverse members would be a challenge for them over the next 5 years. Respondents also indicated which groups they were interested in recruiting, including: non-white racial/ethnic members, men, lower income and younger members. The paper summarizes the challenges described by respondents in recruiting the specific groups they identified. A major challenge to increasing the diversity of membership is overcoming misperceptions of what the Village is and the types of people it might serve. We discuss the connection between diverse memberships and long term sustainability and implications for policy/practice.

## **SUSTAINABILITY AND DIVERSITY WITHIN CALIFORNIA VILLAGES**

A.E. Scharlach, C. Graham, *Social Welfare, University of California, Berkeley, California*

Developmental processes experienced by Villages were examined in ten California Villages over a two-year period. Data sources included quarterly reports, bi-monthly conference calls, bi-annual in-person meetings, grant proposals, and business plans. Challenges cited most frequently included: member recruitment and retention, volunteer recruitment, and economic stability. Membership growth varied from 12% to 151% during the study period, with greater growth associated with decentralization and local inter-organizational partnerships. Economic diversity was considered more important than racial or ethnic diversity; 4.6% to 54.5% of Villages' members had incomes below their county EESI, with greater diversity associated with government funding. Economic stability was predicated on stable sources of earned and donated resources, to offset perturbations in membership dues. Primary service provision challenges included recruiting enough transportation volunteers, and meeting the needs of increasingly disabled members. These findings have important implications for the stability and effectiveness of Villages and other member-based aging services organizations.

## **CONNECTING PERSON-PERSON, PERSON-COMMUNITY, AND COMMUNITY-NATIONAL MOVEMENT: A BALTIMORE VILLAGE**

L. Levine, *Supportive Community Network, Comprehensive Housing Assistance, Inc., Baltimore, Maryland*

This presentation will describe the experiences of the Comprehensive Housing Services, Inc. (CHAI) in Baltimore, Maryland in the establishment and development of their first Village, Northwest Neighbors Connecting (NNC). NNC emphasizes diversity in age, race and economic status. This presentation will highlight some of the lessons learned from three different approaches to promoting a diverse membership and long-term sustainability. The first presents local strategies to overcome the challenges of including diverse members, including recruitment tactics and diversity dialogues. The presentation will also focus on the connections between diversity and sustainability by highlighting a new initiative related to local rental housing policy and the initiative's involvement in community change to support aging in place for low-income residents. Finally, we will describe a strategy at the national level to create mentorship relationships among villages trying to build diversity and sustainability into their strategies.

## **SESSION 570 (SYMPOSIUM)**

### **INNOVATIVE AND DISRUPTIVE APPROACHES TOWARD HEARING HEALTH CARE DELIVERY IN THE COMMUNITY**

**Chair:** F.R. Lin, *Johns Hopkins University, Baltimore, Maryland*

**Discussant:** L.N. Gitlin, *Johns Hopkins University, Baltimore, Maryland*

Two-thirds of adults 70 years or older have a clinically-significant hearing impairment but less than 20% of these individuals receive any

form of treatment. For the vast majority of these adults, hearing health care (HHC) remains unaffordable and inaccessible. Medicare covers diagnostic audiology services but not therapeutic or rehabilitative audiology services. Consequently, HHC is an out-of-pocket expense that is generally priced as a "bundled package" where the average price of \$4000 for a pair of hearing aids reflects the device cost as well as the services of the audiologist to deliver supportive care for these devices. This business model focuses HHC on only the sale of hearing aids rather than encouraging HHC professionals to educate/counsel patients and provide lower cost devices which can sometimes be a better option. Accessibility of HHC is also a major issue. Hearing screenings are not readily accessible to older Americans, and assuming patients can even afford care, the current model of HHC requires a patient to make multiple trips for follow-up care which limits access for patients with impaired mobility. Multiple factors including a rapid convergence between what is considered a medical device and a consumer electronic, expectations of the baby boomer generation, and a broader understanding of the importance of hearing to healthy aging are catalyzing a change in the current "business as usual" model of HHC. This symposium will explain the current model of HHC in the U.S. and survey current efforts to provide broader access to HHC for older adults.

## **HEARING HEALTH CARE IN AMERICA**

C. Compton-Conley, *Compton-Conley Consulting, Annapolis, Maryland*

America's hearing health care system can be confusing to both consumers and the professionals who work with them. This presentation will describe the current system as well as the changes occurring to the system due to trends in education, health care, legislative and technology. The goal of the presentation will be to provide the audience with a systematic way of navigating the hearing health maze in order to provide patients with appropriate diagnostic and treatment options that reflect best practices.

## **INTEGRATING A HEARING LOSS SCREENING AND EDUCATION PROTOCOL INTO PRIMARY CARE**

M.I. Wallhagen, W.J. Strawbridge, *Physiological Nursing, University of California, San Francisco, San Francisco, California*

Although hearing loss (HL) is a significant problem for older adults, primary care practitioners rarely screen for it and those screened positive often do not take action. Time constraints in primary care and poor understanding of hearing loss and the need for adaptation to hearing loss contribute to this problem. We developed and tested a simple, concise, and inexpensive protocol consisting of screening for HL (single item question plus finger-rub) followed by a 5-minute educational session (brochure and brochure review by the screener). The educational material included information on alternatives to hearing aids including behavioral changes. Discussed are factors influencing the integration of the protocol and the potential benefits of and barriers to wide spread adaptation of such a protocol to promote access to and use of hearing healthcare services and potentially minimize the negative impact of hearing loss.

## **THE BALTIMORE HEARS STUDY: A NOVEL COMMUNITY-BASED HEARING HEALTH CARE INTERVENTION**

C.L. Nieman<sup>1,2</sup>, S. Szanton<sup>3,2</sup>, E. Tanner<sup>3,2</sup>, R. Thorpe<sup>4,2</sup>, F.R. Lin<sup>1,2,3</sup>, *1. Johns Hopkins University School of Medicine, Dept Otolaryngology HNS, Baltimore, Maryland, 2. Johns Hopkins Center on Aging & Health, Baltimore, Maryland, 3. Johns Hopkins School of Nursing, Baltimore, Maryland, 4. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

The Baltimore HEARS Study is a phased, pilot study to develop and test the feasibility of a novel, community-based hearing health care intervention. Given the prevalence of age-related hearing impairment

and resources required to access hearing care, the HEARS Study targets older adults, particularly low-income, minority communities. Baltimore HEARS is a community-delivered intervention designed for hearing impaired older adults and their communication partners and includes: 1) on-site audiometric screening, 2) provision of an affordable, accessible listening device, 3) orientation and programming session, and 4) aural rehabilitation. Older adults with hearing impairment were recruited in collaboration with a community organization that provides subsidized independent housing. Through a mixed methods approach, focus groups were utilized to tailor the intervention to the community's needs, literacy, and preferences. Preliminary effectiveness was assessed through a randomized, 3-month wait-list control and primary outcomes include communication, disability, social engagement, loneliness, depression and quality of life.

#### **DEVELOPMENT OF A COMMUNITY HEALTH WORKER APPROACH TO EXPAND ACCESS TO HEARING HEALTH CARE**

N. Marrone<sup>1</sup>, D. Sanchez<sup>1</sup>, M. Ingram<sup>2</sup>, J. de Zapien<sup>2</sup>, F.P. Harris<sup>1</sup>, S. Colina<sup>3</sup>, R. Piper<sup>4</sup>, S. Carvajal<sup>2</sup>, 1. *Dept. Speech, Language, and Hearing Sciences, University of Arizona, Tucson, Arizona*, 2. *Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, Arizona*, 3. *Dept. Spanish and Portuguese, University of Arizona, Tucson, Arizona*, 4. *Mariposa Community Health Center, Nogales, Arizona*

Given the current low prevalence of management of hearing loss, it is essential that researchers collaborate with members of the community and providers to assess the state of care and develop interventions to expand access to care. The community health worker model has been used successfully in U.S.-Mexico border communities to increase access to healthcare and self-management for a range of chronic health conditions. Efforts to combine this evidence-based public health model with community-based audiologic rehabilitation will be described. Results from a community needs assessment in a traditionally underserved patient population (rural, border, low socioeconomic status, Mexican American adults) confirmed the need for expanded access to care for chronic hearing loss among older adults facing health disparities. Our hypothesis is that a community health worker model will be effective and relevant in reducing disparities in hearing healthcare via culturally competent health education, social support, and language mediation. [Supported by NIH/NIDCD.]

### **SESSION 575 (SYMPOSIUM)**

#### **THE FUTURE OF AGING SERVICES: A NEW BEGINNING OR THE BEGINNING OF THE END**

**Chair:** R. Applebaum, *Miami University, Oxford, Ohio*

**Discussant:** R. Hudson, *Boston University, Boston, Massachusetts*

As it approaches 50 the aging network, born from the Older Americans Act of 1965, is at a critical juncture. With the incredible growth of the older population one might have thought that these would be the boom years for those with vast experience in delivering aging services. Instead the traditional aging network is facing major challenges and in many states long-standing providers are fighting for their very survival. How and why has this happened? And what are the implications of these changes for the delivery of services to older people in the United States. This session will explore the current and future changes facing the system that has developed to serve older people in this nation. Do these potential changes represent natural progress and efficiency as the U.S. strives to serve an ever growing aging population—or does this represent proprietary businesses capitalizing on a growing market with limited commitment to serving frail and vulnerable elders? Will these changes improve the service delivery system, or will it accentuate societal inequality, which has been mitigated to some degree through an array of programs and services that have been steadily developed in the U.S.?

#### **THE FUTURE OF AREA AGENCIES ON AGING: EVOLUTION OR REVOLUTION**

S. Kunkel<sup>1,2</sup>, M. Kaschak<sup>3</sup>, H. Reece<sup>2</sup>, J. Straker<sup>2</sup>, 1. *Miami University, Oxford, Ohio*, 2. *Scripps Gerontology Center, Oxford, Ohio*, 3. *n4a, Washington, D.C., District of Columbia*

Area agencies on aging (AAAs) have been a mainstay of support for independent living for older adults, care management, and community-based service systems. These 618 organizations are uniquely positioned to serve as the consumer-centered touch point for a holistic and integrated system of health and long-term services and support. However, competitive and rapidly evolving service models are presenting unprecedented challenges to this long-standing network. Though the network has been continually evolving since its inception in 1973, current circumstances call for more revolutionary changes in the way that AAAs do business. Based on data from a 2010 national survey of area agencies on aging conducted with funding from the Administration for Community Living, this presentation will highlight the new activities and innovations being developed across the network in response to these growing challenges

#### **IS THE NON-PROFIT ROLE IN LONG-TERM CARE DISAPPEARING-DOES IT MATTER?**

L. Polivka, *Claude Pepper Center, Florida State University, Tallahassee, Florida*

For the last 30 years, publicly supported long-term care has been divided between largely for-profit nursing homes and largely not-for-profit home and community-based services (HCBS) managed through the Aging Network. This long standing division of roles has begun to change in many states over the last decade as state level policymakers with federal support have moved to implement managed care models of long-term care (MLTC) administered mostly through for-profit managed care organizations (MCOs) such as HMOs. This presentation will be a critique of this change in models of long-term care financing and delivery focusing on an analysis of available costs and outcomes data from Florida and several other states. These data are limited but sufficient to support a preliminary comparative assessment of these models. The assessment will also include cost and outcome data on hospice care which has undergone a far more extensive shift from non-profit to for-profit model of care since 2000.

#### **ARE THE STARS ALIGNED FOR IMPROVED CHRONIC CARE MANAGEMENT IN THE NEW AND EMERGING HEALTH CARE WORLD? CHALLENGES AND OPPORTUNITIES FOR THE AGING SERVICE NETWORK**

A.S. Rosenfeld, *Steward Health Care System, Boston, Massachusetts*

Optimism reigns among the HCBS providers that under global rates and other innovative financing models the stars (incentives) are finally aligned; that the role of Homemaker oriented Home Care, congregate and home delivered meals programs; Adult Day Care and other HCBS will at last receive both attention and funding as part of secondary and tertiary prevention of chronic disease management programs. Is this optimism warranted? Will the profit status of the risk bearing agency matter? Is the evidence strong enough to alter the traditional cultural bias that exists in the acute care dominated health care world to fully integrate the aging services network? What is the evidence to date to convince them that any \$ spent will result in a \$ saved support the optimism? From a Total Medical Expense perspective. What are the unique challenges and opportunities for senior leaders of aging services for planning and marketing their programs?

#### **THE FUTURE LOOKS DIFFERENT FROM HERE**

R. Browdie, *Benjamin Rose, Cleveland, Ohio*

The forces at work that are changing the environment for the "Aging Network" are national. The "Aging Network" has actually evolved differently in each state, due largely to the deference to state discretion in

developing and managing services for older people in each state. As a result, the future of the "Aging Network" heavily depends on geography. The service system for older adults is increasingly dominated by the developments in the health care arena. Strong incentives now exist in federal policy to integrate the funds that used to be managed through states and Medicare funds into single, or at least highly integrated, streams, usually through managed care companies. Important roles of the "Aging Network" are now being absorbed into these new strategies. Thus, in significant ways, the future of the "Aging Network" is very much in question. The presentation will highlight the most significant policy themes and will address how the "Aging Network's" role will potentially evolve.

## SESSION 580 (SYMPOSIUM)

### GIVING VOICE TO STUDENTS OF ENVIRONMENTAL GERONTOLOGY: BUILDING ON TOMORROW'S SCHOLARLY RESEARCH

**Chair:** J. Norstrand, *Social Work, Boston College, Newton, Massachusetts*

**Discussant:** H. Chaudhury, *Simon Fraser University, Burnaby, British Columbia, Canada*

This symposium represents the work of students of the Environmental Gerontology Interest Group who have conducted research related to environment and aging. It is vitally important to nurture student involvement in this field. The symposium provides a wide range of studies, including international research, looking at the individual in the home as well as the surrounding physical and social environment. Research by Beck looks at ADLs and demographics as predictors of home modifications (grab bars, shower seats, and call systems). Miedzianowski studies patrol officers in terms of the relationship between knowledge of normal and pathologic aging, attitudes toward aging, and influence on the preference of patrol officers to work with older adults, including those with Alzheimer's disease and related dementias. Park explores environmental preparedness for old age in South Korea by examining how the environment moderates the effect of live alone and poverty on preparedness for old age. Finally, research by Smith looks at demographic and socio-economic characteristics of those who engage in amenity relocation in order to better understand how residential satisfaction, psychological well-being, and personality traits influence the voluntary nature of amenity relocation. Discussion following this symposium will provide an overview of some of the student work being conducted in the field of environmental gerontology and will stimulate dialogue regarding future directions and research needed in the field.

### AGING IN PLACE: WHO HAS MODIFICATIONS IN PLACE TO SUPPORT INDEPENDENCE?

P. Beck, *1. Gerontology, University of Southern California, Los Angeles, California, 2. Fall Prevention Center of Excellence, Los Angeles, California*

Most older adults prefer to age in place, but disability can make this difficult. Home modifications can make it safer for older adults to age in place, but it is not known if older adults that most need these supports have them in place. This study uses the 2010 wave of the Health and Retirement Study to determine which older adults have grab-bars/shower-seats or call systems that can support aging in place. Of 712 respondents 65 or older, 66.01% (n=470) had grab-bars/shower-seats, and 23.46% (n=167) had call systems. Respondents with one as compared to no disability (OR:1.96), renters as compared to homeowners (OR:4.96), and those over age 80 (OR:2.29) were more likely to have call systems. Disability was not associated with having grab-bars/shower-seats. African-Americans (OR:2.11) and homeowners (OR:3.35) were most likely to have grab-bars/shower-seats. More education and resources may be needed to help older adults safely aging in place.

### THE IMPACT OF RESIDENTIAL SATISFACTION, PSYCHOLOGICAL WELL-BEING, AND PERSONALITY ON VOLUNTARY LATE-LIFE RELOCATION

E.K. Smith, *1. Gerontology, University of Kansas, Lawrence, Kansas, 2. Zillner, Lenexa, Kansas*

Past research has shown that there are certain demographic and socio-economic characteristics among older adults who engage in amenity relocation. Amenity relocation is undertaken voluntarily for attractive residential features and not driven by health or finances. Little empirical work has been done to expand into understanding how residential satisfaction, psychological well-being, and personality traits influence the voluntary nature of amenity relocation. The Health and Retirement Study (HRS), a nationally representative panel study, offered the ability to examine psycho-social factors and access to reasons for relocation. Reasons for relocation were identified as an amenity move by using a literature review. A series of path analyses were conducted to determine the relationship between the psycho-social factors of interest and amenity relocation. Higher levels of openness to experience ( $p < .05$ ) and lower levels of neuroticism ( $p < .05$ ) were predictive of amenity relocation. These findings highlight the role that psycho-social factors play in amenity relocation.

### READY TO BECOME THE MISERABLE OLD?

S. Park<sup>1</sup>, S. Lee<sup>2</sup>, *1. university of michigan, Ann Arbor, Michigan, 2. Dong Seoul College, Seoul, Republic of Korea*

With the high elderly poverty rate and social isolation among older adults in Korea, understanding on preparation for old age in middle age is important to help vulnerable subgroups. Little research was conducted to what extent environment help them better prepare for their old age. This study aims to examine the association among living alone, low-income and environment as related to preparation for old age. From the 2013 Lives of Older Adults data (N = 2343, age range 40-64), latent class analyses identified three environment subgroups based on five environmental factors. Multi level models examined how the environment moderates the effect of live alone and low-income on preparedness for old age. When living in supportive environment, low-income adults living alone are more likely to be engaged in various activities to prepare for old age. This study highlights the importance of understanding on environmental effect in the transition into old age.

### THE RELATIONSHIP BETWEEN PATROL OFFICERS' KNOWLEDGE AND ATTITUDES OF AGING AND THEIR PREFERENCE TO WORK WITH OLDER ADULTS

S.M. Miedzianowski, *A. T. Still University, Shelby Twp, Michigan*

The study examined feedback from patrol officers regarding the relationships between knowledge and attitudes of normal and pathologic aging and the preference of patrol officers to work with older adults, including those with Alzheimer's disease and related dementias (ADRD). Data were collected from 111 patrol officers in the State of Michigan using a web-based survey. Significant relationships were found between knowledge of aging or Alzheimer's disease and patrol officers' preference to work with older adults including those with ADRD. Patrol officers who had greater knowledge of aging and ADRD were more likely to have a preference to work with older adults. Attitudes of patrol officers were more likely to influence the preference if they had prior personal experiences with those with ADRD. This study demonstrated that knowledge and attitudes influences the preference of patrol officers to work with older adults including those with ADRD.

## MECHANISMS OF AGING

NUTRIENT STRESS AND MITOCHONDRIAL FUNCTION:  
AN EMERGING ROLE FOR P49/STRAPE.D. Williams, *Geriatrics, University of Arkansas for Medical Sciences, North Little Rock, Arkansas*

**Objective:** Cellular senescence (a state of irreversible cell cycle arrest) continues to be an area of interest within aging biology. While its induction in cancer suggests a role in tumor suppression function, its occurrence in other age-related pathologies, in particularly the aging vasculature, may suggest more deleterious effects. However, the mechanism(s) in which cells undergo premature senescence are not well-established, but seem to encompass various factors such as cell type, duration and type of stress. Homeostatic control, including glucose intolerance, diminishes with age and is associated with vascular dysfunctions and the premature appearance of senescence. To better understand glucose-stress induced cell senescence, we studied one protein involved in various facets of senescence: p49/STRAP (SRFBP1). p49/STRAP is an SRF-binding protein that has been shown to interact with mitochondrial complex I (NADH: ubiquinone oxidoreductase) proteins, and its stress-related elevated expression may alter mitochondrial function. **Methods:** C2C12 cells were "primed" for 12 hours of glucose stress (Normal =100 mg/DL; Low = 30 mg/DL; High = 400 mg/DL) after which, cells were subjected to alternate glucose levels. Mitochondrial function-glycolysis and cellular respiration-was assessed via extracellular acidification (ECAR) and oxygen consumption rate (OCR), respectively. **Results:** We observed glycolytic output was not affected by glucose stress "priming", but rather (OCR) was 20%-35%, respectively, higher in cells exposed to low and high glucose compared to normal glucose. **Conclusion:** Stress-induced p49/STRAP elevated expression may potentially be linked to altered cellular respiration through its effect on mitochondrial complex I of the electron transport chain.

THE ROLE OF MITOCHONDRIAL ISOCITRATE  
DEHYDROGENASE 2 IN AGE-RELATED HEARING LOSS  
IN MICEK. White<sup>1,3</sup>, M. Kim<sup>1</sup>, C. Han<sup>1</sup>, L.K. Walker<sup>1</sup>, P. Linser<sup>2</sup>, C. Le Prell<sup>3</sup>, S. Someya<sup>1</sup>, *1. University of Florida, Department of Aging and Geriatric Research, Gainesville, Florida, 2. University of Florida, Whitney Lab, St. Augustine, Florida, 3. University of Florida, Department of Speech, Language and Hearing Sciences, Gainesville, Florida*

Age-related hearing loss (AHL) is the third most common chronic condition among the elderly. By 2030, 19.3% of the population will be over 65 years of age and the prevalence of AHL is expected to increase as well. There are no treatments or preventative interventions for this irreversible sensory disorder but drugs targeting the NADPH system are a key interest towards treatment. One target is mitochondrial isocitrate dehydrogenase 2 (IDH2). IDH2 plays a crucial role in the TCA cycle through the conversion of isocitrate to alpha ketoglutarate and the reduction of NADP<sup>+</sup> to NADPH. IDH2 supplies NADPH for the regeneration of mitochondrial glutathione and thioredoxin for protection against oxidative stress, cell loss and resulting hearing loss. Therefore, we hypothesize that loss of mitochondrial IDH2 will compromise auditory function under normal conditions and/or during aging. To investigate whether IDH2 is key to auditory function, we performed Auditory Brainstem Response (ABR) tests to measure hearing sensitivity in *Idh2* wild-type (*Idh2*<sup>+/+</sup>), heterozygous (*Idh2*<sup>+/-</sup>) and homozygous (*Idh2*<sup>-/-</sup>) mice at 3 months of age. Our results showed no significant changes in ABR thresholds at 8, 16, or 32 kHz between *Idh2*<sup>+/+</sup>, *Idh2*<sup>+/-</sup>, and *Idh2*<sup>-/-</sup> mice at 3 months; however, this is still an early time to show age-related stresses. We are currently investigating the roles of mitochondrial *Idh2* in maintaining auditory function in young, middle-aged, and old wild-

type and *Idh2* knockout mice. Oxidative stress studies and histological analyses are currently ongoing.

THE METABOLIC CHARACTERIZATION OF THE  
INTERLEUKIN-10<sup>tm1Cgn</sup> MOUSER. Westbrook<sup>1</sup>, J.M. Langdon<sup>1</sup>, C.N. Roy<sup>1</sup>, R. De Cabo<sup>2</sup>, J.D. Walston<sup>1</sup>, *1. Johns Hopkins University, Baltimore, Maryland, 2. National Institute on Aging, National Institutes of Health, Baltimore, Maryland*

The frail, Interleukin 10<sup>tm1Cgn</sup> (IL10<sup>tm</sup>) mice have been utilized as a model of frailty because of their propensity to develop skeletal muscle weakness and chronic activation in NFκB pathways. Previous findings in humans indicate that aging and frailty are associated with impaired insulin sensitivity and glucose homeostasis, decreased metabolic rate and locomotor activity, as well as altered respiratory quotient (RQ) and body composition. However, to date, little is known about the body composition and energy metabolism of this frail mouse model. To determine if old IL10<sup>tm</sup> frail mice (n=10 per group) have altered insulin sensitivity, glucose homeostasis, oxygen consumption (VO<sub>2</sub>), respiratory quotient (RQ), spontaneous locomotor activity, and body composition compared to age and gender matched C57Bl/6 control strain, we performed insulin tolerance tests, glucose tolerance tests, NMR-based body composition analysis, and indirect calorimetry with infra-red activity monitoring, in 20 month old female mice. Interestingly, IL10<sup>tm</sup> mice had markedly decreased VO<sub>2</sub> (p<0.0001), while RQ, insulin sensitivity, glucose homeostasis and locomotor activity were not significantly altered. IL10<sup>tm</sup> also had increased lean mass (p=0.0284) and decreased fat mass percent (p=0.0143) and fluid mass percent (p=0.0008) as measured by NMR based body composition analysis. These findings suggest that frailty observed in this mouse model of chronic inflammation may be driven by altered energy metabolism and body composition.

THE ROLE OF INFLAMMATORY CYTOKINES IN  
CARDIAC HYPERTROPHY DURING AGINGG. Azhar<sup>1,2</sup>, S.R. Foster<sup>1,2</sup>, X. Zhang<sup>1,2</sup>, A. Schrader<sup>1</sup>, K. Nagano<sup>3</sup>, J.Y. Wei<sup>1,2</sup>, *1. University of Arkansas for Medical Sciences, Little Rock, Arkansas, 2. Central Arkansas Veterans Healthcare System, Little Rock, Arkansas, 3. University of Tokyo, Tokyo, Japan*

**Background:** Myocardial ischemic injury is mediated in part by the pro-inflammatory cytokines, which may be released by smooth muscle cells, macrophages, T-lymphocytes, neutrophils and cardiac myocytes. Elevated levels of IL-1β and IL18 have been observed in a variety of cardiac injury syndromes. The cysteine protease, interleukin converting enzyme (ice or caspase 1), is central in activating IL-1β and IL18. **Methods:** Hearts of male, 10 month old, ICE<sup>-/-</sup> mice were used. Microarray on hearts for differentially expressed genes (Degs) was performed using a t-test with a combination of cut-off p-value (p<0.05) and fold change (FC>1.5). **Results:** The ICE<sup>-/-</sup> hearts were significantly hypertrophied vs. Age-matched, wild-type controls (p<0.05) with increased expression of collagen. We identified 96 genes that were differentially expressed in vivo. These ICE-modulated genes were grouped into categories based on their function. It was observed that genes associated with cytoskeletal function (n=19) and stress response (n=4) exhibited a marked increase in expression (average, 2.7 and 3.1-fold, respectively). Significantly high expression pertinent for the heart was seen with troponin I (3.9), troponin C2 (6.9), ryanodine receptor (3.8) and adiponectin (4.8). Immune response and complement related genes were generally elevated such as TNFα receptor (1.8.) However, genes associated with transcription and translation (n=12) were slightly depressed (average, -0.3). **Conclusion:** Long-term anti-inflammatory therapy targeting IL-1β and IL18 could produce a compensatory increase in cytoskeletal and structural cardiac genes with cardiac hypertrophy and fibrosis. The role of ICE-regulated genes in cardiac hypertrophy will need further investigation.

## AGING EXACERBATES HYPERTENSION-INDUCED INTRACEREBRAL MICROBLEEDS IN MICE

S. Tarantini<sup>1</sup>, P. Toth<sup>1,2</sup>, D. Sosnowska<sup>1</sup>, Z. Tucsek<sup>1,2</sup>, A. Koller<sup>2</sup>, W.E. Sonntag<sup>1</sup>, A. Csiszar<sup>1,2</sup>, Z. Ungvari<sup>1,2</sup>, I. Reynolds *Oklahoma Cir on Aging, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, 2. Dept of Pathophysiology & Gerontology, Szentagothai Research Center, Univ. Pecs, Pecs, Hungary*

Aging is associated with high prevalence of cerebral microbleeds (CMBs) in the elderly, which contribute to the age-related decline in higher cortical function. Despite its clinical significance, the pathophysiology of CMBs is poorly understood. To establish a novel model of CMB hypertension was induced in young (3 mo) and aged (24 mo) C57B/6 mice (s.c AngII, p.o. L-NAME). Neurological examination and gait analysis followed by histological analysis of CMBs in serial sections of the brain showed that in the aged mice the same level of hypertension lead to significantly earlier onset and increased incidence of CMBs (incidence: young:27%, aged:90% of the animals; average number of CMBs: young:15±3, aged:28±2). Aging exacerbated hypertension-induced cerebral oxidative stress, NADPH oxidase expression (Nox2 mRNA: 2±0.1 fold increase in aged vs. young) and activation of MMPs (6±0.9 fold increase in aged vs. young). Treatment of aged mice with the dietary polyphenol resveratrol (200 mg/kg for 20 days) significantly attenuated oxidative stress, down-regulated NADPH oxidase, decreased MMP activity and prevented/delayed the development of CMBs. Collectively, aging exacerbates hypertension-induced intracerebral microbleeds in mice likely by increasing oxidative stress and MMP activation. Therapeutic strategies to reduce microvascular oxidative stress and MMP activity should be considered for the prevention of CMBs in the elderly.

## BISPENOL ACCELERATED SENESCENCE IN HUMAN CELL AND ZEBRAFISH VIA MODIFICATION OF SERUM LIPOPROTEINS

H. Jung<sup>1,2,3</sup>, S. Kim<sup>1,2,3</sup>, K. Cho<sup>1,2,3</sup>, I. School of Biotechnology, Yeungnam University, Gyeongsan, Republic of Korea, 2. Research Institute of Protein Sensor, Gyeongsan, Republic of Korea, 3. BK21 plus Serum Biomedical Research and Education Team, Gyeongsan, Republic of Korea

Bisphenol is well known environmental hormone as a pollutant. We tested a latent toxicity of bisphenol in regarding extent of senescence and atherosclerosis. In lipoprotein level, bisphenol (final 1-10 µM) modified electromobility of high-density lipoproteins (HDL) and low-density lipoproteins (LDL) via exacerbation of cupric ion mediated oxidation. Phagocytosis of oxidized LDL into human macrophage was more accelerated by the co-treatment of bisphenol, suggesting bisphenol accelerated foam cell generation. Bisphenol treatment (final 10-100 nM) into human dermal fibroblast cell caused severe cellular senescence. Water borne exposure of bisphenol (final 10-100 nM) caused remarkable embryo death with slower developmental speed and higher inflammation. In conclusion, low concentration of bisphenol caused initial step of skin senescence and atherogenesis with embryo toxicity. (Jung HJ and Kim SM are co-first authors.) (The authors are grateful for the BK21 plus program of the National Research Foundation for the support of graduate students)

## HIGH IRON LEVEL IS RELATED WITH TISSUE SENESCENCE AND LOSS OF FERTILITY VIA LIPOPROTEIN DEGRADATION

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Elevated serum iron level is linked with metabolic disease such as diabetes and atherosclerosis. However, the pathological mechanism on serum lipoprotein level is still unknown. In order to elucidate physiological effect of high dose of iron, FeSO<sub>4</sub> was treated (final 60 µM, 120 µM) to human serum lipoprotein and macrophages and human dermal fibroblast (HDF) cells. The FeSO<sub>4</sub> treated lipoproteins lost anti-oxidant ability with protein degradation and multimerization. Under presence of fructose, the FeSO<sub>4</sub> treated HDF cell showed severe cellular senescence 3.5-fold higher than control. In macrophage, low-density lipoprotein (LDL) phagocytosis was accelerated by FeSO<sub>4</sub> treatment up to 1.8 fold higher than acetylated LDL (acLDL) alone control. After 24 weeks supplementation with 0.05% and 0.1% FeSO<sub>4</sub> in diet with or without high cholesterol, serum total cholesterol level was elevated 3.7-fold and 2.1-fold under normal diet (ND) and 1.4-fold elevated under high cholesterol diet (HCD). Serum Triglyceride was elevated by 1.4-fold and 1.7-fold under ND and 0.9-fold and 1.1-fold under HCD. Serum GOT level was elevated by 1.5-fold and 2.0-fold under ND and 1.3-fold and 1.6-fold under HCD. High consumption of iron impaired reproduction ability in female zebrafish. Iron-fed zebrafish showed reduction of embryo production via impairment of follicular development. In conclusion, high consumption of iron cause hyperglycemia and fatty liver and sterility with reduction of female fertility via degradation of serum lipoprotein. (The authors are grateful for the BK21 plus program of the National Research Foundation for the support of graduate students)

## CADMIUM MEDIATED CELLULAR SENESCENCE AND ATHEROGENESIS VIA MODIFICATION OF HIGH-DENSITY LIPOPROTEIN

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Although neurotoxicity of cadmium is well known, however, there has been no report about cadmium toxicity in lipid metabolism and cell aging. This study designed to elucidate toxicity of cadmium in lipoprotein metabolism. Ten-fold higher physiological concentration of cadmium caused multimerization of apoA-I and glycation of HDL to impair beneficial activity of HDL. Treatment of cadmium caused more acceleration of low-density lipoprotein (LDL) uptake into macrophage and premature senescence in human dermal fibroblast (HDF) cell. Microinjection of cadmium into zebrafish embryo attenuated embryo development with higher mortality (up to 23% more embryo death). Four weeks consumption cadmium either containing normal diet (ND) and high cholesterol diet (HCD) resulted (final 24 µM) 40% and 65% increase of Total cholesterol and Triglyceride, respectively with hepatic inflammation. Serum glucose was more elevated 15% compared with HCD alone control. In conclusion, cadmium exposure caused impaired of lipoprotein metabolism and elevation of serum lipid profile to result fatty liver change. (The authors are grateful for the BK21 plus program of the National Research Foundation for the support of graduate students)



## THE EFFECT OF AGEING ON ISONIAZID INDUCED HEPATOTOXICITY IN FISCHER 344 RATS

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Clinically, the risk of isoniazid induced hepatotoxicity increases in old age. Isoniazid hepatotoxicity includes necrosis, steatosis or hepatitis, and involves the toxic intermediates acetylhydrazine and hydrazine. We determined the effect of a toxic regimen of isoniazid or saline vehicle (4 doses/day: 100, 75, 75, 75mg/kg intraperitoneal every 3 hours over 2 days) on hepatotoxicity, steatosis and serum metabolite levels in young (6 months) and old (24 months) male Fischer 344 rats (isoniazid: young n=7, old n=5; saline: young n=7, old n=8). After 15 hours animals were euthanized, livers were prepared for histology and sera were collected for liver function tests and metabolite measurements. Only minor necrosis was observed with isoniazid, and this was non-significantly more prevalent in young animals ( $p < 0.08$ ). In contrast, steatosis was significantly more prevalent in old isoniazid treated animals compared to saline ( $p < 0.05$ ) while it was not increased in young animals. Compared to saline controls, serum hepatotoxicity markers in isoniazid treated animals were higher in young animals (ALT saline:  $72.6 \pm 5.7$  U/L, isoniazid:  $108.6 \pm 20.0$  U/L,  $p < 0.12$ ; AST saline:  $131.1 \pm 13.9$  U/L, isoniazid:  $200.4 \pm 18.9$  U/L,  $p < 0.05$ ; SDH saline:  $2.7 \pm 0.2$  U/L, isoniazid:  $5.0 \pm 0.6$  U/L,  $p < 0.05$ ); but were unchanged or lower in old animals (ALT,  $p < 0.04$ ; AST,  $p = 0.40$ ; SDH,  $p < 0.08$ ). Amongst animals treated with isoniazid, toxic intermediates were higher in old than young animals (acetylhydrazine young:  $16.5 \pm 2.7$   $\mu$ M, old:  $42.4 \pm 7.7$   $\mu$ M; hydrazine young:  $5.3 \pm 0.7$   $\mu$ M, old:  $8.9 \pm 2.7$   $\mu$ M,  $p < 0.05$ ). These results suggest that after toxic doses of isoniazid, young Fischer rats are more susceptible to acute necrosis, while old animals are more prone to steatosis and have higher levels of toxic intermediates.

## MODELING PHYSICAL FRAILTY IN MICE: BETWEEN GROUP AND LONGITUDINAL COMPARISONS ON FRAILTY INDEX AND PERFORMANCE

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Loss of physical function represents a major aspect of a frailty syndrome responsible for deficits in the ability to perform activities of daily living, decreased mobility and independence, and increased morbidity and mortality. Our translational medicine approach is to evaluate the utility of aged mice to capture key features that represent this human condition. The health status of aging mice was assessed to identify those that appear frail, for comparison to physical performance and ex vivo muscle contraction. Three groups of male C57/BL6 mice were followed longitudinally for 4 months beginning at 3, 19, and 24 months of age. Frailty Indexing (FI) was performed as described (Whitehead, J. Gerontol. 2013), with 30 parameters. At baseline, there was a clear difference in FI between the younger mice and the 2 older groups and between the 2 older groups. Furthermore, there was a longitudinal progression in FI from 19-22 months of age. Age-related score-driving features of the FI include vision and hearing loss, alopecia and whisker loss, tail stiffening and kyphosis. Activity patterns, grip strength and gait were unchanged with age. Interestingly, there was no clear correlation between FI and ex vivo muscle contractile properties, but there were clear differences

between the youngest and oldest groups in additional physical performance measures. Current efforts are focused on identifying indices and markers that represent the human condition of Frailty for use in translational research to enable target identification and pre-clinical validation of potential therapeutics for Physical Frailty and sarcopenia.

## DYSREGULATION OF PRESSURE-INDUCED CA<sup>2+</sup> SIGNALING AND MYOGENIC CONSTRICTION OF CEREBRAL ARTERIES IN AGED HYPERTENSIVE MICE

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Hypertension in the elderly substantially increases the risk of stroke and vascular cognitive impairment (VCI) in part due to an impaired functional adaptation of aged cerebral arteries to high blood pressure. To elucidate the mechanisms underlying impaired autoregulatory protection in aging, hypertension was induced in young (3 mo) and aged (24 mo) C57/BL6 mice by chronic infusion of angiotensin II and pressure-induced changes in smooth muscle (SMC) [Ca<sup>2+</sup>]<sub>i</sub> and myogenic constriction of middle cerebral arteries (MCA) were assessed. In MCAs from young hypertensive mice pressure-induced increases in VSMC [Ca<sup>2+</sup>]<sub>i</sub> and myogenic tone were increased and these adaptive responses were inhibited by the cytochrome P450  $\omega$ -hydroxylase inhibitor HET0016 and the TRP channel blocker SKF96365. Administration of 20-HETE increased SMC [Ca<sup>2+</sup>]<sub>i</sub> and constricted MCAs and these responses were inhibited by SKF96365. MCAs from aged hypertensive mice did not show adaptive increases in pressure-induced calcium signal and myogenic tone and responses to HET0016 and SKF96365 were blunted. Inhibition of BK channels by iberiotoxin enhanced SMC [Ca<sup>2+</sup>]<sub>i</sub> and myogenic constriction in MCAs of young normotensive animals, whereas it was without effect in MCAs of young hypertensive mice. Iberiotoxin did not restore myogenic adaptation in MCAs of aged hypertensive mice. Thus, functional maladaptation of aged cerebral arteries to hypertension is due to the dysregulation of pressure-induced, 20-HETE and TRP channel-mediated SMC calcium signaling, whereas overactivation of BK channels is unlikely to play a role in this phenomenon.

## AGING IMPAIRS MYOGENIC ADAPTATION TO PULSATILE PRESSURE IN MOUSE CEREBRAL ARTERIES

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Stability of myogenic tone of cerebral arteries is essential for adequate control over penetration of pressure (P) waves into the distal portion of the cerebral microcirculation (the resistance to flow is dominated by the fourth power of the internal vessel radius). Because aging promotes cerebrovascular injury, we tested the hypothesis that aging alters the myogenic response. P-induced constriction of cannulated middle cerebral arteries (MCA) isolated from young (3 mo) and aged (24 mo) mice was assessed. Both young and aged MCAs developed similar myogenic tone in response to stepwise, steady-state increases in intraluminal P. Young MCAs exhibited significant myogenic adaptation to sinusoidal pulsatile P (amplitude: 40 mmHg, freq:450/min). While in myogenically inactive MCAs each P pulse elicited a ~7% distension in synchrony with the pulsatile P, in young myogenically active MCAs the amplitude of the diameter changes induced by the P pulses in the autoregulated P range was significantly attenuated (~2%). The

mean P-myogenic tone curve was similar in young MCAs exposed to constant and pulsatile P. In aged MCAs the cyclic changes in diameter induced by the P pulses were increased (~4%) and development of myogenic tone in response to pulsatile P was impaired. Collectively, aging impairs myogenic adaptation of cerebral arteries to pulsatile P, which likely promotes the development of cerebral microbleeds and BBB disruption by allowing high P to penetrate the distal portion of the cerebral microcirculation.

#### **OBESITY IN AGING EXACERBATES BLOOD BRAIN BARRIER DISRUPTION, NEUROINFLAMMATION AND OXIDATIVE STRESS IN THE MOUSE HIPPOCAMPUS: EFFECTS ON EXPRESSION OF GENES INVOLVED IN BETA-AMYLOID GENERATION AND ALZHEIMER'S DISEASE**

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There is growing evidence that obesity has deleterious effects on the brain and cognitive function in the elderly. However, the specific mechanisms through which aging and obesity interact to promote cognitive decline remain unclear. To test the hypothesis that aging exacerbates obesity-induced cerebrovascular damage and neuroinflammation, we compared young (7 mo) and aged (24 mo) high fat diet-fed obese C57BL/6 mice. Aging exacerbated obesity-induced systemic inflammation and BBB disruption, as indicated by the increased circulating levels of pro-inflammatory cytokines and increased presence of extravasated IgG in the hippocampus, respectively. Obesity-induced BBB damage was associated with microglia activation, up-regulation of activating FcγRs and pro-inflammatory cytokines and increased oxidative stress. Treatment of cultured primary microglia with sera derived from aged obese mice resulted in significantly more pronounced microglia activation and oxidative stress, as compared to treatment with young sera. Serum-induced activation and oxidative stress were also exacerbated in primary microglia derived from aged animals. Hippocampal expression of genes involved in regulation of the cellular APP-dependent signaling pathways, beta-amyloid generation and the pathogenesis of tauopathy were largely unaffected by obesity in aged mice. Collectively, obesity in aging is associated with a heightened state of systemic inflammation, which exacerbates BBB disruption. The resulting neuroinflammation and oxidative stress in the mouse hippocampus likely contribute to the significant cognitive decline observed in aged obese animals.

#### **STEM CELLS: CONCEPTUAL INCONSISTENCIES AND UNRELIABLE DEFINITIONS THREATEN THE VALIDITY OF TRANSLATIONAL RESEARCH AND CLINICAL APPLICATIONS**

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In 2012, a paper written by Dr. Yamanaka conveyed his revolutionary concept that induced pluripotent stem cells (iPSC's) were equivalent to embryonic stem cells (ESC's), however, other reputable researchers argue they are not equivalent and are, in fact, inappropriate for use in clinical studies with humans. We performed an environmental scan of 142 scholarly sources including 40 review articles, 86 research articles, six books, one news article, and nine sections from the FDA website. These were entered into a computer software application and sorted by publication date for analysis of key words and themes. We researched the definitions and applications of specific terms like physiological, pathological, in vitro, in situ, and in vivo as they apply to

stem cells, stem cell lines, iPSCs, ESCs, and ESC lines. Much of the literature suggested that, when compared with stem cells and ESCs, ESC lines have a higher probability of forming teratomas, karyotypic abnormalities, and epigenomic modifications, and iPSCs may have a propensity to develop adverse consequences, including genome variability, epigenetic memory, cancer, and immune rejection. We found inconsistencies in terminologies and logical constructs among current research findings, existing scientific criteria, and FDA guidelines. It is critical that universal definitions be proposed and FDA guidelines be reviewed to accurately differentiate between physiological stem cells and ESCs, and pathological ESC lines and iPSCs. The development of common definitions and ethical standards would reinforce transparency and accountability among scientists, government agencies, commercial entrepreneurs, and consumers.

#### **P49/STRAP REGULATES THE EXPRESSION OF MICRORNA AND MICRORNA CLUSTERS**

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Objective: p49/STRAP is a transcription cofactor that has been implicated in cardiac aging. p49/STRAP interacts with serum response factor (SRF) and participates in the regulation of SRF-target genes, which include muscle-specific genes and microRNA genes. MicroRNAs are short, endogenous, single-stranded RNA molecules that regulate various cellular functions. Certain microRNAs and microRNA clusters are important regulators of aging and senescence. Since p49 protein level increases in the aging heart, we hypothesized that p49 might impact microRNA expression, thereby affecting cardiac aging and senescence. Methods: Recombinant p49 adenovirus was used to treat C2C12 cells. The RNA samples were isolated and analyzed with Exiqon microRNA assays. Results: We observed that 39 microRNAs were differentially expressed with at least 1.2-fold change in p49 treated cells versus control adenovirus treated cells ( $p < 0.05$ ,  $n=3$ ). 20 microRNAs were up-regulated, while 19 microRNAs were down-regulated. 18 microRNA clusters were affected. Five clusters matched those microRNA clusters that are significantly impacted in the heart during aging in our previous study. These clusters are miR-379-410, miR-23-27b-24-1, miR-466-467-669, miR-29b-1-28a and miR-290-295. The SRF-binding site in the promoter region of these microRNA clusters was examined, and the microRNA target genes were analyzed. Conclusion: p49/STRAP is a transcriptional regulator of microRNA and microRNA cluster genes. Overexpression of p49/STRAP altered the expression of a set of microRNA clusters that are associated with cardiac aging. The increased expression of p49/STRAP that is observed in aged mice may impact microRNAs and microRNA clusters and contribute to functional and morphological changes in aging and senescence.

#### **INVESTIGATING THE NEURONAL CONTRIBUTION TO DECLINING MOTOR PERFORMANCE WITH AGE**

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The deterioration of motor functions in the elderly increases the risks of falling and significantly reduces the quality of life. Currently, it is unclear how changes in motor neuron function contribute to the declines in motor performance with age. Using a novel motor system in *Drosophila* that combines motor behavior, electrophysiology, imaging, and genetics, we find that motor function declines continuously during aging in *Drosophila*. Electrophysiology reveals that neurotransmission at the neuromuscular junction is stable in young animals but then abruptly increases in mid-life. This increased level of function is then stably maintained into old age and defended by an adjusted homeostatic response supporting that this change represents a new functional set

point of the aged motor neuron. This is the first example of an age-dependent change in a homeostatic set point within the nervous system. Improvement in muscle function by the drug S107 results in a reduction in neurotransmission supporting that this change is likely compensatory for declining muscle function. This manipulation of motor function by S107 is also able to extend lifespan supporting the declining muscle function is an important morbidity in flies. Interestingly, the increase in neurotransmission observed during aging results in a synapse that is vulnerable to exhaustion suggesting that this change might be maladaptive. This supports the alternative model that the changes in motor neuron function might be pathogenic and not compensatory. Evidence for altered calcium signaling in the aged nerve terminal will be discussed as a pathogenic mechanism for age-dependent synapse dysfunction.

#### **THE ROLES OF GLUTATHIONE REDUCTASE IN AGE-RELATED HEARING LOSS IN MICE**

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Glutathione acts as the major small molecule antioxidant and is found mostly in the reduced form (GSH) in healthy cells. During aging, oxidized glutathione (GSSG) accumulates, and hence an altered ratio of GSH:GSSG is thought to be a marker of both oxidative stress and aging. Glutathione reductase (GSR) plays a critical role in preventing accumulation of GSSG and maintaining the appropriate redox environment in cells through regeneration of GSH, thereby enhancing the glutathione antioxidant defense system. Our goal is to determine the roles of GSR in maintaining auditory function under normal conditions and/or during aging. To investigate whether Gsr knockdown promotes oxidative stress-induced cell death, we conducted in vitro oxidative stress tests using H<sub>2</sub>O<sub>2</sub>, followed by cell viability tests in mouse inner ear cells (HEI-OC1) that are transfected with siRNA targeted to Gsr. To investigate whether Gsr is expressed in the mitochondria, cytosol, or nuclei in mouse cochlea, we performed colocalization analysis in the cochlear sections from wild-type and Gsr knockout (KO) mice using immunofluorescence confocal microscopy. We found that Gsr is present in the nuclei of the hair cells, spiral ganglion neurons, and stria vascularis in the cochlea of mice. Knockdown of Gsr increased susceptibility to oxidative stress-induced cell death in cultured mouse inner ear cells. Currently, we are investigating whether Gsr deficiency promotes AHL. Funding: Supported by NIH/NIDCD grants R03 DC011840 (S.S.) and R01 DC012552 (S.S.)

#### **PGC-1 $\alpha$ REGULATION OF NEURONAL ENERGY METABOLISM IN MOUSE HIPPOCAMPUS**

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The hippocampus is critical for cognition and memory formation, and is vulnerable to age-related atrophy. The importance of cellular metabolism in maintenance of neuronal function and plasticity raises the possibility that there is a metabolic basis for age-related changes in hippocampal architecture and function. Here we show a significant effect of aging on energy metabolism in the hippocampus. Using high-resolution quantitative imaging we detected significant cell type and region-specific differences in activity of the mitochondrial electron transport system (ETS). The levels and sub-cellular distribution of PGC-1 $\alpha$ , a master regulator of ETS gene expression, also exhibited cell-type and region specificity. Aging significantly lowered mitochondrial activity in the dentate gyrus but the effect was not independently significant in the CA3 in the CA1 regions. An effect of aging on PGC-1 $\alpha$  levels was not detected, indicating that PGC-1 $\alpha$  activity, not protein abundance, is sensitive to age. GSK3 $\beta$  is a nutrient sensitive kinase previously associated with the etiology of AD and a key regulator of PGC-1 $\alpha$

turnover and activity. Within the hippocampus GSK3 $\beta$  expression was cell type and region specific and its subcellular distribution appeared to be regulated in part by its phosphorylation/activity status. Furthermore, we show that mitochondrial activity, PGC-1 $\alpha$  and GSK3 $\beta$  were all differentially regulated in hippocampus from CR mice. These data demonstrate that differences in hippocampus energy metabolism are associated with protection against cognitive and functional decline. We propose that metabolism may be an effective target for interventions to prevent or delay age-related neurodegeneration and vulnerability to Alzheimer's disease.

#### **THE FREE RADICAL TIMER OF AGING: FROM FREE RADICAL CHEMISTRY TO SYSTEMS THEORY OF RELIABILITY**

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There are two generally known concepts in gerontology. Some men see things as the aging program. Others see that the life spans vary in the inverse proportion to the species-specific metabolic rates and say that aging proceeds stochastically. The systems theory of reliability unites both concepts basing on the simple general principles that (i) all biomolecular constructions are designed in keeping with the genetic programs in order to perform the programmed preset functions; (ii) all of them operate with limited reliability; (iii) the timely replacement or prophylaxis of unreliable functional elements, i.e. metabolic turnover, is the main line of assuring the high systems reliability; (iv) there is a finite number of critical elements which perform the supervisory functions over the preventive maintenance; (v) these "supervisors" also operate with the limited reliability. On this basis, the universal features of aging, such as the exponential growth of mortality rate with time and the correlation of longevity with the species-specific resting metabolism are naturally explained. The stochastic malfunctions of the mitochondrial electron transport nanoreactors that produce oxygen anion-radicals (SR) seem to be of first importance. As the reducing agent, SR is capable to affect the ratio of NADH/NAD<sup>+</sup> and, by changing the activity of sirtuins, slow down the renewal of biomolecular nanoreactors. Basing on the reliability-theory approach, one can estimate that the longevity of human brain could reach 250 years should the antioxidant defense against the free-radical failures be perfect. Thus, the free-radical timer serves as the effective stochastic mechanism of realization of the programmed deficiency in reliability of biomolecular constructions. Furthermore, the systems reliability approach provides heuristic methodology for development of the preventive medicine including novel anti-aging and anti-radiation protectors based on the stable magnetic isotopes. [Supported by RFBR, grant 14-04-00593a].

#### **RAGE INFLUENCES THE DEVELOPMENT OF AORTIC VALVE STENOSIS IN MICE ON A HIGH FAT DIET**

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Advanced glycation end product (AGE) accumulations as well as a high fat diet are associated with cardiovascular diseases. Activation of the receptor for AGEs RAGE causes an unfavorable pro-inflammatory state. This study should prove that a high fat diet results in development of aortic valve stenosis and the possible role of RAGE. Six week old C57BL/6N and C57BL/6N RAGE knockout mice (n=28) were randomly assigned to 4 groups and fed with normal or high fat diet for 32 weeks. Weight gain was determined weekly. At the beginning and after 2, 4 and 7 months, echocardiographic assessments of the aortic valve were made. At the end, plasma lipid levels and histological changes were determined. The high fat diet resulted in accelerated weight gain. However, only C57BL/6 mice developed increased trans-aortic-valve

velocities, leaflet thickness and reduced valve area index ( $p < 0.0001$ ). Immunohistochemistry of the aortic valves revealed in C57BL/6N mice on a high fat diet more calcification, AGE accumulation and RAGE expression when compared to normal fed control. RAGE  $-/-$  mice showed less morphometric changes, calcification and AGE accumulation. After 7 month of high fat feeding, all mice had significantly increased cholesterol levels compared to normal fed control, however RAGE  $-/-$  mice were probably protected due to a better HDL/LDL ratio when compared to wild type animals ( $p = 0.003$ ). These data suggest that AGEs and RAGE are involved in the development of obesity, hypercholesterolemia and aortic valve changes due to metabolic stress from high fat intake.

### THE ROLE OF NEGATIVE SIGNAL REGULATION IN T CELL FUNCTION WITH AGING

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**Background:** Immune responses are generally impaired in aged mammals. T cells have been extensively studied in this context due to the initial discovery of their reduced proliferative capacity with aging. The decreased responses involve altered signaling events associated with the early steps of T cell activation. Here, we have tested the hypothesis that the T cell pool in elderly subjects displayed reduced functional capacities due to altered negative feedback mechanisms that participate in the regulation of the early steps of T cell activation. Such conditions tip the immune balance in favor of altered T cell activation and a related decreased response in aging. **Results:** We present evidence that the tyrosine phosphatase SHP-1, a key regulator of T cell signal transduction machinery is, at least in part, responsible for the impaired T cell activation in aging. We used tyrosine-specific mAbs and Western blot analysis to show that a deregulation of the Csk/PAG loop in activated T cells from elderly individuals favored the inactive form of tyrosine-phosphorylated Lck (Y505). Enzymic assays showed that SHP-1 activity was upregulated in T cells of aged donors, in contrast to young subjects. Pharmacological inhibition of SHP-1 resulted in recovery of TCR/CD28-dependent lymphocyte proliferation and IL-2 production of aged individuals to levels approaching those of young donors. Significant differences in the active (Y394) and inactive (Y505) phosphorylation sites of Lck in response to T cell activation were observed in elderly donors as compared to young subjects, independently of CD45 isoform expression. **Conclusions:** Our data suggest that the role of SHP-1 in T cell activation extends to its increased effect in negative feedback in aging. Modulation of SHP-1 activity could be a target to restore altered T cell functions in aging. These observations could have far reaching consequences for improvement of immunosenescence and its clinical consequences such as infections, altered response to vaccination.

### THE ORIGIN OF BIOLOGICAL AGE: STATISTICAL MECHANICS OF DEFICIT ACCUMULATION

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People accumulate health problems (or deficits) at different rates, making chronology alone a poor representation of age. Even so, there is a common thread: with time, the number of deficits increases. Deficit accumulation can quantify aging in a frailty index. Recently, we introduced a stochastic framework in which aging arises from the interplay between environmental stressors and the ability to resist or repair the resultant damage. There, the number of accumulated deficits (N) equals the product of the intensity of environmental stresses and the recovery time. Here, we consider the organism as a complex dynamic network of connected nodes. Each node can be in one of two stable states: “healthy” or “deficit”. Transitions between the states are governed by: (i) interactions between the nodes which depends on net-

work connectivity, and; (ii) a general stochastic mechanism, favouring decline, commonly represented by the Langevin equation with noise representing the environment). We ran Monte-Carlo simulations with up to 10,000 “individuals”, each represented by hundreds of nodes, starting in the healthy state, and changing by the interplay between the random and network-connectivity terms. Importantly, even with no change in parameters, the evolution of the states corresponded to typical frailty index behaviour (e.g., nonlinear deficit accumulation, changes in the frailty index distribution with age) and the Gompertz mortality law. Individual trajectories of deficit accumulation ranged from slow aging in healthy (biologically younger) people to fast aging (in frail individuals). In short, biological aging arises as a consequence of the dynamics of deficit accumulation.

### DEFENESTRATION OF THE LIVER SINUSOIDAL ENDOTHELIAL CELL IMPAIRS INSULIN AND GLUCOSE UPTAKE

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The liver is central to insulin signalling and glucose metabolism and changes in liver function have been linked to the pathogenesis of insulin resistance and metabolic syndromes. The liver sinusoidal endothelium is perforated with fenestrations (transcellular pores), which facilitate the transfer of substrates from blood into hepatocytes. We hypothesise loss of endothelial fenestrations (defenestration), such as seen in ageing, will reduce insulin and glucose uptake and subsequent signalling in the liver. Here, we investigate insulin and glucose action in normal and defenestrated livers. Defenestration is induced in F344 rats with a single i.p. injection of P407 24h prior to experimentation (1g/kg) as a model of age related liver endothelial changes. Distribution and action of insulin and glucose in control and P407 treated rats were then assessed using: Multiple indicator dilution methods, assessment of protein signalling pathways, modified glucose tolerance tests and measurement of liver glycogen. Defenestration of the liver endothelium led to a significant reduction in the volumes of distribution in the liver for both insulin and glucose, indicating impeded substrate transfer (glucose:  $1.54 \pm 0.06$  control vs  $1.10 \pm 0.10$  P407; insulin:  $1.08 \pm 0.08$  control vs  $0.81 \pm 0.05$  P407,  $p < 0.001$ ). Limited access of insulin to the hepatocellular membrane led to decreased phosphorylation of Insulin Receptor Substrate-1 protein ( $p = 0.045$ ). Impaired liver glucose action was demonstrated by reduced liver uptake of glucose and dramatically reduced glycogen storage. These findings indicate that defenestration of the liver endothelium impairs the transfer and action of insulin and glucose in the liver and that defenestration may be important in age related hepatic insulin resistance.

### A NOVEL MECHANISM FOR EXTRUSION OF NEUROTOXIC COMPONENTS FROM NEURONS

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A major challenge of our time is to understand the aging brain. *C. elegans* is a powerful model for analysis of conserved mechanisms that modulate healthy aging. In the aging nematode nervous system, neuronal death and/or detectable loss of processes are not readily apparent, but dendrite restructuring and loss of synaptic integrity occur. We are studying the molecular mechanisms that contribute to two major aspects of morphological change in the aging *C. elegans* nervous system: 1) accumulation of novel outgrowths from specific neurons; and 2) phys-

ical decline in synaptic integrity. Along the way, we have discovered a novel mechanism by which large packets of cytoplasm, which can include aggregated proteins or mitochondria, are extruded from neurons. We speculate that the extrusion is a conserved process related to transmission of aggregates in neurodegenerative disease. Dissection of neuronal aging mechanisms in *C. elegans* may thus influence the development of brain healthspan-extending therapies.

#### **LIFESPAN AND LATE LIFE PATHOLOGY FOR INDOOR HOUSED RHESUS MONKEYS**

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From 1980 until 2014 the National Institute on Aging has provided support to the Wisconsin National Primate Research Center for maintenance of a set-aside colony of older rhesus monkeys (*Macaca mulatta*) for studies of normative aging. During this period 192 monkeys have been assigned to this colony (133 females and 59 males). All were at least 15 years of age at the time of assignment and in ostensibly good health. They were subsequently used for noninvasive research and treated therapeutically for illness or injury. Subjects had regular physical exams during life and underwent complete necropsies after death. Euthanasia was performed when death seemed imminent or the animal was in intractable discomfort. Median survival was 26 years, 90% survival 33 years and maximal lifespan was 40 years; these values were the same for both sexes. Observed age-related conditions and risk factors included presbyopia, insulin resistance, decreased lean tissue and bone mass, and multisystem decline. Terminal pathologies included adenocarcinoma of the colon, heart failure and impaired respiration. Frozen and fixed tissue samples have been saved for further analysis. This colony has been very useful for describing aging and designing experiments on interventions to the aging processes in rhesus monkeys, as well as validating this model in the context of human aging.

#### **FIBROBLASTS FROM LONGER LIVED SPECIES OF PRIMATES, RODENTS, BATS, CARNIVORES AND BIRDS RESIST PROTEIN DAMAGE BETTER THAN FIBROBLASTS FROM SHORTER LIVED SPECIES**

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Species differ greatly in their rates of aging. Among mammalian species lifespan ranges from two to over sixty years. Here we test the hypothesis that skin-derived fibroblasts from long-lived species of mammals differ from those of short-lived mammals in their defences against protein damage. In parallel studies of rodents, non-human primates, and species from the Laurasiatheria superorder (bats, carnivores, shrews and ungulates), we find associations between species longevity and resistance of proteins to oxidative stress after exposure to  $H_2O_2$  or paraquat. In addition, baseline levels of protein carbonyl are higher in cells from short-lived rodents and non-human primates. These data suggest that resistance to protein oxidation may be required for evolution of longevity in independent clades of mammals, and that evaluation of the properties of primary skin-derived fibroblast can provide insights into the cell biology behind differences in the pace of animal aging across species.

#### **LAMIN A EXPRESSION IN CIRCULATING OSTEOGENIC PRECURSOR CELLS OF FRAIL OLDER PERSONS: THE NEPEAN OSTEOPOROSIS AND FRAILTY (NOF) STUDY**

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**BACKGROUND:** Lamin A is a protein of the inner nuclear envelope. Low levels of lamin A are associated with progeria, osteoporosis

and sarcopenia. In this study, we hypothesized that lamin A expression is also associated with the typical features of frailty in humans. We aimed to develop a non-invasive method to quantify lamin A expression and to determine the relationship between lamin A expression and frailty in a random sample of community-dwelling older individuals. **METHODS:** Circulating osteogenic precursors (COP) cells and buccal swabs (epithelial cells) were obtained from 80 subjects (70% female, mean age  $74 \pm 8$ ; 20 frail, 30 intermediate and 30 robust). Frailty was defined according to Fried's standard criteria. Initially, we compared the reliability of quantifying lamin A expression using RT-PCR, flow cytometry and confocal microscopy in both cell types. Flow cytometry analysis of lamin A expression in COP was the most accurate and reliable test. Logistic regression models estimated the relationship between lamin A expression in COP cells and prevalent frailty. **RESULTS:** Lower lamin A in COP cells was associated with 6 times greater odds of being frail than being robust (odds ratio (OR) = 6.12, 95% confidence interval (CI) = 2.56-10.56) and 2.5 times greater odds of intermediate frailty than robust (OR = 2.58, 95% CI = 1.85-3.52). The association was attenuated but persisted after adjusting for multiple possible confounders. **CONCLUSIONS:** Lower levels of lamin A expression in late life are associated with prevalent frailty. Further work is needed to understand lamin A expression as a risk stratifier, biomarker, or therapeutic target in frail older persons.

#### **LONGITUDINAL DECLINE OF QUALITY OF LIFE IS DETERMINED BY LOSS OF MUSCLE MASS AND REDUCED PHYSICAL FUNCTIONING IN OLDER ADULTS**

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The age-related loss of skeletal muscle mass and muscle performance are critical determinants of independent physical functioning in later life. Few longitudinal studies have examined how decrements in these parameters impact quality of life in older adults. Twenty-six healthy older subjects (age:  $74.1 \pm 3.7$ ; short physical performance battery test (SPPB) score:  $11.0 \pm 0.9$ ) and twenty-two older mobility-limited subjects (age:  $77.2 \pm 4.4$ ; SPPB score:  $7.9 \pm 1.3$ ) underwent evaluations of leg extensor muscle power, mid-thigh computed tomography to estimate total muscle cross-sectional area (CSA), and 400m walk performance at baseline and after 3 years of follow-up. Quality of life was assessed at both timepoints using the physical component score (PCS) of the Short Form 36 questionnaire. At follow-up, muscle power decreased -9.4% ( $p < 0.001$ ), muscle CSA decreased -3% ( $p < 0.01$ ) while time to complete 400 m increased  $22 \pm 46$  seconds ( $p < 0.001$ ). Using linear mixed-effects regression models to adjust for study group (healthy/mobility-limited), gender, duration of follow-up and depressive symptoms, the decline of muscle mass ( $\beta = 0.10$ ,  $p < 0.05$ ) and decreased 400m walk time ( $\beta = -0.04$ ,  $p < 0.003$ ) were independent determinants of PCS at follow-up. In older adults with and without mobility-limitations, reduced muscle mass and declining physical function are independent factors that compromise quality of life over a 3 year follow-up period. Future studies should evaluate how intervention strategies designed to maintain muscle mass or restore physical functioning impact quality of life in older adults.

## DEPRESSION AS A PREDICTOR OF FUNCTIONAL DECLINE IN COMMUNITY-DWELLING ELDERLY IN KOREA: NATIONWIDE LONGITUDINAL SURVEY

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Background: As elderly population is increasing, prediction and prevention of functional decline in elderly are of great concern. This study aimed to evaluate whether prior depressive symptom could predict functional decline 2 years later in Korean aging people. Methods: We used the KLoSA panel, a national representative sample of aging people in Korea. It was conducted twice (2006 and 2008). Self-administered questionnaire was used in the KLoSA panel to obtain functional status, socioeconomic status and medical conditions. We included elderly aged 65 or more without disability in carrying out activities of daily living (ADL) at baseline. Depressive symptom was defined by CES-D 10 score (Center for Epidemiologic Studies Depression Scale)  $\geq 10$  at baseline. We performed multiple logistic regression analysis to evaluate association between the baseline depressive symptom and ADL after 2 years. Results: Total 2809 elderly participants were included in this analysis. Among them, 138 (4.9%) reported functional decline in the follow-up after 2 years. After controlling for possible confounders, functional decline was significantly related with depression defined by CES-D 10 (OR 1.61, 95% CI 1.13 to 2.30). Among the components of ADL, the functional status of both 'transfer' and 'feeding' were significantly decreased in elderly with depression (OR 1.85, 95% CI 1.04 to 3.31 and OR 1.67, 95% CI 1.04 to 2.67 respectively). Conclusion: Depressive symptom predicted functional decline 2 years later in Korean elderly without baseline disabilities. Key Words: depression, functional decline, elderly

## PATTERNS AND PREDICTORS OF FALLS TRAJECTORIES IN OLDER ADULTS: THE MOBILIZE BOSTON STUDY

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Objectives: To identify clinically distinct trajectories of falls progression over 5 years and determine baseline characteristics associated with the trajectories and their clinical outcomes. Design, Setting, And Participants: Prospective cohort study of 765 community-dwelling participants in the MOBILIZE Boston Study, who were aged 70 and older during a baseline assessment in 2004-2005 and followed prospectively for falls over 5 years. Group-Based Trajectory Modeling (GBTM) was used to identify trajectories. Main Outcome Measure: Baseline data were collected by questionnaire and comprehensive clinic examination. During the 5 years follow-up, participants recorded falls on daily calendars. Results: We identified 4 distinct trajectories: No Fall (30.1%), Cluster Falls (46.1%), Increasing Falls (5.8%) and Chronic Recurring Falls (18.0%). Compared with the No Fall group, predictors of Cluster Falls were faster gait speed (adjusted odds ratio 1.69 (95CI, 1.50 - 2.56)) and fall in the past year (3.52 (95CI, 2.16 - 6.34)). Predictors of Increasing Falls were Diabetes Mellitus (4.3 (95CI, 1.4 - 13.3)) and Cognitive Impairment (2.82 (95CI, 1.34 - 5.82)). Chronic Recurring Falls trajectory predictors were multimorbidity (2.24 (95CI, 1.60 - 3.16)) and fall in the past year (3.82 (95CI, 2.34 - 6.23)). Symptoms of depression were predictive of all falls trajectories. Hospitalization and Emergency Department visits (59.5%), Injurious falls (66.9%) and Fractures (20.7%) were most common in Chronic Recurring Falls tra-

jectory group. Conclusion: Falls may occur in clusters over discrete intervals in time, or as chronically increasing or recurring events that have a relatively greater risk of adverse outcomes.

## ASSOCIATION OF BRAIN ANATOMY WITH PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR IN OLDER ICELANDERS

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With advancing age, many physical parameters change, including brain atrophies and declining physical activity (PA). The aims of this study are to quantify the prospective changes in MRI-derived brain atrophy measurements in a 5-year period, and to explore how they are associated with PA and sedentary behavior (SB) in an older population. PA and SB were measured in the second phase of the AGESII-Reykjavik study using a hip-worn accelerometer (Actigraph GT3X) for seven consecutive days. All participants had a second MRI as a follow-up to their first MRI 5.2 years prior on average (SD=0.2 years). We examined the relative volume of grey matter (GM) and white matter (WM) and the changes in these relative volumes over the 5-year period. PA is expressed as total counts/day, and SB as minutes <100 cpm (counts/min) each day adjusted for wear time and lifestyle PA ( $\geq 760$  cpm). The mean age at endpoint was 79.2 years (n=361). GM changed from 46.5% (SD=2.9%) to 45.6% (SD=3.0%) and WM from 26.2% (SD=1.7%) to 24.8% (SD=1.9%) during these 5.2 years. Without adjusting for potential confounding variables, all MRI variables separately predicted PA and SB. After adjustments, GM ( $\beta=0.12$ ;  $p=0.033$ ) and WM ( $\beta=0.11$ ;  $p=0.038$ ) at baseline, the 5-year change in GM ( $\beta=0.14$ ;  $p=0.006$ ) and WM ( $\beta=0.11$ ;  $p=0.037$ ) were independently associated with PA, while only the 5-year change in WM ( $\beta=-0.098$ ;  $p<0.001$ ) was independently associated with SB. The results suggest that brain atrophy negatively affects PA in older adults, whereas only WM atrophy is associated with increased SB.

## COMPARISON OF PHYSICAL FUNCTION IN POST-MENOPAUSAL BREAST CANCER SURVIVORS AND CANCER-FREE CONTROLS

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Introduction: Breast cancer and its treatment are associated with more self-reported physical limitations compared to women without cancer. Older breast cancer survivors (BCS) may be at particularly increased risk for poor health outcomes due to the combined effects of aging and treatment. Functional limitations in BCS have not been evaluated through objective measures of physical function, thus the true prevalence of functional limitations remains unknown. Purpose: To describe differences in objectively measured physical function between post-menopausal breast cancer survivors BCS and similarly aged cancer-free controls. Design: Descriptive, cross-sectional case-control. Setting: Oregon Health & Science University nursing research program. Sample: Post-menopausal women, 50-85 years of age, BCS  $\leq 5$  years from completion of chemotherapy treatment (n=59) and post-menopausal, 50-85 years of age women (n=56). Methods: Participants underwent tests of objectively measured physical function: walking speed over 4m (m/sec), handgrip strength (kg), time to rise 5 times from sitting (sec), maximal weight lifted during leg press and bench press (kg).

Differences in physical function between BCS and cancer-free controls were determined by ANCOVA adjusting for significant influencing factors. Findings: BCS had significantly lower leg press strength (-31%), bench press strength (-15%), and handgrip strength (-4%), and were slower to rise from a chair (-17%) independent of age, weight, lean leg mass, comorbidities, physical activity level, and self-reported function. Walking speed was similar between groups. Conclusions: BCS display significantly poorer objective measures of strength compared to cancer-free controls but no significant difference in balance and speed.

## SESSION 590 (POSTER)

### MINORITY HEALTH II

#### MOTIVATIONS FOR SOBRIETY AMONG ALASKA NATIVE ELDERS

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One of the health issues prohibiting Alaska Native Elders from aging well is alcohol and alcohol use disorders, which are impacting many families and communities. A small segment of the Alaska Native population struggle with alcohol use disorders late into life and this prevents them from enjoying their later years, prohibits them from aging successfully and engaging in cultural generative acts (i.e., teaching sewing, beading, hunting skills, skinning, carving, and so on), as well as serving in leadership roles within their family and community. Data Analysis: This study addresses one of the major barriers to successful aging, which is alcohol use disorders and builds on the groundbreaking People Awakening Project conducted in Alaska to explore reasons for sobriety among Alaska Natives aged 18 and older who are in long term recovery or have never drank alcohol. Using secondary data analysis with 10 in depth interviews from the People Awakening Project, this study explores reasons for sobriety among Elder participants from across the State of Alaska. Findings: Alaska Native Elders abstain from drinking alcohol or quit drinking alcohol because of family members and their desire to care for their family members, be role models, and pass on their wisdom to the younger generations (i.e., engage in cultural generative acts). Secondary data analysis is still ongoing as I work through the interview transcripts, but the data and themes gathered from this study will be used to develop a questionnaire to further explore reasons for explore reasons for sobriety, more specifically the roles family and community play in their decision to abstain from drinking and stay sober. This study is a preliminary study to serve as the foundation for a larger study to develop a culturally tailored supportive approach for Alaska Native elders struggling with alcohol use disorders based on the wisdom, experiences, and motivations of Alaska Native elders in long-term recovery from alcohol.

#### PERCEIVED QUALITY OF FAMILIAL TIES AND WELL-BEING IN MIDLIFE AND OLDER LATINA/OS

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Social relationships are an important correlate of well-being in later life. Among Latina/os, values for familismo (i.e. prioritization support for nuclear and extended family members) and associated expectations of positive family relationships may elevate the significance of social ties for well-being. Despite these cultural values, social ties often have a positive and a dark side, leading to perceptions of ambivalence. We investigate the prevalence and determinants of ambivalent family relationships reported by midlife and older Latina/os and examine the association between ambivalent ties and well-being. A Latina/o sample (N = 1049; M age = 67.3) was drawn from the 2008 and 2010 waves of the

Health and Retirement Study. After preliminary descriptive analyses of the occurrence and types of ambivalent relationships, multivariate logistic regressions were run to identify unique predictors of reporting ambivalent relationships. Follow-up analyses explored whether relationships with children, family, or friends were more likely to be perceived as ambivalent. Finally, logistic models examined the associations between ambivalent relationships and well-being. Thirty-one percent of midlife Latina/os perceived ambivalence across all relationships compared to 18% of older Latina/os. Marriage and middle-age were uniquely associated with an increased likelihood of reporting ambivalent relationships. Follow-up analyses showed that the older cohort was especially likely to perceive ambivalence when it comes to relying on others. Finally, the likelihood of depressive symptomatology is higher among those who report ambivalence anywhere in their social network. This study has implications for understanding how age-cohort and culture impact the complexity of family dynamics and individual well-being.

#### THE TURKISH ADAPTATION AND PSYCHOMETRIC PROPERTIES OF THE GERIATRIC ANXIETY SCALE

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Introduction: The Geriatric Anxiety Scale (GAS; Segal et al., 2010) was designed as 30-item self-report assessment tool for anxiety among older adults. The GAS includes a total score as well as somatic, cognitive, and affective subscales. The aims of this study were to adapt and translate the GAS into a Turkish version and to examine its basic psychometric properties. Method: Our study was carried out via a sample of community-dwelling older adults in Konya, Turkey (N = 100; M age = 71.4 years, SD = 6.5 years; range = 65 to 88 years) who were screened to not have a positive history of mental disorder and to have sufficient cognitive abilities. To assess convergent validity, Turkish versions of the Beck Anxiety Inventory (BAI) and the Geriatric Depression Scale (GDS) were also administered. Results: The mean GAS total score was 13.33 (SD = 11.86). In the reliability analyses, two items of the Turkish version (items 2 and 3) were removed due to low (below .3) item-total correlation coefficients. A measure of internal scale reliability (Cronbach's alpha) was excellent for the total score (.91), and acceptable for the subscales (somatic alpha = .71; cognitive alpha = .85; affective alpha = .84). Regarding validity, the GAS total score was significantly and positively correlated with the BAI total score (r = .87, p < .05) and the GDS total score (r = .57, p < .05), with large effect sizes. Discussion: The newly translated Turkish version of the GAS appears to have promising utility in an older adult Turkish sample, with adequate internal scale reliability and convergent validity. Future studies of this measure appear warranted.

#### SLEEP CORRELATES OF MINORITY OLDER ADULTS IN THE BRIGHTEN HEART PROJECT

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Sleep disturbance is common in older adults and frequently co-occurs with depression. However, little is known about the sleep habits of older adults with depression in minority populations. Thus, we examined self-reported sleep variables in a sample of African American and Latino older adults recruited from urban primary care clinics as part of the BRIGHTEN Heart Project. Patients aged 60+ who screened positive for depression and cardiometabolic syndrome were eligible to participate. For the 250 participants (201 female, 121 African American), the average baseline PHQ-9 total score was 12.00 (SD=3.74) and the individual PHQ-9 items with highest averages were low energy 2.08 (SD=0.83), depression/hopelessness 1.96 (SD=0.80), and sleep abnormalities 1.89 (SD=0.94). Of the entire sample, 12% reported sleep

apnea diagnosis, 27.6% reported “other sleep problems” diagnosis, and 90.8% indicated “trouble falling asleep, staying asleep or sleeping too much” at least several days over the past two weeks. In addition, participants reported sleeping a nightly average of 343.40(SD=120.15) minutes over the past seven days. There was a significant negative correlation between PHQ-9 item 3 (sleep abnormalities) and self-reported sleep duration,  $r=-.294$ ,  $n=250$ ,  $p<.001$ . These results suggest sleep disorders such as insomnia may be highly prevalent in this population and appropriate screening in primary care settings is necessary to help identify patients who could benefit from sleep disorder treatment. The significant correlation between sleep duration and PHQ-9 item 3 suggests that this item should be further evaluated as a screening tool for sleep disorders to be used by primary care providers with older adults.

#### PERCEPTIONS OF DEMENTIA AND DEMENTIA SERVICES IN ASIAN COMMUNITIES

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This poster will present findings from a qualitative study involving older Asian immigrants and their formal and informal caregivers. It is estimated that the age-specific prevalence of dementia among Asian Americans is comparable to that of the general U.S. population. Examining Asian cultural beliefs that influence the understanding of dementia is fundamental to developing culturally appropriate interventions to reduce health disparities and improve clinical outcomes. Qualitative interviews were conducted with 10 older adult (with cognitive impairment) - family caregiver dyads (5 Chinese and 5 Korean pairs) and 20 older Chinese and Korean adults not diagnosed with cognitive impairment. Three focus group interviews were conducted with 30 personal care staff from one homecare agency. All participants were asked about their perceptions of dementia and facilitators and barriers in accessing/providing care. All data were analyzed via NVivo software using content analysis. The main themes identified included: stigmatization of dementia, misperceptions of the causes of dementia (e.g. dementia as caused by introverted personality, physical inactivity, social isolation, etc). Data suggested that older immigrants and their family members lack awareness of dementia related services. Service related challenges identified by the staff and research/practice implications will also be presented.

#### MULTIMORBIDITY AND LIMITATIONS IN THE CONTEXT OF AGE AND RACE/ETHNICITY IN THE 1999-2010 NHANES

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Multimorbidity prevalence is continuously increasing during all stages of the life course in the United States. Chronic conditions may contribute to longer-term functional limitations for adults earlier in the life course, particularly in vulnerable populations. Using data from 1999-2010 waves of the National Health and Nutrition Examination Surveys (NHANES) this study assessed the associations of multimorbidity and self-reported limitations, in the contexts of age and race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, other) among adults aged 20+ years ( $n=36890$ ). Multimorbidity included 10 chronic conditions: asthma, arthritis, heart disease, stroke, emphysema, chronic bronchitis, hypertension, cancer, diabetes, or chronic kidney failure. Limitations were based on whether respondents reported having any physical, mental, or emotional problems that kept the respondent from working at a job or business. Complex survey sampling weights were applied in the analyses to account for the sampling design of the

NHANES. Logistic regression models showed that greater multimorbidity (odds ratio (OR) = 1.44, 95% confidence interval (CI) = 1.38-1.50) and older age (OR=1.01, 95% CI = 1.00-1.01) were associated with more limitations. Hispanics were less likely to report limitations (OR = 0.80, 95% CI = 0.66-0.97). Stronger positive associations of multimorbidity with limitations were found for younger (30-39 yrs) than older (60-69 yrs and 70+ yrs) adults. Future work to further understand the mechanisms through which physical, mental, and emotional limitations are more effectively managed among older working adults is warranted, and can inform patient care for younger adults managing multimorbidities in order to promote successful aging and well-being.

#### ASSOCIATIONS BETWEEN MMSE CHANGE AND IADL CHANGE IN OLDER ADULTS OF MEXICAN ORIGIN

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Cognitive skills are essential to the ability to perform everyday tasks of daily living (Marsiske & Willis, 1995), and although cognitive status has been linked to poorer functional outcomes (e.g., Millan-Calenti et al., 2012; Samper-Terrent et al., 2008), a great deal of this work has examined cognitive impairment/decline as a static variable (e.g., above/below a criterion) rather than how the actual rate of cognitive change may be associated with the rate of change in everyday functioning. Also, less research has been conducted with Latino populations. Thus, the current study examines data collected over 13 years for a representative sample of 2,916 older adults, aged 65-90 years, of Mexican-origin on the Mini-Mental State Examination and a measure of IADL limitations. A multivariate latent growth model examining the links between trajectories for MMSE and IADL limitations demonstrated good fit to the data (CFI=.93, RMSEA=.06). Significant average rates of change were observed for both MMSE (-.79,  $p<.001$ ) and IADL limitations (.39,  $p<.001$ ); over 13 years, MMSE declined 10.27 points on average, and IADL limitations increased by 5.07. The rate of change in MMSE was highly correlated with rate of change in IADLs ( $r=-.93$ ); thus, greater declines over 13 years in cognitive ability were associated with greater increases in IADL limitations. Further, nonlinear trajectories fit both constructs significantly better than linear trajectories; for example, after five years, 41% of MMSE decline, but only 19% of IADL change, had occurred, while at eleven years, 65% of total MMSE change had occurred versus 79% for IADLs.

#### SPIRITUALITY, SOCIAL SUPPORT, AND LIFE SATISFACTION AMONG AMERICAN INDIAN OLDER ADULTS

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Purpose: Given the effects and scope of mental health disparities for American Indians, this study examined the relationships among spirituality, social support and life satisfaction with a sample of American Indian older adults. Methods: Data were collected from a cross-sectional survey with 233 community-dwelling older American Indians aged 50 or older in two Midwestern states. Hierarchical multivariate regressions were conducted to test three sets of predictive variables on life satisfaction: (1) sociodemographic variables, (2) spirituality, and (3) social support. Results: Older American Indians in the current sample were moderately or highly satisfied with their lives and experienced a fair level of spirituality and social support. In a hierarchical regression model, both spirituality and social support were found to play a significant role in enhancing individuals' life satisfaction. Women and those with lower self-rated health and not being married were found to have lower life satisfaction. Conclusions: The findings suggest that spiritual beliefs and social support are important in understanding and managing life adversity and may provide a useful framework within which normal/pathological experiences are interpreted and credible coping resources are identified among American Indian older adults. Health professionals



must be sensitive to the complexities of spirituality and social support and consider ways to incorporate culturally competent practices of these variables into health education and interventions to promote the quality of life among this population.

### **HEALTH BENEFITS OF AN INTEGRATIVE REMINISCENCE INTERVENTION WITH OLDER ADULTS IN HARLEM, NEW YORK**

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**Introduction:** This research addresses the important problem of racial health disparities in older adulthood. The Structured Life Review is an established, evidence-based, reminiscence intervention that has demonstrated significant health effects; however, only one study has included older African-Americans. Given that this type of intervention is associated with improved physical and psychological health among older adults, expanding it to minority populations is warranted. **Purpose:** This article reports physical and psychological health outcomes from the Harlem Life Review and Health in Later Life Study, a randomized controlled reminiscence intervention with African American older adults in Harlem, New York. **Design and Methods:** Following randomization to treatment and waitlist control conditions, participants completed a pre-test; met for eight (8) consecutive weekly two-hour sessions of deeply engaging oral reminiscence work; and completed post-tests immediately following the intervention and six months later. **Data Analysis:** The model for each dependent variable includes Treatment, Time (i.e. wave, 3 levels), their interaction, plus Sex, Marital Status, Education, and Age; plus Individuals as levels of a random classification factor. **Results:** Preliminary results show a statistically significant decrease in depression ( $p = .027$ ) and perceived stress ( $p = .013$ ), and a trend toward increased self efficacy ( $p = .10$ ). **Implications:** This cost effective intervention may reduce persistent health disparities across multiple health indicators between African American and other older adults in the U.S.

### **DEPRESSIVE DISORDERS AMONG AFRICAN AMERICANS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

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Chronic Obstructive Pulmonary Disease (COPD) is the third leading cause of death in the United States. Previous studies indicate a strong association between COPD and depression. Limited research has examined the association between COPD and depression in a population-based sample of African Americans. This study reports on secondary analyses of a large, representative U.S. survey, the 2012 Center for Disease Control's Behavioral Risk Factor Surveillance System (BRFSS). The sample included 40,082 African Americans, of whom 3,087 had COPD. The aim was to examine among African Americans: 1) the prevalence of depressive disorders among those with COPD compared to those without COPD, and 2) demographic correlates of depression among those with COPD. More than one-third (37.9%) of African Americans with COPD reported they had ever been diagnosed by a health professional with a depressive disorder in comparison to 12.5% of those without COPD. Among African Americans with COPD, the odds of depressive disorders were higher among females, those under age 65, the obese, those living in poverty, and those who were divorced, widowed or never married in comparison to those who were married. Those who reported that in the past year they had needed to see a doctor but could not because of cost had 67% higher odds of reporting depressive disorders. These findings underline the importance of health professionals regularly assessing levels of depression in their African American patients with COPD. Results of this research help guide targeting and outreach strategies to the most vulnerable patients.

### **ANXIETY OF ELDERLY ADULTS IN CHINA: LEVEL AND THE INFLUENCING FACTORS**

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Geriatric Anxiety Inventory (GAI) was translated in to Chinese and 1292 elderly adults living in communities were measured by GAI-C to explore the reliability and validity of the scale. The situation and influencing factors of anxiety among Beijing elderly adults were investigated. The result shows that: (1) GAI-C can be applied in measuring the anxiety of elderly adults in Chinese communities. The participant finished the scale without difficulties. (2) GAI-C remains unidimensional structure as the English version. The reliability and validity of GAI-C are pretty good. the Cronbach's  $\alpha$  of the scale is 0.937, one week retest reliability is 0.607, and the correlation with Beck Anxiety Scale is 0.600. (3) 7.4% of the participants were at the risk for anxiety disorder, the score of female was higher than that of male ( $t = -4.977$ ,  $p < 0.01$ ), the young-olds were higher than the oldest-olds, and those who only live with spouse were lower than other groups ( $F = 3.301$ ,  $p < 0.05$ ). (4) According to logistic regression, age, education, activities of daily living (ADL) and social interaction can predict the risk of anxiety disorder.

### **THE ROLE OF GENERATIVITY FOR RACIAL AND ETHNIC PARENTING: CASE STUDY OF KOREAN-AMERICAN BABY-BOOMERS**

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**Description:** Erikson's developmental theory of generativity (passing down to the next generation) stemming from a Eurocentric perspective heavily influenced by western culture, neglects to address issues that arise for racial and ethnic parents. This study explored the role of generativity for Korea-American adults in midlife when applied to how parents pass down ethnicity and ethnic identity to the next generation. This focus is especially important for the second-generation parents who were heavily influenced by assimilation ideologies and do not have a strong connection to heritage culture. **Method:** Using convenience and snowball sampling techniques, 16 second-generation Korean baby-boomers born in the U.S. between 1953 and 1965 were interviewed for this qualitative study. Nine of the 16 participants were married with children and lived in 5 different metropolitan areas across the nation. A combination of interpretive life course and life history approaches served as an integrated framework for organizing the context of the interviews. **Findings:** Findings show that parents expressed strong convictions to preserving Korean culture for the next generation, especially through language and food. Participants stated that becoming parents triggered a renewed interest or a revival in their own ethnic identity. Despite several challenges to second-generation parenting because of their lack of heritage language skills and limited knowledge of culture, parents relied on external sources such as grandparents and heritage language schools to pass on Korean traditional culture. They also took initiative to increase cultural awareness by taking their children to Korean restaurants and visits to Korea.

### **ILLNESS PERCEPTIONS AND SELF-CARE BEHAVIORS IN OLDER KOREAN PATIENTS WITH HYPERTENSION**

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As a set of beliefs about health threats, illnesses perceptions of individuals guide behaviors to cope with illnesses. The purposes of this study were to investigate illness perceptions about hypertension and their impacts on self-care behaviors to manage hypertension in older Korean patients. A cross-sectional descriptive study was conducted. A convenience sample of 108 older hypertensive patients ( $M = 76.2$  yrs) completed face-to-face interviews about demographic and health-related information, illness perceptions about hypertension, and self-care

behaviors. Data was analyzed using descriptive and multiple regression analyses. Participants lived an average of 7.8 years after hypertension diagnosis. Mean scores (range=1~5) of seven illness perceptions were timeline-acute/chronic(3.03), timeline-cyclic(2.19), consequence(1.93), control – personal(3.10), control – treatment(3.81), coherence(3.18) and emotion(2.40), respectively. After controlling for the covariates, timeline-cyclic( $\beta = -.31, p=.042$ ) and coherence( $\beta = .83, p=.050$ ) were significant factors affecting self-care behaviors. The results indicate that older Korean patients tended to believe their hypertension was more chronic rather than acute, more predictable, and less serious. They also tended to believe that hypertension could be controlled by medical treatment rather than personal behaviors, and that they have a clear picture of their high blood pressure. Regression analysis showed that older patients who believed that hypertension was more predictable or that they had a clear understanding of hypertension were likely to perform active self-care behaviors. This study highlights significant influence of illness perceptions related to predictability and coherence on self-care behaviors in older Korean patients with hypertension. The findings emphasize the importance of understanding illness perceptions and development of psycho-cognitive interventions to enhance active self-care behaviors of older hypertensive patients.

### **CIVIC ENGAGEMENT AMONG MIDDLE-AGED AND OLDER JAPANESE: FACTORS FACILITATING CIVIC ENGAGEMENT FOR JAPANESE**

K. Katagiri, *Kobe University, Kobe, Japan*

As Japan is the fastest aging society in the world, supporting its elderly population poses a serious social challenge. Recently, civic engagement has attracted attention as an effective way to overcome this challenge, both for the elderly and for society. Because engaging in civic engagement helps increase the mental and physical health of the elderly and allows society to utilize elderly's potential as a valuable human resource. However little research done on civic engagement of the Japanese elderly. This study aims to investigate factors related to civic engagement among Japanese using JGSS-2012 data. We use 1256 subsamples for subjects aged 45 to 74 years. The dependent variable considers whether the respondent was engaged in volunteer or political activity in the past year. Independent variables were demographic variables, neighborhood characteristics, financial anxiety, the efficacy toward life, and motivation toward social contribution. The result of the logistic regression showed that motivation toward social contribution was the only significant variable for gender and across generations. Highly motivated people were more likely to undertake civic engagement. Further research is necessary to examine how this orientation may be cultivated and various activities that could be included in promoting civic engagement among the Japanese. In this study, we adopted social participation and political activity to measure of the degree of civic engagement according to Western literature. However, there has been little discussion on the concept of civic engagement for Japanese elderly. Further discussion on the concept and its applicability to Japanese should be explored.

### **ASSOCIATIONS BETWEEN SOCIAL RELATIONS AND LIFE SATISFACTION AMONG OLDER JAPANESE: COHORT, AGE, AND PERIOD VARIATIONS**

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In Japan World War II and the rapid economic growth after the war promoted radical social changes, especially in family structure and values. Different birth cohorts experienced these changes at different life stages, which could have differential impact on life satisfaction (LS). This study examined how the linkages between social relations and LS vary across four birth cohorts at different period and age. Data came

from a nationwide survey of older Japanese (N=6,309) for the period of 1987-2012. The respondents were members of four birth cohorts (C1:1901-12, C2:1913-24, C3:1925-36, C4:1937-49), and they were categorized into six groups by a combination of age at measurement (i.e., 63-74 vs. 75-86) and year of survey (i.e., 1987, 1999, and 2012). Data analysis was undertaken separately for men and women by using structural equation modeling. There were significant cohort variations in the linkages between coresident family and LS. Among men being married was positively associated with LS, but the linkage was stronger among the later cohorts (C3, C4). In contrast, among women, the positive correlation between living with a child and LS was stronger for the earlier cohorts (C1, C2). Moreover, the positive association between contact with non-family members and LS among women was greater in 1999 and 2012 than that in 1987. Finally, the effect of being married on LS was greater among the young-old than the old-old. Our results suggest that the linkages between social relations and LS have to be interpreted within the context of individual and social changes over time.

### **ONE-YEAR CHANGE IN MONTREAL COGNITIVE ASSESSMENT PERFORMANCE AND RELATED PREDICTORS IN COMMUNITY-DWELLING OLDER ADULTS**

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Background: The Montreal Cognitive Assessment (MoCA) is used for mild cognitive impairment (MCI) screening in older adults in the clinical setting. Its usefulness in community-based settings - e.g., for insight about extend of at-risk population, and unmet needs relevant for public health planning of programs/services - has not been characterized. We examined the distribution and associated predictors of short-term changes in MoCA-J in community-dwelling older adults. Method: Observational data came from 496 community-dwelling older Japanese (age range: 65-84) living in an urban area in Tokyo. Outcome was short-term change in MoCA-J performance, defined as difference in MoCA-J scores obtained 1 year apart (2011-2012), and classified in 3 categories: deterioration (decline  $\leq 2$  points), improvement (increase  $\geq 2$  points), and stable (within  $\pm 1$  point-range). Results: Mean age was  $74 \pm 4.8$  years old; mean MoCA-J was  $23.7 \pm 3.6$ . Only 40% had stable MoCA-J performance; 30% experienced deterioration, and 30% improvement. Only age increment, hospitalization in previous year, and slower timed Up and Go [TUG], and maximum walking speed were predictive of subsequent MoCA-J performance deterioration. For example, the odds of MoCA-J deterioration (vs. improvement) was 1.4 (95% CI: 1.2-1.7) higher per 1 second longer TUG, after adjustment for age, gender, years of education, diseases, self-rated health, baseline MoCA-J, and recent hospitalization. Conclusion: We documented clinically meaningful 1-year changes in MoCA-J performance in community-dwelling older adults. Worse TUG and walking speed performance were independent predictors of short-term MoCA-J deterioration. Research aimed at assessing lower-extremity performance-based tests in MCI-related decision-making is warranted.

### **DEPRESSIVE SYMPTOMS AND ASSOCIATION BETWEEN RISK FACTORS IN OLDER ADULTS IN COLIMA, MEXICO**

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Objective: Estimate the prevalence of depression and its risk factors in the elderly of the state of Colima, Mexico. Methodology: Cross-sec-

tional, study performing the Health, Wellbeing, Ageing (SABE) survey in Colima, Mexico on 1454 elderly. We used the 15 item Spanish version of Geriatric Depression Scale, reference value >6, for detection. Risk factors that were analyzed were social demographic characteristics, functionality, and co-morbidities. OR and adjusted OR (CI 95%<). Results: Social demographic characteristics: mean age 72.2±8.6 years, 61.5% were women. 19.3% didn't study, 58% studied elementary school, 22.6% studied >junior high school. 74.3% men and 53.6% women were married, 23.2% and 49.1% had difficulty performing basic (ADLs) and instrumental activities of daily living (IADLs), and 11.5% had cognitive deficit (CD). Co-morbidities: 49% hypertension, 28.5% diabetes, 28.5% pulmonary disease (PD), 5% stroke, 8.5% cardiovascular disease, and 16.6% osteoarthritis. Relationship between depression and risk factors: 32% had depression, risk factors associated were being a women OR:1.54 (1.22-1.94), >75 years OR:1.82 (1.45-2.28), no school OR:4.11 (2.83-5.96) elementary school OR:2.5 (1.81-3.45), divorced or widowed OR:1.31 (1.05-1.64), ADLs OR:5.42 (4.18-7.03), IADLs OR:3.22 (2.55-4.07), CD OR:3.18 (2.27-4.46), hypertension OR:1.43 (1.15-1.79), diabetes OR:1.31 (1.03-1.67), PD OR:1.79 (1.20-2.66) Stroke OR:1.93 (1.20-3.10), Cardiovascular disease OR:1.76 (1.21-2.56), osteoarthritis OR:2.08 (1.57-2.76) Conclusion: Our study had similar results compared to other studies performed by SABE in Latin America, this multivariate analysis demonstrated cross-sectional risk factors: women, low study, ADLs, IADLs, CD, and osteoarthritis. Some of these risk factors can be modified with proper primary attention and intervention programs.

#### **SIX-MONTH OUTCOMES OF ¡FUERTE Y EN FORMA! IN LATINOS WITH ARTHRITIS**

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Broad dissemination of evidence-based physical activity (EBPA) programs for arthritis is recommended. Currently, there are few EBPA programs available in Spanish for older adult Latinos with arthritis. Purpose: This study examined the effectiveness of a Spanish version of Fit and Strong! (¡Fuerte y en Forma!) on physical function and arthritis-related symptoms among Latinos with osteoarthritis. Methods: ¡Fuerte y en Forma!, an 8-week multiple component exercise and health education program, was implemented in two community-based centers serving Latinos (Chicago (n=18) and Phoenix (n=21)). Outcome measures were obtained at baseline, 8-weeks and 6 months. Primary outcomes were physical function (six-minute walk), lower extremity (LE) strength (timed chair stands), and perceived LE pain, physical function (PF) and stiffness (Western Ontario and McMaster Universities Osteoarthritis Index, WOMAC). Secondary outcomes were self-efficacy for arthritis management (ASE) and self-efficacy for exercise (EXSE). Repeated measures analysis of variance was used to examine changes over time. Results: Participants had a mean age of 58.8 [8.1] years and were primarily female (n=34; 87.2%). LE strength, WOMAC PF (F=14.3, p<0.001) and WOMAC pain (F=11.26, p<0.001) significantly improved from baseline to 8-weeks and improvements remained at 6 months. Six-minute walk speed (F= 4.22, p=0.028) and WOMAC stiffness (F=5.49, p= 0.009) significantly improved from baseline to 6-months. ASE (F=42.39, p<0.001) and EXSE (F= 5.18, p=0.01) improved from baseline to 8 weeks and improvements remained at 6 months. Conclusion: ¡Fuerte y en Forma! achieved short and longer term improvements in function and arthritis-related symptoms in Latino older adults justifying its broad dissemination.

#### **AFRICAN AMERICAN WOMEN: THEIR WILL TO LIVE**

J. Manning Dantis, *Miami University, Oxford, Ohio*

The purpose of this paper is to present findings from a phenomenological study of 18 African American women over the age of 40. The main question addressed in this study was how this population

defines their aging experience. Constant comparative analysis was used to allow themes and patterns to emerge from data. From the findings the construct of Willful Living emerged. Willful living is defined as the conscious act of living each day. Willful living includes four components: faithfulness, personal attributes (personality traits), survivorship (current states of being), and purposefulness (future states of being). Willful living as a perspective of individual's aging is a balance of all parts of the person's life and existence, none are seen as totally exclusive. Aging for participants was not just about health or biological changes, but it was also a reflection of their views of who they were, are and who they want to be. Their views of themselves now and into the future have been shaped by their past life experiences with sexual abuse, alcoholism, prostitution, sexism, racism, and social dislocation, in addition to innate personality traits that helped them cope. As black women they are perpetually managing emotional and physical stress, even with positive resources such as family and friends. The women in this study had to find their inner voice and empower themselves to keep going and growing. The findings from this study currently can only be applied to women who fit within the characteristics of the population studied.

## **SESSION 595 (POSTER)**

### **VETERANS**

#### **A COMPARISON OF THE EFFECTS OF CANCER, CANCER TREATMENTS, AND EMOTIONAL FACTORS ON COGNITION IN YOUNGER AND OLDER VETERANS**

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The investigation of cognitive changes during and following treatment for cancer represents a fairly new and growing area of study. The relatively small body of research exploring this phenomenon has focused primarily on the impact of chemotherapy on the cognition of female breast cancer survivors less than 65 years of age. Additionally, only a few longitudinal studies with long-term assessment are available. The present study examined the associations among demographic variables, cancer site (i.e., colorectal, head and neck, esophageal), cancer stage, cancer treatments (i.e., chemotherapy, radiation), emotional variables (i.e., depression, combat PTSD), and cognition in a sample of 168 Veterans residing in Texas and Massachusetts. Longitudinal data collection took place at six months, 12 months, and 18 months post-diagnosis. Hierarchical linear regression analyses examined predictors of change in cognition over the study duration, and logistic regression analyzed factors associated with cognition at baseline and 18-months. Descriptive analyses were also conducted. Of particular importance is the finding that, in older cancer survivors (65+), combat-related PTSD was significantly predictive of cognitive change from six months post-diagnosis to 18 months; depression was marginally predictive. For cancer survivors less than 65 years of age, chemotherapy treatment was marginally predictive of cognitive change over the same interval. Additional results and descriptive analyses are also provided. Results of this study make valuable contributions to the existing cancer survivor research literature that focuses on younger female survivors of breast cancer. This study also has implications for the long-term effects of combat-related PTSD for older adults' cognitive functioning.

## AN ANALYSIS OF REMOTE SUPPORT MODALITIES FOR CAREGIVERS OF VETERANS WITH DEMENTIA

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Caregiver support can reduce the stress associated with dementia caregiving and can be provided through a variety of modalities that allow for tailored interventions to be delivered remotely. However, individual preferences will determine the relative value and utility of these different modalities, which may affect whether a caregiver withdraws from or is satisfied with a support intervention. Supporting Caregivers of Rural Veterans Electronically (SCORE) is a randomized controlled study of an in-home intervention that utilized different modalities for delivering support and education to caregivers of veterans with dementia. Learning modules portraying the progression of dementia and instruction on caregiving skills were delivered via one of three modalities: 1) Internet, 2) in-home telehealth device, and 3) self-guided educational notebook with telephone support. One-hundred ninety-four caregivers of veterans with dementia participated in the program and were randomly assigned to one of the three intervention groups. Over the course of the intervention, 41 (21.1%) caregivers withdrew from the program. However, attrition varied across the three modality groups: 17.1% of the telephone group and 18.8% of the telehealth group withdrew from the program while 26.5% of the Internet group withdrew. Of caregivers completing the program, feedback about the program was generally positive with 72% of participants offering positive comments about the various instructional media. This presentation will discuss a quantitative analysis of the attrition rates from the SCORE program including caregiver factors that predict withdrawal and the relative impact of the various modes of delivery on attrition and program satisfaction.

## CAREGIVING OF AND BY OLDER RURAL VETERANS: AN EXPLORATION OF RURAL CONCERNS AND RESOURCES

E. Everett, J. Yorgason, K. Stott, V. Call, L. Erickson, *School of Family Life, Brigham Young University, Provo, Utah*

Caregivers of Veterans living in rural areas face many unique challenges. Research literature suggests that rural residents have poorer health (Rosenthal & Fox, 2000), limited finances (Dwyer & Miller, 1990), limited access to specialty care (Weeks et al., 2004), and often have to travel long distances to receive health care. Caregivers to rural veterans also may have concerns about health care privacy, competency of care, and burnout (Hicken & Plowhead, 2010; Werth, Hastings, & Riding-Malon, 2010). Using data from caregivers of Veterans in the Montana Health Matters (N=39 caregivers) and the Life and Family Legacies studies (N= 53 caregivers), results indicated rural caregivers of Veterans (compared to urban caregivers of Veterans) reported lower life satisfaction, provided more hours of care per day, had poorer health, and went a longer time since their last health checkup. Rural caregivers also reported barriers to care including experiencing challenges related to distance to physician offices, not having health insurance, difficulty getting prescriptions filled, and challenges with insurance claims. Implications for caregivers in rural areas and professionals who serve these rural caregivers will be provided.

## RACIAL/ETHNIC DIFFERENCES IN DEPRESSION CARE FOR VETERANS

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Background: Various studies have identified racial and ethnic disparities in the receipt of guideline-concordant depression care among VA patients. This study aims to characterize racial/ethnic differences in treatment of chronic depression for middle-aged and older Veterans by examining antidepressant and psychotherapy use among Black, White, Hispanic, Asian, and American Indian/Alaska Native (AI/AN) Veterans. Methods: We estimate logistic regression models from a sample of 62,095 chronically depressed patients (mean age 57.5, SD=12.51) using VA medical record data (External Peer Review Program 2009-2010). We examine three outcome measures: receipt of adequate antidepressant therapy ( $\geq 80\%$  medications on hand), receipt of adequate psychotherapy ( $\geq 6$  sessions in 6 months), and receipt of guideline-concordant treatment (combination of both treatments). Results: Compared to Whites, nearly all minority groups had lower odds of adequate antidepressant use and guideline-concordant care in unadjusted and adjusted models (antidepressant adjusted OR range=0.53-0.82,  $p < 0.05$ ; guideline-concordant adjusted OR range=0.59-0.83,  $p < 0.05$ ). Although receipt of adequate psychotherapy was more common among minority Veterans in unadjusted analyses, differences between Hispanic, AI/AN and White Veterans were no longer significant after covariate adjustment. Once we further adjusted for distance to VA facility, the difference between Black and White Veterans was no longer significant. Conclusions: In order to improve care for minority patients, we need to better understand how patient preferences and provider/system factors interact to generate differences in depression care. It will be increasingly important to differentiate between health service use patterns that stem from genuine differences in patient preferences and those that signify inequitable quality of depression care.

## SLEEP HYGIENE AND SLEEP QUALITY IN OLDER VETERAN CAREGIVING DYADS

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This study addresses sleep hygiene and sleep quality in caregiving dyads—a topic that has important implications for the quality of life for older Veterans and their family caregivers (CG). Data are from phase one of a three phase study which examined sleep patterns in a sample of Veterans over the age of 60 who require assistance from a cohabitating caregiver (CG). Caregiving can extend over many years and becomes increasingly more demanding as the health and independence of care recipients decline. Sleep quality can be compromised in caregivers. Poor sleep can contribute to falls, medication errors, daytime drowsiness and institutionalization of the care-receiver. In caregiving dyads, the sleep of one care-partner can adversely affect the sleep of the other thereby exacerbating the problem for both members of the dyad. Actigraphy was used over seven nights to objectively measure sleep in 62 Veteran Caregiving Dyads (124 individuals). Daily journals were used to record sleep hygiene practices and to identify the nature and types of sleep disturbance. Dyadic concordance was assessed for sleep hygiene factors, subjective and objective sleep quality. Socio-demographic, health characteristics and descriptive analyses of the sleep hygiene practices for “good” versus “poor” sleepers and Care-Recipients versus Caregivers are compared and contrasted to elucidate potential intervention targets. Results are discussed in terms of the implications for assessment of

sleep hygiene factors (which are amenable to intervention) in addition to standardized measures of sleep quality or sleepiness.

### **VETERANS' PERCEPTIONS AND PREFERENCES ABOUT PAIN MANAGEMENT AND END-OF-LIFE CARE: PRELIMINARY EVIDENCE**

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Veterans make up a quarter of the deaths in the US. Little is known, however, about their knowledge and preferences about end-of-life care and pain management. Given this, we were interested in how veteran's military experiences might affect their end of life experiences and attitudes. Our exploratory study not only addressed the differences in the knowledge of hospice among veterans, but also the differences in perceptions regarding pain and pain management, as well as end of life. We obtained a small population-based sample (N=123) using a blended sampling frame of randomly selected validated cell phone and landline numbers, and oversampling for Hispanic and African American individuals. The study sample was comprised of 14 veterans. The outcomes of interest were: a 23-item true/false test about knowledge of hospice; attitudes regarding hospice using the 8-item Gerbino scale; and a thirteen item scale measuring attitudes towards pain management. Using an independent samples t-test, we compared the means of the outcomes of interest. Our results suggested that veterans possess more knowledge and more favorable attitudes regarding hospice care and p and display more favorable attitudes regarding pain medication. In keeping with these findings, our data suggests that veterans also hold more positive views about the end of life. Our findings suggest that there are disparities between veterans' and non-veterans' end of life care preferences and attitudes about death. Future research examining the concept of stoicism at the end of life among veterans and educational interventions are needed.

## **SESSION 600 (POSTER)**

### **CULTURES OF CAREGIVING**

#### **NEIGHBORHOOD COHESION AND CAREGIVER BURDEN AMONG THE MEXICAN-ORIGIN POPULATION**

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Neighborhood environments impact health in the extent to which they provide resources and safety to their inhabitants. Previous research indicates that elderly foreign-born Mexican American adults tend to live in homogenous neighborhoods that may provide socio-cultural benefits that protect against health decline (Markides, Angel, & Peek, 2013). For example, Eschbach and colleagues (2004) found that older Mexican Americans living in the southwestern U.S. and in high density immigrant areas tend to have more favorable health profiles and a slower health decline over time than those in low density areas. Few researchers, however, have examined the influence of neighborhood resources and support on caregiver burden in general and among the Mexican-origin population in particular. Using data from Wave 7 of the Hispanic Established Population for the Epidemiological Study of the Elderly (H-EPESE, 2010/2011, n=847), we find that caregivers providing support to elderly family members who report high levels of neighborhood solidarity report less depressive symptoms and social stress that those providing care to elderly living in less cohesive neighborhoods. Supportive neighbors may help one another in a number of capacities that allow for older adults to remain in the community and reduce caregiver burden including assistance with instrumental activi-

ties of daily living such as providing transportation to the grocery store, and help with housework or emotional support.

### **"I'M NOT REALLY A DUTIFUL SON": STRUCTURAL AMBIVALENCE FOR JAPANESE MEN CARING FOR AGING PARENTS**

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In this qualitative study, I explored the experiences of Japanese adult sons who assume primary responsibility for caregiving to their aging parents. Although men are increasingly likely to be called upon to meet parental care needs because of sociodemographic trends in the country, it is still seen as "atypical" for sons to be primary caregivers for their parents. Guided by the framework of sociological ambivalence, I focus on contradictory structural arrangements that these sons face in attempts to juggle paid work and parental caregiving. I conducted semistructured interviews with 28 middle-aged caregiving sons mostly from suburban areas in Japan. Through content analysis on interview transcripts, I found two recurrent themes: "gendered notions of filial duty" and "public elder care systems that are unfriendly to working caregivers." Although sons felt obliged to take care of their parents, they were aware that they cannot fulfill their filial duty only by being involved with parental caregiving because sons are traditionally expected to make their parents proud by succeeding in their work career. At the same time, public systems related to family caregiving to older adults, such as family-care leave and national long-term care insurance, did not sufficiently help sons to manage both work and care responsibilities. Forced to focus on either parent care or work career, sons were frustrated that they can never become "a dutiful son." Given these findings, I discuss how Japan's public policy, traditional familial institutions, and unequal distribution of socioeconomic resources shape sons' experiences of parental caregiving.

### **UNDERSTANDING CULTURAL COMPONENTS OF THE CAREGIVING EXPERIENCE**

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Throughout the caregiving literature, few researchers have incorporated both positive aspects of care and cultural values in a comprehensive stress and coping model aimed at understanding the subjective caregiving experience. More recently, Knight and Sayegh (2010) proposed a revised Sociocultural Stress and Coping Model (SSCM) that postulates cultural beliefs and values to have a major impact on social support, coping strategies, burden, and depression. Therefore, the current study has utilized the SSCM to examine the relationships between components of culture (i.e., cultural justifications and feelings of familism) as they relate to burden, positive aspects of care, social support, coping styles, and depression. Proposed relationships have been analyzed through a mediator versus moderator hypothesis structure. Individuals were able to participate in this questionnaire study if they, a) provided care to an older adult 50 years or older, and b) provided care for at least 8 hours per week. Results suggest that a caregiver's level of burden, use of different coping styles, and feelings of positivity towards the caregiving role influence the relationship held between cultural values and depression. Implications suggest that culture may be a significant component of the caregiving experience that has been overlooked and under-measured in previous caregiving studies.

### **THE ROLE OF LIVING ARRANGEMENT AND SOCIAL SUPPORT IN SELF-RATED HEALTH IN OLDER CARIBBEAN WOMEN**

C. Ford, I.S. Harvey, *Human Development and Family Studies, University of CT, Storrs, Connecticut*

Research has shown that older adults with high self-rated health and few limitations are better able to maintain an independent residence.

Additionally, the decision to co-reside may provide insight into individuals' social relationships. As social support is a determinant of health, it is important to investigate the impact that living arrangement and social support may have on self-rated health. Cross-cultural implications are of interest as well, as generalizing relationships does little to advance our knowledge about the diversity of the interactions. The aim of the present study was to understand the relationship between living arrangement, social support, and self-rated health in older women. We hypothesized that living with someone would be positively correlated with self-rated health. In depth, semi-structured interviews were conducted with Caribbean women (N=24, M=68.63, SD=12.40) on the islands of St. Croix, St. John, and St. Thomas. 67% of participants reported living with someone. Number of household members ranged between one and seven (M=2.57, SD=1.93). Findings show a correlation between the number of people in one's household and self-rated health ( $r=.55, p<.05$ ). Multiple linear regression was used to determine the effect of age, income group, number of household members, and social interaction evaluations on self-rated health. The model was statistically significant ( $F(4,4)=7.38, p<.05$ ), indicating that results were unlikely to have arisen by chance. Future research should focus on the qualities of living arrangements and social relationships to further knowledge on the impact the variables have on self-rated health.

#### **CONGRUENCE OF EXPERIENCE: QUALITY OF RELATIONSHIP OF CAREGIVERS AND RURAL CARE RECIPIENTS**

L. Mieskowski, F. Scogin, *Dept. of Psychology, University of Alabama, Tuscaloosa, Alabama*

Quality of relationship between caregivers and care recipients has received increased attention as a potential gatekeeper for the quality of experience of caregiving. Caregiver burden is well-established, but positive reactions such as feeling efficacious in ones' role or finding satisfaction in the ability to provide care to a loved one have also been documented (Dorfman, Holmes, & Berlin, 1996; Spruyette, Van Audenhove, Lammertyn, & Storms, 2002). Furthermore, research suggests that quality of relationship has potential as a mediator or moderator of caregiver burden (Chapell & Reid, 2002; Goldsworthy & Knowles, 2008; Merz & Huxhold, 2010; Pearlin, Mullan, Semple, & Skaff, 1990; Yates et al., 1999). In a sample of rural-dwelling vulnerable elders without dementia, quality of relationship may play a distinct role for both caregiver and care recipient. Forty-nine dyads were asked to rate their relationship and indicate their overall quality of life. Care recipients and caregivers were found to rate their relationship similarly ( $r=.46, p<.01$ ), but varied on the strength of rating agreement depending on the area of relationship they were asked to rate (e.g., pleasure, strain, wishing the relationship was better). Additionally, relationship quality was related to well-being ratings in work, neighborhood, and community for caregivers and ( $p<.05$ ), but unrelated to care recipient quality of life domains. Implications of this study include identifying how quality of life may be differentially affected in rural caregiving dyads.

#### **MULTICULTURAL AGING AND IMMIGRANT CAREGIVER TRAINING**

I. Choi<sup>1</sup>, J. Berry<sup>2</sup>, *1. Penn Asian Senior Services, Philadelphia, Pennsylvania, 2. Dementia Specialist Consulting, Cokato, Minnesota*  
"Multicultural Aging and Immigrant Caregiver Training" examines the cross-cultural project between Penn Asian Senior Services (PASSi) and Dementia Specialist Consulting offering Asian immigrant caregiver trainings on Dementia. We will discuss the barriers in delivering care to Asian immigrants and how collaborative trainings can overcome these barriers, enhance health outcomes, and improve elderly immigrants' quality of life. PASSi received funding from Independence Blue Cross Foundation in August 2012 to launch a cross-cultural Alzheimer caregiver training program based on the Lakeview Ranch Model of Specialized Dementia Care™. Facilitated by PASSi's multilingual outreach

staff, Judy Berry taught 141 home health aides and family caregivers in 5 Asian languages. The trainings improved caregivers' understanding of Alzheimer's and changed how caregivers fundamentally understood and interacted with patients. This improved overall health outcomes and reduced health care costs. Founded by current Executive Director, Im Ja Choi in 2004, PASSi is a nonprofit home healthcare agency and vocational training center focused on Asian immigrants in southeastern Pennsylvania. PASSi currently serves 400 clients in 10 Asian languages, and its unique work model was featured in NY Times in January 2014. Judy Berry founded Lakeview Ranch Inc. in 1999 where she developed the Lakeview Ranch Model of Specialized Dementia Care™. This nationally recognized model restores dignity, and quality of life to Dementia/ Alzheimer's patients, eliminates dementia related aggressive behavior, and reduces psychotropic drug use. Choi and Berry were both nationally recognized by receiving Robert Wood Johnson Foundation's Community Health Leader Award in 2011 and 2010.

#### **SOCIAL SUPPORT, EMOTIONAL SUPPORT, AND COGNITIVE FUNCTION AMONG OLDER ADULTS LIVING IN DA NANG, VIETNAM AND SURROUNDING RURAL AREAS**

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As life expectancy across countries continues to rise, poor cognitive function and dementia have become a major health and social issue. Social and emotional support has been found to reduce risk of dementia and protect against loss of functional capacity. The link between social and emotional support and cognitive function in non-Western settings is not clear. The goal of this study was to determine the relationship between social and emotional support and cognitive function in a representative sample of 600 participants, aged 55 and older living in Da Nang and in surrounding rural districts. The Mini-Mental State Examination was used as the primary cognitive measure. Total social support was the total number of children, other relatives, and friends with whom the participant could talk to about private matters and various problems. Two emotional support measures were used to assess the support individuals received from their children and spouse. Stratified analysis by area of residence (urban vs. rural) was carried out to examine the associations. A multiple linear regression was fitted for each group. Those living in rural areas had more cognitive impairment than those living in the urban area. Adjusted for important confounders, social support and emotional support were associated with better cognitive performance among adults living in urban areas; these associations were not observed in rural areas. Our findings suggest a relationship between social and emotional support and cognition, but the association depends on the nature of the community of residence (urban or rural).

#### **A SYSTEMATIC REVIEW OF THE LITERATURE OF FAMILY CAREGIVING FOR AMERICAN INDIAN/ALASKAN NATIVE ELDER**

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This systematic review examined current literature with regards to caregiving of elders in the American Indian/Alaskan Native (AI/AN) population. Articles and books from CINAHL; Health Source-Consumer Edition; Health Source: Nursing/Academic Edition; MEDLINE; PsycARTICLES; Psychology and Behavioral Sciences Collection; Psy-

cINFO; and Google Scholar were examined. The search terms ‘American Indian,’ ‘Alaskan Native,’ ‘Native American,’ ‘Caregiving,’ and ‘Elder’ were used, yielding eleven results that fit the aim of this review: three books and eight peer-reviewed articles. Relevant literature was organized based on design, purpose, and evidence/results. The quality of research articles was evaluated using design-based critical appraisal guidelines. The synthesized review revealed the current state of the science focused on the value of aging and caregiving unique to the AI/AN population, evaluating health and psychosocial variables, perceived barriers and benefits of caregiving, issues of access to care, and specific profiles of AI/AN caregivers within a distinct and meaningful cultural context. Consistent with forecasted increases in the aging AI/AN population, the need for caregivers who are prepared and engaged becomes increasingly important, as families typically take on caregiving responsibilities with little preparation. This review synthesizes the current literature, identifying directions for future research to further illuminate the unique nature of the AI/AN caregiving experience. Additionally, this systematic review can serve as a foundation for developing culturally sensitive caregiver programs in the AI/AN populations. Implementing educational and skill-building programs that support caregivers based on their identified needs within their cultural context may decrease burden and improve quality of life.

### **MECHANISMS THROUGH WHICH TRADITIONAL CULTURAL VALUES PROTECT THE WELLBEING OF ETHNIC ADULT CHILD CAREGIVERS**

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This study explored the role that reciprocal filial values play in protecting the wellbeing of US Chinese adult-child caregivers. Using a structural equation modeling approach, we tested a latent variable model with survey data obtained from 137 Chinese adult-child caregivers living in seven U.S. cities. We examined how reciprocal filial values directly and indirectly affected their wellbeing through mechanisms underlying the protective effects of role rewards and coping against role strain caused by caregiving challenges. Our final model demonstrated a good fit with the data and suggested that reciprocal filial values had both direct and indirect protective effects on caregivers’ wellbeing. This final model, informed by the propositions of role theory, social exchange theory and stress-coping theory, offers a theoretical and empirical basis for health care providers, policymakers, and researchers to address culturally sensitive issues related to family caregiving in working with caregivers who share similar filial values and strain.

### **LIVE-IN AND LIVE-OUT CAREGIVING OF ADULT CHILDREN AND CHILDREN-IN-LAW OF OLDER ADULTS IN THE US AND IN JAPAN: DIFFERENCES AND SIMILARITIES**

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While women traditionally bear most of the caregiving responsibilities around the world, trends toward delayed marriage, improvements in women’s status, and changes in family structure are leading to greater variety in family caregiving arrangements. In Japan, a rapidly aging population has resulted in increased involvement of men as caregivers, and raised issues among women on how to juggle the multiple roles of caregiver, worker, and parent. The US has confronted similar issues, as well as a rise in complex family structures from divorce and remarriage. This study compares the living arrangements of adult children and children-in-law caregivers in the United States and Japan, using data from

the U.S. National Study of Caregiving (NSOC) (n=613), and the first wave of the Fukui Longitudinal Caregiver Survey in Japan (n=1684). Results showed 88% of Japanese child caregivers were coresident, but in the United States only 51% were living in the household. Multivariate logistic regression analysis showed that married caregivers were less likely to be coresident in both countries. Self-care disabilities and support from friend or family were dominant factors associated with coresidence in the US, but not in Japan, where older and female caregivers were more likely to live in the household. Our results suggest that traditional attitudes about coresidence still prevail in caregiving arrangements in Japan.

### **LOS CUIDADORES LATINOS UNIDOS: FINAL RESULTS FROM A COMMUNITY-BASED PILOT PROGRAM FOR LATINO FAMILY CAREGIVERS**

S. Mudroch<sup>1</sup>, H. Tan<sup>1</sup>, C. Guse<sup>1</sup>, M. Villa<sup>2</sup>, M. Bonet<sup>2</sup>, M. DeNomie<sup>1</sup>, A. Castro<sup>2</sup>, Z. Franco<sup>1</sup>, 1. *Medical College of Wisconsin, Milwaukee, Wisconsin*, 2. *United Community Center, Milwaukee, Wisconsin*

With an aging population and greater incidence of Alzheimer’s disease within the Latino community there is increasing need to address the well-being of Latinos serving as family caregivers of elders with dementia. Caregivers in the Latino community report greater burden of care with potential contributions from language barriers, socioeconomic strain, cultural adaptation, and familial pressures. Few studies have focused on adapting caregiver interventions for Latino family caregivers. In response to calls for a culturally-competent caregiving model, the United Community Center (UCC) and the Medical College of Wisconsin piloted Los Cuidadores Latinos Unidos. This intervention offered a flexible, six-month multi-component program to forty eligible participants. Program elements included psychoeducational sessions guided by Behavioral Activation and Family Systems Theory Model; family education meetings; quarterly workshops; and use of technology. Specially-trained, bilingual Latino family workers from the UCC provided community-embedded service delivery. Impact on caregiver wellness was assessed using data collected at baseline, midpoint, and the conclusion of the intervention using: Zarit Caregiver Burden Assessment, PHQ-9 Depression Scale, Social Connectedness Scale, Quality of Life Scale, an internally-generated family survey, psychosocial summary, and wellness plan. We will present final results from this program, including demographics and intervention effectiveness. In addition, we will examine cultural adaptations in tailoring behavioral activation to Latino caregivers through interviews conducted with family care workers at the UCC and by consultation with a specialist in culturally-appropriate behavioral health interventions. Project findings are available for replication and may be of interest to health professionals who aid Latinos affected by dementia.

### **HONOR THY FATHER AND MOTHER: PREDICTING ETHNICALLY DIVERSE EMERGING ADULTS’ WILLINGNESS TO PROVIDE CARE**

S. Hamill, *CSU San Marcos, San Marcos, California*

In 2009, 61.6 million people provided \$450 billion in unpaid care to family members; these caregivers included 1.4 million youths under the age of 18, most of whom were caring for a grandparent. The caregiver role provides a unique opportunity to learn about assisting others and may serve to socialize the young to take on future caregiving roles for their own parents. However, little is known about how early caregiving experiences influence young people’s willingness to provide care, or how cultural values might encourage assumption of this role. The present study tested two hypotheses: (1) Ethnic minority youths would be more likely to come from caregiving families than whites; and (2) prior caregiving experience, greater spirituality, and more affection for parents would predict greater willingness to assume future caregiver roles for parents. White, Hispanic, and Asian college students (N =

461) completed a survey on college students' spirituality, quality of family relationships, and caregiving responsibilities. Results indicated that Asian students' families were more likely to have provided care to family members than Hispanic or White students. Multiple regression analyses revealed that greater affection for mothers was the best predictor of willingness to provide care for both Hispanic and White students whereas it was not related to willingness to care for Asian students. Conversely, greater spirituality was a significant predictor for Asian students but was not significant in models for Hispanics or Whites. The need to examine the differential impact of cultural factors on caregiving within ethnic groups is emphasized.

### THE EFFECT OF KOREAN BABY BOOMER'S VOLUNTEERING ON GENERATIVITY

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Descriptions According to Erikson's psychosocial theory, generativity is obtained through helping others. As a result, caring for others is reflected as a psychological strength, so volunteering can be used as an example of an expression of generativity. Volunteering is a form of social engagement for Korean baby boomers (born from 1955 to 1963) preparing their social identity after retirement. In this study, the effect of Korean Baby boomer's volunteering on generativity were examined. Method The sample size of this study is 280. The sample was collected using a population ratio of baby boomers in Seoul and the Kyungki Province, where two fifth of the Korean population live. Hierarchical multiple regressions were used for data analysis. For control variables, socio-demographic variables such as age, gender, education, religion, job and health were used. For independent variables, the status of client and the characteristics of volunteering were used. Also, the length and frequency of volunteering experience, volunteering satisfaction and personal achievement through volunteering were used. To compare the degree of each independent variable on generativity, standardized coefficient beta was used. Findings Among the socio-demographic variables, age, religion and health were important factors affecting generativity. In regard to client variables, welfare client was an important factor affecting generativity. When considering volunteering variables, the length of volunteer experience, time spent per week, volunteering satisfaction and personal achievement through volunteering were important factors affecting generativity. This study showed that Korean Baby boomers' volunteering was a good explanation of Erikson's psychosocial theory of generativity.

### MATURE GAZE: DISEMPOWERMENT OF YOUTH CULTURE ON FEMALES AGING IDENTITY

J. Manning Dantis, *Miami University, Oxford, Ohio*

The purpose of this theoretical paper is to offer Mature Gaze (Forthcoming Manning-Dantis) perspective as a way of critically looking at the power of new forms of media in the development of social identities for older women. Mature Gaze as a construct critically views the illusion of perfection as a way of gaining or losing power. Mature Gaze looks at self-objectification and the link with individuals' misidentifying with youth. For individuals who covet youthful images and disengage from positive feelings towards aging, this may increase the likelihood of a loss of power by going past the line of looking to obsessing. Once an individual disengages from an aging identity and begin to identifying with youth culture, power is potentially shifted to reinforcing the idea that youth is more beautiful. Once individuals give power to the idea that youth equates to beauty, they are also taking power from themselves. Through new networks found on the internet, an individual who creates a persona that is younger or provides information that is from years past reinforces the disengagement they have with their aging self. Through digital medium, the pursuit of perfection can be obtained by photo shopping away any trace of a flaw. Self-objectification creates a need to change what individuals can, or medically remove what they cannot.

The concept of Mature Gaze is drawn from independent research in the field of gerontology.

### EMOTION REGULATION STRATEGIES AMONG OLDER JAPANESE ADULTS IN INTERDEPENDENT CULTURE

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A growing body of evidence suggests that older adults control their emotions better compared to younger adults. In interdependent cultures, including Japan, emotion regulation strategies, such as suppressing emotion-expressive behavior, are often used to adjust to others. The present study explored cultural and age-related variation in the use of emotion regulation strategies and its associations with psychological health. The study participants, aged 60 to 79 ( $M = 66.3$ ,  $SD = 3.8$ ), were Japanese adults ( $n = 220$ , 51.4 % female) living in urban areas of Japan. They completed self-administered questionnaires in September, 2012. We tested associations of independent and interdependent self-construal, emotion regulation, and future time perspective with self-reported happiness, life-satisfaction, and loneliness. Results showed that emotion suppression was positively significantly correlated ( $r = .205$ ,  $p = .003$ ) with age, but no significant associations were found between future time perspective and emotion regulation. There were significant positive correlations between interdependence (i.e., belonging and fitting in) and both emotion suppression ( $r = .356$ ,  $p = .000$ ) and emotion reappraisal ( $r = .405$ ,  $p = .000$ ). Although interdependence was not significantly associated with happiness, life-satisfaction, or loneliness, there was a negative correlation ( $r = -.155$ ,  $p = .030$ ) between emotion suppression and happiness. These findings suggest that older Japanese adults may use emotion regulation strategies in order to adjust to others. The implications for how cultural values and attitudes may influence psychological health of older Japanese adults will be discussed.

### DIURNAL PATTERNS OF AFFECT AMONG OLDER ADULTS IN INDIA: THE ROLE OF EDUCATIONAL ATTAINMENT

T. Bhatta<sup>1</sup>, A. Bardo<sup>2</sup>, N. Lekkak<sup>1</sup>, *1. Case Western Reserve University, Cleveland, Ohio, 2. Miami University, Oxford, Ohio*

Previous studies on the social origins of psychological well-being have generally found socioeconomic characteristics to have a positive, but weak, influence on global well-being reports. However, global reports do not adequately reflect people's daily experiences and the role of these micro-level events in shaping affective states. As such, social science research has often ignored potential variation in the reporting of psychological well-being by socially structured daily circumstances. Based on a subsample ( $n = 2411$ ) of the first wave of the Study on Global Ageing and Adult Health, the present study employs an adapted version of the Day Reconstruction Method (DRM) to examine the stability of both positive and negative states experienced over the course of a day. Additionally, this study explores potential educational differences in the variation of affective states, as measured by the DRM. Findings from random effects models indicate an average decline in both negative affective states and positive affective states over the day. A significant quadratic effect of time suggests an enhancement of positive affect in later parts of the day. In regard to education, the findings reveal a significant positive influence on the initial-average differences in both negative and positive affect, but in relation to changes in affective states over the day, education was found to positively influence only positive affect. This study provides some of the first diurnal patterns of positive and negative affect among the older population in India, and highlights the role of education in shaping positive perceptions of life in relation to daily circumstances.



## ONTOLOGIES OF THE BODY AND LIFE-WORLD IN ACTIVE AGING DISCOURSE: ETHNOGRAPHIC CASE STUDY OF “LOCOMOTIVE SYNDROME” AND “MIBYO” IN THE METROPOLITAN AREA OF TOKYO, JAPAN

E. Ricart, *University of Chicago, Chicago, Illinois*

It is well known that Japan has one of the world's most rapidly aging populations. As the baby boomers age, a primary concern is their simultaneous enrollment in national Long Term Care insurance, flooding the system. To counteract this, care-prevention has taken on increased importance for the country. Like active aging, care-prevention mobilizes a discourse of continued physical, social, and mental activity to maintain independence and health. While care-prevention in Japan and active aging in America are similar at the level of discourse, there remain underlying difference in ontologies of the body and life-world. Through a discussion of care-prevention initiatives – Locomotive Syndrome, colloquially referred to as “Locomo,” and “Mibyo,” a concept culled from traditional Chinese medicine – I discuss ontologies of the aging body and life-world as they manifest in Japan's efforts to counteract the anticipated consequences of an aging society. I additionally suggest a new analytical-lens through which to approach active aging and other aging paradigms. Critical gerontologists have favored an analytical-frame of power-relations (bio-politics, identity-politics, and ideology), resulting in the polarization of the analytical-field into opposing agents. This precludes from observation continuity and coordination between the parts, and the analysis of how these parts form a larger whole. I propose using the analytical-frame of “ontogenesis” to uncover continuities and coordination between the parts (government officials, aging-studies specialists, organizations administering care-prevention programs, and elderly themselves) in the shaping and building of a larger whole – what it means to be aging and aged in Japan today.

## KNOWLEDGE AND PERCEPTIONS OF END-OF-LIFE CARE IN CHINESE AMERICAN ELDERS: THE ROLE OF CULTURAL FACTORS

X. Gao, F. Sun, *Arizona State University, Phoenix, Arizona*

Purposes: The twofold aims of this study are 1) to describe the levels of knowledge of advanced directive (AD), end-of-life communication and decision-making in a sample of Chinese American elders living in the Phoenix Metropolitan area, and to 2) identify cultural factors that influence this group's knowledge of AD. Methods: Three focus groups were conducted to ensure that survey questions are linguistically and culturally appropriate. Survey data were collected through face-to-face interviews on Chinese American adults aged 55 or above (n= 385) living in the Phoenix Metropolitan in 2013. Results: About one out of five participants has heard about AD; one in ten has completed an AD. Logistic regression analysis shows that higher education and previous exposure to ventilator use were related to more knowledge of AD. Higher levels of acculturation and longer residency years in the U.S. were associated with higher levels of AD knowledge. Approximately, 6% of participants have spoken with their doctor about usage of life-sustaining interventions while 23% discussed this topic with their family members. The majority prefers talking about end-of-life care when they perceive an emergent need and considers family members should be involved in decision-making together. Discussion: In general, Chinese American elders lack the knowledge of end-of-life care. Educational programs should target Chinese American elders who are of limited education, less experience of life support measures, lower acculturation levels and shorter years of residency. Aging service providers should be sensitive to Chinese family beliefs that are essential to their end-of-life communications and decision-making.

## WIDOWHOOD EXPERIENCES AMONG AGING GHANAIAAN (AKAN) WOMEN

R. Korang-Okrah, T.L. Peterson, *Social Work, Western Kentucky University, Bowling Green, Kentucky*

Background: In many African societies, the practice of prescribed culturally-gendered widowhood rites is regarded as a rite-of-passage for widowhoods. While widowhood rites reflect traditions of individual tribal groups, the cultural norms and expectations can pose emotional, economic, and social hardships. Yet, little is known regarding widowhood experiences among African aging women. This paper describes widowhood experiences among aging Ghanaian (Akan) widows. Methodology: This phenomenological study explored the experiences of 14 Ghanaian (Akan) widows. They ranged in age from 50 to 81 years. A snowball sampling procedure involving local women gatekeepers was used. Data was collected through semi-structured interviews. Interviews were audiotaped and transcribed verbatim in the native language and back translated into English. Findings: Seven reoccurring themes emerged: (1) bereavement, (2) widowhood rites, (3) emotional loneliness, (4) violation of property rights, (5) confrontation with in-laws, (6) financial strain, and (7) sources of support. Discussion: Our findings suggest that more global attention is needed to understand the challenges faced by aging widows in African societies.

## HEALTH BEHAVIORS AND TYPE 2 DIABETES DIAGNOSIS IN CHINA: A CASE-CONTROL STUDY

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Type 2 diabetes has become a major health problem in China at the beginning of last century. Western literature suggests that the involvement in unhealthy behaviors including active cigarette smoking, heavy alcohol drinking, high carbohydrate intake and being physical inactive increases the risk of type 2 diabetes. However, similar research is extremely limited among the population in China and it is unclear that evidence based on Western culture applies to a Chinese sample. Objective: to investigate the association between the involvement in unhealthy behaviors and type 2 diabetes diagnosis among middle-aged and older adults (45 and older) in China. Method: A 1:N matched case-control study design with conditional logistic regression is used to analyze the data of the Chinese Health and Nutrition Survey (1997-2009). There are 539 cases matched with 553 controls on gender and age. Results: the overall hypothesized model fit the data adequately ( $\chi^2 = 1118.87$ ,  $df = 9$ ,  $p < .01$ ). Given a specific age and gender, active cigarette smoking, high carbohydrate intake and being physically inactive are significantly associated with higher risk of type 2 diabetes diagnosis among the middle-aged and older Chinese after controlling for socioeconomic status (i.e., education and income) and the geographic area of residence. Conclusion: findings indicate that major unhealthy behaviors are significantly associated with higher risk of type 2 diabetes diagnosis among middle-aged and older adults in China. These findings are consistent with many other Western studies, which imply that the Western model might apply to the Chinese population.

## SESSION 605 (POSTER)

### WORK, RETIREMENT AND ECONOMIC WELL-BEING

#### ASSOCIATIONS BETWEEN UNEMPLOYMENT AND ACTIVE LIFE EXPECTANCY: FOUR DECADES OF PANEL SURVEY EVIDENCE

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It is well-established that job loss and unemployment affect health. Few researchers have studied their effects using a measure that combines disability and mortality. Unemployment may increase disability and mortality through increased risk exposure and risk taking, reduced

physical and emotional health, poorer diet, more stress, less use of health care, and reduced self-efficacy. We used employment data from 36 waves (43 years, 1968-2011) of the Panel Study of Income Dynamics (ages 55+, n=1,980, 78,595 person-years). Seven waves measured disability in activities of daily living (ADLs) (1999-2011). We estimated monthly probabilities associated with unemployment of death and disability in ADLs, with multinomial logistic Markov models adjusted for age, sex, ethnicity, education, diabetes and heart disease, and self-reports of fair or poor health during childhood (birth through age 16). The exposure variable indicated individuals in the top 90th percentile of average annual unemployed days, 9 weeks or more. Bootstrapping provided confidence intervals. A random effect accounted for repeated measures. Microsimulation created large populations to identify outcomes. Among White women those with high unemployment lived 1.96 fewer years from age 65 than others (95% Confidence Interval 1.87-2.04) and had 10.0% more years with disability (CI 8.0-12.1). For African American men, results were 1.41 fewer years (1.25-1.56) and 12.2% (9.17-15.14). For White men: 1.83 (1.80-1.85) and 6.87% (6.74-6.99). For African American women: 1.57 (1.40-1.74) and 8.9% (7.3-10.5). Findings can help policymakers, federal agencies, and insurers prepare for changes in disability and mortality that may result from continuing high long-term unemployment.

### ARE SPOUSAL WORK HOURS RELATED TO LIFE SATISFACTION IN OLDER DUAL-EARNER COUPLES?

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Objective Difficulties managing time pressure from work and family may affect each partner's well-being. Studies have focused on younger dual-earner couples where childcare contributes to time pressure. However, work time is likely also important for midlife and older couples (e.g., going back to school or taking care of children and elder parents) which can affect life satisfaction and well-being. This study examines whether asymmetries in spouses' work time among midlife and older dual-earner couples are related to life satisfaction. Methods Data are from a subsample of the 2006 Health and Retirement Study (N = 263 couples; mean age = 59.4, range = 51-84). Actor-Partner Interdependence Models were estimated to examine the effects of the individual's and the partner's work hours on each partner's life satisfaction. Models controlled for age, gender, education, and health. Results Analysis indicated that individual work hours were not associated with individual life satisfaction after controlling for covariates. However, having a partner who worked more hours was associated with lower individual life satisfaction. Further analysis examines differences in these associations when both partners work full-time and when one partner works less than full-time. Conclusion It is important to examine work characteristics of both spouses in order to develop better understanding of factors that affect older dual-earner couples' well-being. Stresses experienced by older workers can be exacerbated by issues in managing time pressure between spouses. Findings suggest that older dual earners need to adapt to changing work contexts and organizations also need to adapt to aging couples' contexts.

### EXPLAINING GEOGRAPHIC VARIATION IN ECONOMIC INSECURITY IN LATER LIFE

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Considerable geographic variation in both Social Security benefits and living expenses occurs in the United States. Nationally the average Social Security benefit is not sufficient to cover living expenses for older adults aged 65 and over, and the gap between typical benefit and cost of living is variable across communities. The purpose of this study was to examine factors that explain geographic variation across counties in rates of economic insecurity, using spatial data analysis. The

rate of economic insecurity is conceptualized as the ratio of the typical Social Security benefit to the average cost of living, measured using benefit data from the 2011 Social Security Administration and cost of living estimates from the Elder Economic Security Standard Index™. Results from a spatial error model revealed spatial clusters and spatial correlation in economic insecurity. Aggregate features of the county, including demographic characteristics, housing market features, health care climate, and socioeconomic features, were significantly related to the rate of economic insecurity. Our results demonstrate that the typical Social Security benefit brings elders closer to economic security in some geographic locations than in others. These results suggest geographic variability in the extent to which elders must depend on additional sources of retirement income, such as pensions or wages, if they are to make ends meet.

### STUDY ON GLOBAL AGEING AND ADULT HEALTH (SAGE): ASSOCIATIONS BETWEEN INCOME ADEQUACY AND WELL-BEING

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Recent studies have clarified the inter-relationship between income, health, and well-being. A positive correlation is typically observed between greater perceived income adequacy and subjective health and quality of life (QOL); however, these relationships remain poorly tested in older individuals from lower income countries. To address this issue, data were drawn from the World Health Organization's Study on global AGEing and adult health (SAGE), a study of nationally-representative samples of older adults (>50 years old) in six countries (China, Ghana, India, Mexico, Russian Federation, and South Africa). Self-reported income adequacy (n=18,385), health status (n=20,861), and QOL (n=20,818) were obtained. Linear regressions were used to examine the association between these variables, while controlling for age, sex, education, and marital status. Health (p < 0.001) and QOL (p < 0.001) improved linearly as income adequacy scores increased. Similarly, QOL improved linearly as health increased (p < 0.001). Women in all countries except Ghana and South Africa demonstrated significantly lower health scores compared to men (p < 0.001). Older adults in China, South Africa, and Russia reported significantly higher income adequacy ratings than their 18-49 year old counterparts (p < 0.01); however, the opposite pattern was observed in Ghana and India (p < 0.01). Further, income adequacy ratings continued to increase linearly in individuals aged 60 and older compared to those aged 50-59 in all countries except Ghana and South Africa (p < 0.05). Therefore, income adequacy, health, and QOL clearly influence one another, with age and sex differentially impacting these associations by country.

### OPPORTUNITIES AND CHALLENGES IN WORK-LIFE EXTENSION: PERSPECTIVES OF MANAGERS IN NEW ZEALAND AND THE UNITED STATES

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Purpose: This study explored the ways in which managers negotiate the benefits and challenges of employing older workers, and thus influence the opportunities available to them. Method: Twenty interviews with managers of for-profit (8) and non-profit (12) agencies in New Zealand (10) and in the US (10) were conducted, transcribed verbatim and analysed independently for themes by two trained coders. Questions pertained to benefits of employing older workers, barriers to hiring and retaining them, and ways an individual and their organization can overcome these barriers. Results: Managers' perceptions of older workers map onto a high stability-low change matrix. Older workers were perceived as settled, reliable, manageable, able to work well with others, prepared to 'go with the flow', able to draw on considerable life and

technical experience in crisis situations. Yet, they were also perceived to have ‘closed down’, to not be seeking advancement, challenge, or change, and while their considerable experience enabled them to solve problems, it was always with historical knowledge. To overcome barriers to retaining older workers, managers’ provided training/information that enabled older workers to function well, assessed their needs and retirement goals, planned strategically for a diverse workforce, and showed appreciation for older workers. They expected older workers to keep an open mind, to continue to learn, and to value themselves. Conclusion: In an environment where managers consider “change is good; resisting change is bad” and plateauing is not an option, such perceptions highlight significant opportunities and challenges for the development of older workers.

### **LONGITUDINAL RELATIONSHIPS BETWEEN DEPRESSIVE SYMPTOMS AND JOB SATISFACTION IN MID-LIFE**

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Lifespan psychology emphasizes that development includes stability and change. Regarding depressive symptoms, recent research has found an increase in mid-life. Furthermore, there is evidence that middle aged adults show lowered job satisfaction as compared to younger employees. Concerning directions of influence Siegrist’s effort-reward-imbalance model assumes that decreased job satisfaction affects increases in depression, but so far longitudinal studies are scarce. The present study analyzed longitudinal relationships between depression and job satisfaction based on data coming from the Interdisciplinary Longitudinal Study of Adult Development and hypothesized that the risk of lowered job satisfaction on increased depression might be stronger than the inverse direction. As part of this study, 381 participants born 1950-52 (T1:M(age) 43.8 years, SD 0.9) were followed from their early forties up to their mid-fifties with follow-ups 4 and 12 years after T1. Latent Change Score Models revealed that whereas lower job satisfaction at T1 was associated with an increase of depression between T1/T2, job satisfaction at T2 did not influence change of depression in the subsequent years up to T3. Seen inversely, higher depression at T1 was marginally significantly related to a decrease of job satisfaction between T1/T2, whereas depression at T2 did not play a role regarding change in job satisfaction between T2/T3. These results might suggest that in contrast to early mid-life where job-related goals are common and job satisfaction is significantly related to depression, mental health in later life may be much more independent of job satisfaction and instead be shaped by other factors.

### **LINKING WORK-STRESS TO LEVEL AND CHANGE IN WELL-BEING, PERCEIVED CONTROL, AND HEALTH IN MIDLIFE AND OLD AGE**

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Much research has focused on linking work stress to cognitive functioning and onset of disease. Relatively little is known, however, about the relationship between work stress and other facets of healthy aging, such as well-being, psychosocial functioning, and self-perceptions of health. Our study investigates whether work stress is associated with levels of and rates of change in perceived control (constraints and mastery), depressive symptoms, functional limitations, and self-rated health. We used data from 2,768 working, middle aged adults (Mage = 61.03, SD = 8.37; 54%women) who participated in the Health and Retirement Study from 2006 to 2012. Our results show higher levels of work stress was associated with 4-year increase in perceived constraints and 4-year declines in mastery beliefs, while controlling for socio-demographics and depressive symptoms. Multilevel modeling analyses focused on linking work-stress to level and rates of change in depressive symptoms, functional limitations, and self-rated health. Results

indicated that more work-stress was associated with higher levels of depressive symptoms and functional limitations and lower self-rated health, but not associated with change over time. Our results suggest work stress is a key factor associated with well-being, psychosocial functioning, and self-perceptions of health in midlife and old age. Our discussion focuses on mechanisms that could underlie the link between work stress and psychosocial functioning, well-being, and health and how stressful work environments influence individuals both during one’s time of employment, as well as into old age.

### **EXAMINATION OF SUPERVISOR AGE IN PERCEIVED ETHICAL BEHAVIOR IN QUID PRO QUO HARASSMENT SCENARIOS**

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Bureau of Labor Statistics (2008) reported a 101% increase in workers over age 65 between 1977-2007. Men increased workforce participation by 75% and women by 147%. Building a functional and supportive intergenerational community within the workplace can be jeopardized by situations that promote or overlook quid pro quo harassment. Quid pro quo harassment is the most common form of sexual harassment in which job benefits are contingent on sexual favors by an authority figure with decision making power. Very little is known about the role of age and quid pro quo harassment within the workplace. This study implemented an experimental, between subjects study design 2 (Gender: male-female) x 3 (Age: 23-45-65) to investigate the role of age and gender on participant perceptions of the ethical supervisor behavior and likelihood to help an employee in vignettes representing quid pro quo harassment. Only age and gender were manipulated across vignette conditions. Data collection is ongoing. Preliminary analyses on 56 undergraduate college student participants (75% female) indicated age differences in perceived ethical behavior by supervisor ( $F(2, 53) = 3.54, p = .04$ ). Specifically, participants perceived the ethical behaviors (e.g., behaviors were just, moral, fair, acceptable) of 45-year old supervisors ( $M=1.40, SD=0.58$ ) as more unethical compared to the 25-year-old ( $M=1.83, SD=0.52$ ) and 45-year-old conditions ( $M=1.88, SD=0.71$ ). The study has not yet yielded significant findings for gender and willingness to help. Complete study findings will be presented. Future implications for understanding the role of age in sexual harassment within the workplace will be addressed.

### **REASONS FOR OLDER WORKERS’ ANTICIPATED JOB PERFORMANCE CHANGES**

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As our workforce becomes increasingly more reliant on older individuals, it is important to understand the nature of older workers’ changes in productivity over time. The current study sought to determine older workers’ expectations for their future job performance as well as the reasons they believed their performance would change. A sample of 246 older workers (Mage = 59.7, SD = 6.14; age range = 50-78) completed an online survey regarding their anticipated work performance changes and the reasons for these changes. Older workers who predicted their performance would decrease ( $n = 48; 19.5%$ ) gave reasons such as being close to retirement (45.8%) and age-related changes in functioning (e.g., decreased physical health; 45.8%). Older workers who predicted their performance would remain the same ( $n = 84; 34.1%$ ) gave reasons such as being hardworking and skilled at one’s job (35.7%), being close to retirement (16.7%), and not anticipating change in job responsibilities (14.3%). Older workers who predicted their performance would increase ( $n = 114; 46.3%$ ) gave reasons such as learning new skills (24.6%), increasing work experience (21.1%), and having more job responsibilities (19.3%). Thus, it seems many older workers who believed their performance would decline were planning on leaving the workforce, while those who believed they would maintain or increase their performance were talented and sought job

growth. These results challenge the common misconception that older workers are less valuable than their younger counterparts in terms of productivity, skills, and desire for career advancement.

#### **GRANDPARENTING, EMPLOYMENT STATUS, AND PERCEIVED NEEDS AMONG OLDER PROTESTANTS**

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A majority of older Americans identify themselves as Protestant Christians (Pew Forum on Religion & Public Life, 2008). Using data from the Family Needs Survey administered by FamilyLife (N = 8,625), this study examines how identified needs of older Protestants vary depending on grandparenting and employment statuses. The nonrandom sample is from 157 Protestant churches diverse in denominations, location, geography, and size. From 31 topics for which participants indicated whether they needed help, we selected 15 topics relevant for older adults to explore whether grandparenting or employment status predicted this issue as an identified need. We conducted a series of two-way ANOVAs with each need as the dependent variable and grandparenting status and employment status as independent variables. Grandparenting status (yes/no) and employment status (retired/employed full time) were coded as dichotomous variables. To avoid Type 2 error in this exploratory study, we set the significance level at  $\alpha = .10$ . For three of the needs, there was a significant main effect for employment status (Managing finances,  $p = .080$ ; Growing in relationship with God,  $p = .010$ ; Adjusting to changes,  $p < .001$ ). For two needs, there was a significant main effect for grandparenting status (Managing finances,  $p = .460$ ; Family communication,  $p = .059$ ). There was a significant interaction effect for seven analyses (Managing finances,  $p = .010$ ; Managing time,  $p = .029$ ; Wholesome entertainment,  $p = .001$ ; Rekindling romance,  $p = .059$ ; Strengthening marriage,  $p = .005$ ; Relating to inlaws,  $p = .085$ ; Family communication,  $p = .006$ ).

#### **INCOME AND HEALTH IN OLDER WOMEN WITH CHRONIC ILLNESSES**

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Older women have high rates of chronic illness, lower incomes, and higher health care expenditures than other groups. Recent economic downturns and limitations to health care systems present challenges for older people with health concerns and limited financial resources. Despite social and health policies for older adults, health disparities persist. In this study, we examine the first wave of data from 138 community-dwelling older women living with chronic illnesses and the relationship between measures of income adequacy and health (e.g., chronic illnesses (Charlson, 1987), self-assessed health, physical health (SF-12; Ware, 1996) and depressive symptoms (CES-D; Radloff, 1977). The average monthly income for the sample fell in the \$2001-\$3000 range ( $M=2.6$ ,  $SD=1.5$ ). Fifty-six percent of the sample reported that they were unable to make ends meet or just managed to get by with their income. Additionally, the women reported an average of nearly four ( $M = 3.84$ ,  $SD = 2.1$ ) chronic conditions, including arthritis (79%), hypertension (72%), lung disease (33%), and diabetes (31%). Ninety-nine percent of the sample had some medical insurance. Independent Sample T-tests indicate statistically significant differences in the health measures between women who rated their incomes as inadequate ( $n=78$ ) and those with adequate incomes ( $n=60$ ). Women with inadequate incomes reported more chronic illnesses, worse self-assessed and physical health, and more depressive symptoms. These findings suggest that despite health care coverage, income inadequacy is associated with worse mental and physical health. Implications for addressing the health

care needs of economically challenged older women with chronic illness are discussed.

#### **THE INFLUENCE OF AGE-RELATED STEREOTYPES ON OLDER ADULTS' WILLINGNESS TO REPORT SUSPECTED ELDER FINANCIAL ABUSE (EFA)**

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Cases of elder abuse are on the rise with the most common form being financial victimization. The present study used vignette methodology to determine under what circumstances older adults would report EFA and how reporting behavior is influenced by age-related self-perceptions and attitudes about aging. A total of 105 older adults, ranging in age from 53 to 90 years ( $M = 72.07$ ,  $SD = 7.89$ ) read a hypothetical vignette depicting possible EFA and were instructed to imagine themselves as the older adult in the vignette. The vignette was held constant across three conditions of alleged offender type: a close family member; a distant family member; and a new friend. Participants rated the likelihood they would report the incident using a 4-point Likert scale (e.g., 1=Definitely Would Not Tell; 4=Definitely Would Tell). Participants completed the 18-item Image of Aging Scale (Levy, Kasl, & Gill, 2004) assessing positive and negative age stereotypes, and the 5-item Attitudes toward Own Aging subscale (Lawton, 1975; 2003) assessing self-perceptions of one's aging process. Participants indicated that they "Probably Would Tell" ( $M = 3.34$ ;  $SD = .82$ ). A one-way ANOVA explored the likelihood of reporting as a function of offender type. The mean likelihood ratings were highest for the distant family member and lowest for the new friend but not significantly different. Correlational analyses supported the predicted associations between Image of Aging negative age-stereotypes and reporting likelihood (Pearson's  $r = -.29$ ,  $p = .003$ ) and positive age-stereotypes and reporting likelihood (Pearson's  $r = .20$ ,  $p = .04$ ).

#### **DEPRESSION AND HOUSEHOLD WEALTH AMONG OLDER HISPANIC AMERICANS**

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Previous studies have examined the association of household wealth and mental health status in older adults. Yet, racial and ethnic factors related to wealth and emotional well-being are often overlooked. The U.S. Hispanic population is growing rapidly, but information on wealth and emotional outcomes are lacking. In this study, we seek to address this gap and the association between household wealth and depression among older Hispanic older adults. Using the Health and Retirement Study (HRS) 2010 data, the analytic sample ( $N=829$ ) contains older Hispanic adults age 65 or older. The level of depression was measured by CES-D8 scale and divided by two binary groups (0: 0 to 3 and 1: 4 to 8). Household wealth status was measured using total net worth including secondary housing. The mean age was 73.95 years (65 – 99 range). 58% of the sample was female, 53% were married, and the average number of years of education was 8.75. Logistic regression analyses identified demographic and socioeconomic status was associated with depression. Specifically: years of education (OR 0.95) and chronic conditions (OR 1.46), (respectively,  $p < .05$ , Pseudo  $R^2=0.12$ ). Results highlight the impact of household wealth on depression symptoms is especially pronounced for respondents having chronic conditions. Having more chronic conditions, less wealth, less education was associated with higher risk of depression. This research demonstrates the importance of social determinants of mental health. Future health-care providers or community program managers should be alerted to the risks for depression symptoms among Hispanic Americans with chronic conditions.

## GETTING IN THE DOOR: A CASE STUDY OF UNEMPLOYMENT CHALLENGES

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The devaluation of older workers and the negative stigmas associated with aging have left many older persons unable to re-enter the job market. According to Encel and Studencki (2004), when older workers lose their jobs, their chances of finding another job are extraordinarily low, and for people who lose their jobs in their 50s, they may never find full-time employment again. The purpose of the pilot project was: 1) to examine how older minorities (55 and over) perceive their access to employment opportunities and 2) to determine what factors these older persons believe impact their access to employment opportunities. The theory of intersectionality formed the framework for the research project; however this qualitative study, through the interview process, also sought to increase understanding about the impact of unemployment on older adults. The findings from this preliminary research along with the review of literature found that older applicants felt that they were treated unfairly and differently than their younger counterparts and that many employers had negative preconceived notions about older workers. The findings suggest that more education and awareness is needed for potential employers so that they can be aware of age discriminatory practices. In summary, there is a need to reexamine the hiring practices of employers due to the number of baby boomers who will potentially try to re-enter the workforce. By helping to shape potential employers' attitudes and perceptions of older workers through a strength-based interview process, we will hopefully create a more equitable selection process.

## SESSION 610 (POSTER)

### HEALTH CARE AND SELF CARE

#### ACCESS TO HEALTH CARE: TRAVEL DISTANCE OF OLDER ADULTS USING MTA BUS NETWORK

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Transportation barriers to primary health care providers are one of the major health concerns of older adults. However, few studies have investigated the degree to which this population was influenced by the spatial relationships between transportation and access to care. The purpose of this study was to examine the relative contribution of distance and time to access to primary health care providers in Flint, MI. The Speak to Your Health Community Survey 2009 and the Mass Transit Authority (MTA) bus routes were used to estimate distance and time between the residents' nearest bus stops and their health care providers on ArcGIS 10.1. Logistic regression analysis on SAS 9.2 was utilized to examine the relationship of the health care use to race, gender, distance and time. Of the 217 participants, a large percentage were Caucasian (52%) or African American (48%) women (73%) with low education levels (52%  $\leq$  high school or GED), married or committed relationship (39%) and retired (78%). Their mean age was 74.14 (SD=7.02). The results indicated that distance and time were positively associated with seeing a health professional to get any kinds of health care in the past 12 month. Race and gender did not relate to the use of health care. No interaction effects of race, gender, distance, and time existed. Identification of possible neighborhood factors of the travel distance and time on the MTA bus use to access to health care will be important. Transportation barriers to care may encompass demographic and distance parameters.

## CONNECTING THE DOTS: CURRENT AND FUTURE HEALTH CARE NEEDS OF BABY BOOMERS

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Health care coverage is an issue for baby boomers. In 2006, one-fifth of older workers and their spouses (7 million Americans) were uninsured at some point after turning 50 (The Commonwealth Fund, 2006). More recently, three in ten adults, ages 40 and over, had not considered their physical or mental health care needs as they approached retirement (Center for Public Affairs Research, 2013). We surveyed 395 participants aged 55-70 in a metropolitan area about their health care needs. Fifty-nine percent had employer or private insurance, 20% had Medicare, 4% had VA benefits, and 2% had Medicaid. Fifty-seven percent had mental health coverage and 8% had used mental health services. Seventy percent could afford co-pays, 60% could afford premiums, and 55% could afford deductibles. When anticipating post-retirement needs, 55% worried about overall health care affordability. Specifically, 22% worried about covering hospitalizations, 21% worried about covering medications and dental care, and 18% worried about covering vision care and primary care. To meet long-term care needs, 38% would use savings, 34% would rely on government programs, 26% did not know how they would meet long-term care needs, 22% would use long-term care insurance, 20% would rely on home equity, and 12% would rely on family. Forty-one percent planned to continue working past retirement age to pay for health insurance. Findings highlight the compounded worries that boomers have about health and long-term care costs as they move into retirement and reinforce the need for health care systems and policies that better serve older adults.

## CHARACTERISTICS AND EXPENDITURES FOR OLDER ADULTS WITH EARLY HOSPITAL READMISSION FOR A PSYCHIATRIC DISORDER

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Introduction: Early hospital readmission (within 30 days of discharge from an initial hospitalization) is considered an indicator of poor quality inpatient treatment. This study examined risk factors and expenditures for early readmission for inpatient psychiatric treatment among older adult Medicaid-enrolled Floridians. Methods: We used eight years of Florida Medicaid enrollment and claims data for (FY 2003-11) as well as data obtained from the Florida Center for Health Information and Policy Analysis, Inpatient Hospital Database, to identify episodes of hospitalization for all Medicaid-enrolled older adults. There were a total of 23,618 inpatient psychiatric hospital episodes for 13,682 older adults currently enrolled in Florida Medicaid for at least 180 days prior to and following the episode. We estimated the relative risk of early rehospitalization using Cox proportional hazards regression in SAS procedure PHREG. Results: Participants were 73.9  $\pm$  7.4 years old; 61.8% female and 47.9% white. Of the 23,618 index hospitalizations for psychiatric treatment, about one in four resulted in the person being rehospitalized for their psychiatric disorder within 30 days. Male gender and alcohol abuse disorder emerged as the strongest predictors of risk of early readmission. The risk associated with psychotic disorder and bipolar disorder was double the risk for major depression. Being White and having two or more medical conditions also increased risk. Medicaid expenditures for early rehospitalization were substantial at \$175,336,986. Conclusion: Attention to gender and alcohol abuse disorder may help in efforts to reduce early rehospitalizations.

## PHYSICIAN KNOWLEDGE ABOUT CAREGIVING

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Informal caregivers are central in the care of older adults and will play a far greater role as the population ages. Among health care professionals, specifically within schools of medicine, training programs

do not allot a large portion of time to geriatrics. Before designing and implementing training and curriculum material it is necessary to first assess current knowledge. Sixty-six physicians, half male, half female, participated in an online survey assessing existing knowledge about informal caregivers, referrals, resources, training, experience, and current practices with caregivers. Direct care was the major source of knowledge with nearly half receiving their knowledge from continuing education programs. Respondents indicated that they had not had formal training, but would be likely to pass on knowledge about resources once trained. Age was negatively correlated with passing on resources. More information was needed about planning and resources (including information on family and health care coordination, health records, hospice, legal/financial planning, living arrangements, resources, and respite care). Additional information was needed about physical and mental health care of care-recipient (behavioral management of symptoms, dental care and the disease process); about the care recipient's care (elder abuse, hygiene, medication, nutrition/meals, safety); and information about caregiver health (stress/burnout, caregiver health). Finances/resources was the topic practitioners were least clear about. Most were knowledgeable about what caregivers do, but there was an expressed desire for more information. The findings indicate that there is a lack of formal educational training and most of knowledge about informal caregivers comes from direct work with older adults.

#### **DEVELOPMENT OF THE IN-HOME MEDICATION MANAGEMENT PERFORMANCE EVALUATION: A VALIDITY STUDY**

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**Background:** The ability to live independently in the community is dependent on medication adherence. Non-adherence to medication routines can result in serious, preventable health consequences. A performance-based medication management tool is needed to evaluate older adults in the home who may be at-risk for non-adherence and to determine appropriate levels of support for continued community independence. In-home structured assessments are ideal for the older adult population to uncover barriers to medication management that would otherwise go undetected by standard clinical examinations. **Purpose:** This study aimed to assess initial psychometric properties of a 30-minute performance-based instrument conducted in the homes of older adults: the In-Home Medication Management Performance Evaluation. **Methods:** Content validity of the instrument was determined through the multi-step Content Validity Index (CVI) process. Content experts and older adults provided qualitative and quantitative judgment of the instrument's ability to measure medication management. The outcomes of the CVI process informed instrument revisions. A standardized protocol for instrument administration was developed. **Results:** Content experts (n=7) were in agreement that the overall instrument was valid for measuring medication management (CVI = 1.0). A total of 6 items were deleted due to CVI scores of <0.80 indicating low agreement. Minor edits were made to order of questions and language usage. Older adult participants (n=5) reported that the instrument was relevant, acceptable, and easy to understand. **Implications:** The In-Home Medication Management Performance Evaluation appears to be a relevant and valid method to assess performance barriers to medication adherence in the home of older adults.

#### **FICTIVE KIN AND STAFFING ROLES IN INSTITUTIONAL BEREAVEMENT**

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Within long-term care (LTC) settings, intimate and caring relationships develop between residents and staff. At some point, these rela-

tionships must come to an end, most commonly when the resident dies. Research focuses on the family ideology and importance of such relationships; however, little research has explored the role of this relationship in grief and bereavement in LTC facilities (Dodson & Zinzavage, 2007). This study presents findings from open-ended interviews that were conducted with 10 administrators of LTC facilities. Administrators provided information related to community housing and environment, relationships between residents and staff, resident deaths, procedures for dealing with loss, and grief/bereavement services. Qualitative methods, such as thematic analysis, were used to analyze the interview data. Emergent themes suggest that LTC facilities are given freedom in how to provide support for staff members, family members, and other residents after the death of a loved one. However, results show variations in number of deaths in each facility, notification of a resident's death, inclusion of direct care staff (nurses, STNAs) in caring for the deceased, providing memorial services, and offering grief/bereavement support. When speaking of the loss of a resident and ways to provide grief/bereavement support, only three of the ten administrators discussed the importance of extending such services to the staff. Interviews suggest that although administrators currently have services for family, residents, and/or staff after a resident has died, there are several differences among facilities and ways in which the organizations could vastly improve grief/bereavement services for both residents and staff

#### **ASSOCIATION BETWEEN HEALTH BELIEFS AND UTILIZATION OF ARTHRITIS SELF-MANAGEMENT PROGRAM AMONG BLACKS AND WHITES WITH OSTEOARTHRITIS**

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Numerous evidenced-based behavioral programs for arthritis are offered at the state, county, and community level. However, utilization of such programs is astonishingly low; only about 1% of individuals with arthritis participated in the Arthritis Self-Management Program (ASMP). Therefore, identifying reasons for low utilization is imperative. The purpose of this study is to examine the relationship between arthritis beliefs (e.g., perceived susceptibility, perceived severity of the condition) and barriers to participation in the group and home version of the ASMP among individuals with Osteoarthritis (OA). Participants were Black (n=60) and White (n=55) older adults (age 50-94). Survey questions were used to assess beliefs about perceived susceptibility and perceived severity of the condition as well as organizational and sociocultural barriers to participation in arthritis interventions. Results from a hierarchical regression model showed perceived susceptibility was significantly associated with organizational barriers to participation in the traditional ASMP ( $\beta=.22, p=.03$ ) as well as sociocultural barriers ( $\beta=-.26, p=.02$ ) to participation in the home-based ASMP for the total sample. No significant indicators of arthritis beliefs were found when examined by race group. These findings suggest the need to further augment our understanding of how identified health beliefs may encourage or discourage individuals from participating in evidenced-based behavioral health interventions for arthritis. This study begins to account for the myriad of social, cultural, and behavioral indicators influencing willingness to participate in health promotion programs designed to achieve optimal disease and symptom relief.

## FINDING THE BED EMPTY: EXPERIENCES OF CERTIFIED NURSING ASSISTANTS IN THE CONTEXT OF RESIDENT DEATH

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This study explored the experiences of certified nursing assistants (CNAs) around transitions related to resident death. Participants were 140 CNAs who had lost a patient in their care within the last two months. Data collection involved comprehensive semi-structured in-person interviews. Specifically, we assessed how CNAs perceived the nursing home's handling of a) removing the deceased's resident's body, b) filling the bed, and c) notifying the staff of the death. Results indicate that negative evaluations of these three aspects were prevalent among the CNAs. CNAs' feelings about bed filling (i.e., bed being filled too quickly) were primarily negative, whereas evaluations of body removal and staff notification varied more in terms of valence. A follow-up analysis of staff notification pathways for CNAs who were not on site when the resident died showed that those who reported learning out about the death by walking into the room and finding the bed empty or filled with a new resident, were significantly more likely to report a negative experience. Arriving at work and being notified by a nurse triggered more neutral or positive responses, whereas being notified by a fellow CNA triggered more neutral or negative responses. In contrast, CNAs were significantly more likely to report a positive experience when they were notified by telephone before coming to work, either by a fellow CNA or a family member. Findings have important implications for handling of transitions around death in the nursing home, suggesting benefits of a more mindful approach to staff notification after resident death.

## EVALUATING DEMENTIA CARE IN ASSISTED LIVING USING AN EVIDENCE-BASED ASSESSMENT GUIDE

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There have been dramatic increases in the proportion of assisted living (AL) residents who are experiencing cognitive decline. People with dementia have become a large segment of the AL population. This pattern is not expected to abate; dementia care will remain a central component of AL in many states. Caring for people with dementia presents unique challenges to the social model of AL and can complicate the personal care responsibilities of the nursing aides. As such, AL organizations need to evaluate and improve current dementia care practices. This poster presents a comprehensive assessment tool, which is based on the social model of AL and person-centered dementia care ideals that can be used to evaluate and improve dementia care within AL. A multi-step procedure was used to develop this assessment guide: 1) systematic literature review of current dementia care assessments relevant in the AL context; 2) compiling and reconciling germane items; 3) pilot testing of the assessment guide in 28 AL communities; 4) evaluation of the effectiveness of each item in the guide. This tool was used to systematically guide an observer of AL dementia care environments and facilitate the comparison of current, observed care practices in the observed AL communities to the best practices established in the scientific literature. This tool contains the following sections: care practices; physical and social environment; organizational leadership; culture; and staff members' perspectives of dementia. This poster will explain the components of the guide, its limitations, and its potential use in practice and research.

## QUALITY IMPROVEMENT INTERVENTIONS IN LONG-TERM CARE FACILITIES: A REVIEW OF INTERVENTIONAL STUDIES

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Purpose: To identify what type of interventions has been used in long-term care facilities to improve the quality of their care, given the rapid population aging in many countries. Methods: A systematic search was performed in PubMed. Interventional studies written in English and published within 10 years prior to July 2013 were included. Data were extracted using a table containing fields for study objectives, design, subjects, setting, sample size, interventions, outcomes, and findings by three independent researchers. Results of data synthesis: The initial PubMed search identified 1695 articles. Eighty-six studies met our inclusion criteria. The intervention contents were categorized into 7 types (education, consultation, systematic practice, reminder, feedback, institutional incentives, and personal incentives). "Education" was most frequently used (n=61), followed by "systematic practice" (n=55) and "consultation" (n=45). In many studies, the quality improvement projects consisted of all the three intervention types or two of them. The combination of the intervention types was dependent on outcome domains. For fall prevention, all the three intervention were used; while for pain management and pressure ulcer reduction, a combination of education and systematic practice was used. Conclusions: For the care outcomes involving complicated factors, such as falls, consultations and discussions with all the related personnel appeared to be important. However, for the outcomes for which a systematic care protocol/guideline was available, such as pressure ulcers, consultations may not be priority. Scrutinizing the best combination of interventions for a specific care outcome may lead the interventions to be more effective and sustainable.

## MULTILATERAL PREDICTORS OF THE USE OF PHYSICAL RESTRAINTS AMONG KOREAN OLDER ADULTS WITH DEMENTIA

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Although the use of physical restraints for older adults with dementia is prevalent in Korean geriatric care settings, few studies have identified the multilateral factors affected to the use of physical restraints considering individual and facilities characteristics. The purpose of the study was to determine multilateral factors to use physical restraints while caring for older adults with dementia in Korean geriatric care facilities. In 2011, the Nationwide Survey on Dementia Care of Korea collected demographic and clinical inpatient data from two types of geriatric care facilities including 58 long-term care hospitals and 185 nursing homes. Binary logistic regression analysis was performed to identify persons to whom physical restraints were used. This study included 2,873 adults aged 60 or more who had 19 or lower scores of mini-mental state examination (MMSE). Individual factors included (1) demographic factors (age and gender); (2) clinical factors (MMSE scores, wandering based on revised Algase Wandering scale, self-reported dizziness, falling based on Morse Fall scale, and frequency of bathroom use); and (3) type of geriatric care facilities. Individual clinical factors and facility type were major predictors to identify the physical restraints use group. Korean older adults with dementia were likely to have physical restraints when they had more cognitive impairment (Odds Ratio [OR] = .907, p < .01) and higher risk of fall incidence (OR = 2.292, p < .01). Unexpectedly, older adults experiencing lower levels of wandering (OR = .324, p < .01) and dizziness (OR = .732, p < .05) were likely to receive physical restraints application. Older adults with dementia in the nursing homes were 59% lower than those in the long-term care hospitals in

receiving physical restraints ( $OR = .416, p < .01$ ). Both patients' clinical symptoms and facility characteristics should be considered in developing physical restraints protocols. It is required to develop distinct facility regulations for improving patient safety regarding applying physical restraints care for Korean older adults with dementia.

#### **THE MEDIATING EFFECT OF GERIATRIC CAREGIVING SELF-EFFICACY ON THE RELATIONSHIP BETWEEN ATTITUDE TOWARD DEMENTIA AND JOB SATISFACTION AMONG DIRECT CAREHELPERS IN GERIATRIC CARE FACILITIES**

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Although there are many studies on attitudes toward dementia and job satisfaction of carehelpers, few studies have identified the relationships between caregiving self-efficacy and job satisfaction of carehelpers in the geriatric care facilities. The purpose of the study was to explore the mediating effect of caregiving self-efficacy on the relationship between attitude toward dementia and job satisfaction among direct carehelpers caring for older adults with dementia in geriatric care facilities. This study used secondary data obtained from '2011 Nationwide Survey on Dementia Care of Korea (NaSDECK)'. The total sample in this study was 595 direct carehelpers in the 192 geriatric care facilities. Instruments were Inventory of Geriatric Nursing Self-Efficacy Scale, Dementia Attitude Scale, and Job Satisfaction Scale. The data were analyzed using multiple regressions proposed by Baron and Kenny (1986). First, Attitude toward dementia had a significant direct effect on job satisfaction ( $\beta = -.161, p < .01$ ). For the next step, attitude toward dementia was correlated with caregiving self-efficacy ( $\beta = .405, p < .01$ ). In the third step, caregiving self-efficacy completely mediated the relationship between attitude toward dementia and job satisfaction ( $\beta = -.079, p > .01$ ). Results of a series of multiple regression analyses indicated the indirect effect of the attitude toward dementia on the job satisfaction through caregiving self-efficacy. The findings have implications that these relationships can guide health professionals to develop intervention strategies to strengthen caregiving self-efficacy of direct carehelpers caring older adults with dementia in the geriatric care facilities.

#### **PERCEPTIONS OF NURSING HOME RESIDENTS BY STAFF AND STUDENTS**

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Depression is extremely prevalent in skilled nursing facilities (SNFs), affecting as many as 44% of residents. Improving recognition and treatment of depression is crucial in improving quality of life, but depression remains underrecognized and undertreated in SNFs. Certified nursing assistants (CNAs), in particular, receive little mental health training; hence, they may fail to recognize depression and/or confuse it with cognitive impairment or other disorders. This study used vignettes to evaluate the ability of 87 CNAs and 153 college undergraduates (all women) to recognize depression in hypothetical SNF residents. Undergraduates were used as the comparison group based on similarity to CNAs in current education (high school) and mental health training (little to none). A 2x2x3 ANOVA found that, controlling demographics, CNAs were more likely than students to identify depression in cognitively impaired and intact residents, regardless of actual depressive symptomatology. Additionally, students differentiated between major and minor depression better than CNAs. CNAs were also more likely to attribute dementia to residents, regardless of evidence of cognitive decline. Thus, CNAs overestimate presence of depression in both cognitively impaired and intact residents but are more likely to miss depression in cognitively impaired residents, focusing instead on cognitive

symptoms. CNAs are more likely to attribute depression to dementia in cognitively intact residents as well. These findings document continuing gaps in CNAs' ability to recognize and, hence, accurately report symptoms of depression and dementia among their residents, and the strong need for mental health training for CNAs working in nursing homes.

#### **COPING WITH CLIENT DEATH: HOW PREPARED ARE HOME HEALTH AIDES AND WHAT CHARACTERIZES PREPAREDNESS?**

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One of the fastest growing professions and highest in demand is home care. Home health aides (HHAs) increasingly play an important role in long-term care provided to elders in the community. Although they provide the day-to-day care and often develop close ties with their clients, little attention has been paid to HHAs' experiences around clients' end-of-life (EOL) and death. This study explored the experiences of 80 HHAs who had lost a client in their care within the last two months. Data collection involved comprehensive semi-structured in-person interviews. Quantitative and qualitative data were examined to better understand to what extent HHAs were prepared for this client death and to identify the staff, client, and context characteristics associated with preparedness for death. Results indicated that over 40% of HHAs felt completely unprepared for the death of their client, both emotionally and in terms of information they had about the client's condition. Characteristics significantly associated with greater preparedness included experiencing the client as in pain and aware of dying, being informed about the client's EOL care plans and reporting similar prior experiences with client death. Several personal views on EOL care of HHAs were also associated with preparedness. Whereas the preference not to be told bad news was associated with less preparedness, favoring alternative medicine was associated with greater preparedness. Findings suggest that HHAs' preparedness for client death could be enhanced both by addressing their personal views on EOL care and by providing more information about the client's status and EOL care plans.

#### **EMOTION REGULATION AND BURNOUT IN DIRECT CARE NURSING HOME STAFF**

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Burnout, consisting of emotional, physical, and cognitive exhaustion, has been identified as a substantial problem for nursing home staff (Toker et al., 2012). Burnout may also be characterized by depersonalization and feelings of ineffectiveness resulting from intense, daily interactions with clients (Maslach, 2003; Morse et al., 2012). There has been little research examining emotion regulation strategies associated with burnout in direct care staff (Pitfield, Shahriyarmalki, & Lingston, 2011). The present study surveyed 42 certified nursing assistants (38 female, M age = 35.02, SD = 12.11) at four skilled nursing facilities in the Appalachian region of the United States. Variables of interest included disability/health, job satisfaction, the Maslach Burnout Inventory (MBI; Mind Garden Inc., 2011), and the Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski & Kraaij, 2007). Emotional exhaustion was moderately correlated with the emotion regulation strategies of resignation ( $r = .36$ ) and rumination ( $r = .32$ ). Using a linear multiple regression with all CERQ subscales, positive reappraisal accounted for a significant portion of emotional exhaustion,  $B = -2.78, SE = 1.18, p = .031$ . Depersonalization was also moderately correlated with positive reappraisal ( $r = -.42$ ). In addition, dysfunctional coping (as measured by the Brief COPE; Carber, Scheier, & Weintraub, 1989) was associated with emotional exhaustion,  $B = 1.24, SE = .26, p < .001$ , whereas emotion- and problem-focused coping were not. In sum, the strategies



of avoiding dysfunctional coping and using positive reappraisal show potential usefulness for reducing burnout in direct care staff.

### **TRANSITIONING FROM A TRADITIONAL NURSING HOME ENVIRONMENT TO GREEN HOUSE®: WHAT ARE STAKEHOLDER OUTCOMES?**

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This poster presents a qualitative research study examining stakeholders' adjustment to Green House®. Green House® is an example of culture change with a focus on providing person-centered care in a homelike environment. Virginia Mennonite Retirement Community (VMRC) located in Harrisonburg, Virginia is the first retirement community in Virginia to build Green House® homes. Thirty residents and forty staff members transitioned to one of three Green House® homes beginning January, 2013. Pre-move focus groups were held in December, 2012 and consisted of 12 residents, 1 family member, and 5 staff members. The first post-move group consisted of 9 residents, 3 family members, and 16 staff members. The second post-move group consisted of 10 residents, 6 family members, and 12 staff members. Following the focus group, tape recordings were transcribed, entered into Atlas ti, coded, and themes were identified. Using grounded theory and the constant comparative method of analysis, themes emerged. Pre-move focus group themes revealed that residents, family, and staff members were concerned about quality of care in a system using fewer staff members. Post-move focus group themes revealed that at the time that staffing levels remained a concern. Residents' quality outcomes included improved appetite, socializing, and ambulation. Family members reported that their loved ones adjusted relatively easily to the Green House®. While staff members struggled with autonomous work teams, most preferred this model to that of a traditional nursing home.

### **ASSESSING THE EFFICACY OF A SHORT AGING SIMULATION WORKSHOP AMONG NURSES AND NURSE ASSISTANTS**

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Previous studies have identified an inverse relationship between education and ageism among healthcare employees. However, the amount and type of education needed to quell ageism across various educational levels of nursing has been understudied. This study sought to identify changes in ageism following a forty-five minute aging simulation workshop for new employees at the Department of Veterans Affairs in Georgia. The Kogan's Attitudes toward Old People (KOP) scale was administered immediately before and after the workshop in a sample of 183, mostly female (87%) nurses and nurse assistants (Mean age= 42.5, range= 21-70). A statistically significant increase in positive attitudes was observed among Advanced Practice Nurses (APN) (N=11) and Registered Nurses (RN) (N=109) following the workshop. The Kolmogorov-Smirnov test assured normality; therefore parametric tests were used to assess between group differences. There were no significant differences at pre-test between APN's (M=175.6, SD=19.5), RN's (M=167.4, SD=17.4), and Nurse Assistants (NA's) (M=166.9, SD=18.8). At post-test, Post-hoc comparisons using Tukey's test revealed a tiered increase in positive attitudes with APN's (M=197.4, SD=20.4) having significantly higher scores compared to RN's (M=172.4, SD=16.5) and NA's (M=158.5, SD= 21.1) and RN's having significantly higher scores compared to NA's. Results suggest that level of education is related to the efficacy of a brief aging simulation workshop in increasing positive attitudes towards older people. These findings might call for more intensive training for NA's as compared to APN's and RN's.

### **PEARLS FOR OLDER ADULTS WITH MAJOR AND MINOR DEPRESSION**

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This study examines the effectiveness of an in-home behavioral treatment for late-life depression. The PEARLS model (the Program to Encourage Active, Rewarding Lives for Seniors) involves Problem Solving Therapy, Behavioral Activation, plus collaborative depression care management by a multidisciplinary team. However, PEARLS has only been validated for treating minor depression in older adults. We examined its effectiveness for 26 older adults with either minor or major depression who received social work care management in the Rochester area. We collected PHQ-9 scores at the baseline PEARLS session and the subsequent treatment sessions, allowing us to examine treatment response, as well as completion rates. Treatment completion was significantly associated with outcome: those who completed at least 4 sessions had significantly greater reductions in PHQ-9 over the course of treatment (average drop for completers = 8.22, sd 7.59) vs. non-completers (1.88, std 3.72). Depression severity at baseline (as measured by the Hamilton Rating Scale for Depression) was not associated with degree of treatment response. Further, neither Minor or Major Depression diagnoses at baseline was associated with degree of treatment response. Our data suggest that PEARLS may be an effective treatment for the range of depressive symptoms in later life, not just those with milder presentations.

### **CHARACTERISTICS ASSOCIATED WITH SYMPTOM IMPROVEMENT AMONG OLDER ADULTS IN PSYCHOTHERAPY**

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Religiosity, education, and age have each been studied as factors associated with mental health symptoms. For example, several studies have found religion to be protective against recurrence of depression (e.g. Gallup et al., 2011). Additionally, individuals with less education were shown to be twice as likely to experience late-life depression as those with at least a high school degree (Ladin, 2008). The present analyses examined patient characteristics associated with treatment response as part of a longitudinal study conducted within a VA Geriatric Mental Health Clinic. We anticipated that demographic factors would be associated with changes in depressive and anxiety symptoms over the course of treatment. Self-report measures of depression (GDS) and anxiety (GAI) were collected at baseline and approximately three months later in a sample of 30 older adults (Mean Age = 76.47). Two linear regressions were conducted with residualized Time 2 GDS and GAI scores as dependent variables and age, religiosity, and education (< 13 years, 13+ years) as predictors. Demographic characteristics accounted for approximately 35% of the variance in changes in depressive and anxiety symptoms. Individuals with higher education were more likely to report reduced depression scores (B = -.46, p = .03). Age (B = .34, p = .09) and religiosity (B = -.36, p = .07) were marginally significant predictors. Age was the only significant predictor for anxiety symptoms, with increasing age associated with decreased likelihood of anxiety symptom improvement (B = .51, p = .02). Results and implications are discussed in relation to previous research.

## EVALUATING THE COGNITIVE FUNCTION OF JAPANESE YOUNG-, OLD-, AND OLDEST-OLD USING MOCA-J : THE RESULTS OF SONIC STUDY

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The aim of this study is to examine the characteristic of MoCA-J and rate of MCI when applied to community-dwelling elderly, and the effect of age, sex, education and residential area. The subjects were 1,000 elderly of 70±1-years-old, 973 elderly of 80±1, and 272 elderly of 90±1. Female was 1,186 (52.8%). Residential area were Eastern (Kanto) or Western area (Kansai) in Japan (respectively, 1,132 and 1,113 elderly), and urban or rural (respectively, 1,277 and 968). We evaluated the cognitive function by the MoCA-J, and collected other variables using both an interview and a mail survey. Mean score was 22.1±4.04. Median and mode was 23. Skewness was -0.77 and kurtosis was 1.17. Percentage of subjects below cut-of points (25/26) amounted to 79.1%. We compared the mean score by ANOVA for three age groups. In result, score was lower as age increased. Then, we compared by two-way ANOVA for age and each relevant variables, sex difference was not significant, while the effect of years of education, region (Kanto / Kansai), and city size (urban / rural) was significant. MoCA-J might be overestimated the number of MCI elderly, but it is a superior assessment tool to evaluate cognitive function of community-dwelling elderly than screening tests for dementia used in previous studies, because distribution of score is close to normal distribution. We confirmed the effect of age and education, similar to previous studies of cognitive function. The significance of region and city size was questionable statistically, because the effect size was small.

## LONGITUDINAL MEDIATION OF GRIP STRENGTH ON WEIGHT-RELATED CHANGES IN COGNITION : RESULTS FROM ACTIVE

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The increasing prevalence of obesity in older adults has a profound impact on mobility disability, the most common form of disability in community samples of older adults. The purpose of the current study is to examine the extent to which grip strength, a proxy for mobility disability, mediates BMI-related changes in cognition. We used 10-year longitudinal data from the Advanced Cognitive Training for Independent and Vital Elderly study (ACTIVE; N=2,802), a randomized, controlled-trial of behavioral training interventions for memory, inductive reasoning, and processing speed. Hand grip strength, measured with the Jamar hand dynamometer, is associated with lower body strength and predicts mobility disability. We estimated parallel process latent growth curve models of BMI at baseline and cognitive performance mediated by grip strength. At baseline, participants were on average 74 years of age and 39% were overweight (BMI 25-29.9km/m<sup>2</sup>), 21% obese (BMI 30-34.9km/m<sup>2</sup>), and 13% Class I obese (BMI≥35km/m<sup>2</sup>). Findings suggest that both grip strength at baseline ( $\beta=0.02$ ;  $p=.01$ ) and change in grip strength over time ( $\beta=-0.06$ ;  $p=.05$ ) mediated the association between baseline BMI and memory performance. For reasoning and speed performance, only the grip strength intercept ( $\beta=0.01$ ;  $p=.01$ ;  $\beta=-0.01$ ;  $p=.03$ , respectively) mediated the association between baseline BMI and cognitive performance. For all cognitive outcomes, higher BMI was associated with steeper declines in grip strength over time ( $p<.01$ ). Although some evidence suggests a higher BMI is protective against dementia and cognitive decline in older adults, current findings suggest that a higher BMI may increase the risk of mobility disability.

## SELF-REPORTED SLEEP IS ASSOCIATED WITH RISK-EVALUATION IN OLDER ADULTS

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As the population ages, older adults often face the challenge of making fast-paced decisions in the face of cognitive decline (Moye & Marson, 2007). Recent studies have associated risky decision making with both sleep (Killgore, 2007) and age (Rolison, Hanoch, & Wood, 2012). Previous work has also established that sleep has a profound effect on learning and memory (Walker & Stickgold, 2004). In the present study, we examined the relationship between risky decision-making and sleep in both young and older adults using the Balloon Analog Risk Taking Task (BART; Lejuez et al., 2002), and self-reported measures of sleep. In the BART, risky behavior is assessed by the average number of successful balloon pumps a participant makes on each block. We correlated this measure with the self-reported amount of sleep each participant had the night before. Results indicated a positive correlation between sleep and risky behavior for older, but not younger adults. Importantly, this correlation was significant in late but not early blocks, suggesting that it increased with experience on the task. These findings are consistent with studies showing age differences in the effect of learning on risk-taking (Rolison, Hanoch, & Wood, 2012), and imply that the relationship between sleep and risky decision-making in older adults may be explained by sleep's effect on learning.

## SOCIAL ISOLATION FOLLOWING ORAL-DIGESTIVE CANCER PREDICTS DEPRESSIVE SYMPTOMS

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Cancer survivorship is on the rise due to improvements in the detection and treatment of cancer, and a large proportion of survivors are older adults. Numerous physical and psychosocial complications that can arise from cancer and its treatment may affect emotional wellbeing, with as many as one in four survivors reporting major depression in the first year after treatment. Reduced social support is one factor that may place survivors at risk for depression, but more research is needed to understand the nature of this relationship. The purpose of this analysis was to examine the association between social support and depressive symptoms in a longitudinal study of 120 survivors of oral-digestive cancer (mean age = 65.54, SD = 9.11, range = 41-88). There was no significant difference between depressive symptoms at 12 and 18-months post cancer diagnosis. Cross-sectionally, survivor reports of feeling isolated from others ( $B = .23$ ,  $p < .05$ ) and strain in relationships as a result of coping with cancer ( $B = .37$ ,  $p < .001$ ) were both associated with depressive symptoms at 12-months post diagnosis. Feelings of isolation at 12-months post diagnosis ( $B = .22$ ,  $p < .05$ ) were also associated with depressive symptoms at 18-months post diagnosis in longitudinal regression analysis, even after controlling for depressive symptoms at 12 months. Interestingly, age was not associated with depressive symptoms in these multivariate analyses. Implications for social isolation serving as a risk factor for depression following cancer are discussed.

## HYPPOCHONDRIASIS PREDICTS DEPRESSION AND PAIN IN INDIVIDUALS WITH OSTEOARTHRITIS

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Previous research indicates that hypochondriasis is a significant predictor of arthritis pain, even when considering arthritis severity and life stress. The goal of this study was to examine the relationships among

hypochondriasis, pain, and depression in community-dwelling older adults diagnosed with osteoarthritis (OA) of the knee. The data used for this study were part of a larger study regarding the experience of osteoarthritis in older adults. A baseline assessment was conducted, with a follow-up (Time 2) interview one year later. One hundred ninety-one participants completed the assessments, which included questions regarding OA pain (modified PGC Pain Scale), a checklist of other health problems, and depression (CESD). Separate regression analyses predicting OA pain and depression at Time 2 were conducted with gender, education, race, number of health conditions, and hypochondriasis as predictors. Baseline OA pain and depression were entered as control variables to examine change over the one-year interval. Both baseline OA pain ( $\beta = 0.21, p = .005$ ) and hypochondriasis ( $\beta = 0.18, p = .02$ ) served as significant predictors of change in OA pain from baseline to follow-up. Similarly, both baseline depression ( $\beta = 0.61, p = .000$ ) and hypochondriasis ( $\beta = 0.15, p = .01$ ) were significant predictors of Time 2 depression net of baseline depression. Based on these results, hypochondriasis may be considered a relevant predictor of OA pain and depression after one year. This effect was significant even when the number of health conditions was controlled, which indicates that level of hypochondriasis or health anxiety may have important clinical implications. Supported by R01MH51800.

#### **INTERNAL HEALTH LOCUS OF CONTROL PREDICTS PAIN AND INSOMNIA IN OLDER ADULTS WITH OSTEOARTHRITIS**

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Extensive research has been conducted into the relationship between health locus of control and various outcome measures, including pain and depression. The goal of this study was to examine the relationship between internal locus of control (ILOC), pain, and insomnia in older adults. The data used in this analysis were collected as part of a larger study regarding the experience of osteoarthritis in community-dwelling older adults. A baseline assessment was conducted with a follow-up interview (Wave 2) conducted one year later. ILOC was assessed at baseline, while pain and insomnia were assessed at Wave 2. Two hundred ninety-one participants completed the assessment, which included questions about OA pain and sleep. Pain was divided into two categories: general pain and OA pain. Sleep difficulty was also divided into three categories: initial, middle, and terminal insomnia. Five regression analyses were conducted with gender, education, and number of health conditions in block 1. Internal LOC scores were entered in block 2. Wave 2 general pain, OA pain, initial insomnia, or middle insomnia was entered as outcome variables in separate analyses. ILOC significantly predicted general pain ( $\beta = -.017, p = .014$ ), OA pain ( $\beta = -.131, p = .003$ ), initial insomnia ( $\beta = -.131, p = .017$ ), and middle insomnia ( $\beta = -.118, p = .037$ ). ILOC was not a significant predictor of terminal insomnia ( $\beta = -.082, p = .168$ ). These results have significant clinical implications in that internal health LOC may be used to identify individuals at greater risk for pain and insomnia. Supported by R01MH51800.

#### **CHRONIC CONDITIONS ARE ASSOCIATED WITH LOWER CIRCULATING LEVELS OF DHEA-S: BUFFERING BY SOCIAL SUPPORT**

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Older adults are increasingly burdened by multiple chronic medical conditions (MCC) – more than 60% of US adults over age 65 have two or more conditions. Not only does MCC represent a challenge for disease management, but it may constitute an ongoing stressor for the patient. We examine circulating levels of two hormones linked to chronic stress – cortisol and DHEA-S – in the context of MCC, hypothesizing that greater disease burden will be associated with higher levels of cortisol and lower levels of DHEA-S. Further, we examine the extent to which emotional support from family members moderates the links between MCC and the two hormones. Data are from the second wave of the Survey of Mid-Life in the United States (MIDUS), a nationally representative study of middle-aged and older adults. Information on MCC and social support was from self-administered questionnaires. Cortisol and DHEA-S were measured in saliva and blood, respectively. Results showed that after controlling for demographic characteristics, number of chronic conditions was associated with lower levels of DHEA-S ( $p < .05$ ) but was unrelated to cortisol ( $p = .32$ ). Support from family was not directly associated with either hormone. However, support buffered the negative relationship between MCC and DHEA-S, such that DHEA-S was significantly higher in respondents with MCC if they also had high levels of support compared to those lacking such support ( $p < .05$ ). These results suggest: (1) a link between disease burden and a marker of biological health; and (2) that social support may buffer the adverse associations between MCC and DHEA-S.

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### **SESSION 615 (POSTER)**

#### **PHYSICAL ACTIVITY AND FUNCTIONING**

##### **SIMULTANEOUS VALIDATION OF FIVE COMMERCIALY-AVAILABLE ACTIVITY MONITORS IN OLDER ADULTS WITH VARIED AMBULATORY ABILITIES**

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The accuracy of step detection in commercially-available activity monitors is not known in older adults. We assessed the validity of two hip- (Omron HJ-112, Fitbit One) and three wrist-worn (Jawbone UP, Fitbit Flex, Nike Fuelband) activity monitors in older adults of varying ambulatory abilities. Adults were categorized as non-impaired (Short Physical Performance Battery Score [SPPB] score  $>8$ ), impaired (SPPB  $\leq 8$ ), cane, or walker user. Seventy-seven adults (65-93 years, 75.3% female) ambulated at a self-selected pace on a 100 meter level course wearing all activity monitors simultaneously. Steps were directly observed via video playback. Intraclass correlation coefficients (ICC) and absolute percent error were used to assess accuracy. Non-impaired adults steps were underestimated by 4.4% for Omron HJ-112 (ICC=0.72), 2.5% for Fitbit One (ICC=0.80), 2.8% for Jawbone UP (ICC=0.55), 26.9% for Fitbit Flex (ICC=0.15), and 20% for Nike Fuelband (ICC=0.28). Impaired adults steps were underestimated by 3.2% for Omron HJ-112 (ICC=0.88), 1.7% for Fitbit One (ICC=0.96), 8.2% for Jawbone UP (ICC=0.50), 16.3% for Fitbit Flex (ICC=0.34), and 41.6% for Nike Fuelband (ICC=0.03). Cane and walker users steps were underestimated by  $>16%$  (ICC's  $<0.02$ ) by all monitors. Both hip-worn (Omron HJ-112, Fitbit One) and the wrist-worn Jawbone UP appeared accurate at measuring steps in non-impaired and impaired ambulatory older adults during a self-paced walking test. No activity monitors were valid in cane and walker users. Future research should examine the accuracy of these activity monitors during other ambulatory and non-ambulatory activities; at estimating distance and energy expenditure; and under continuous, free-living conditions.

##### **INFLUENCE OF LATIN DANCE ON MOBILITY AMONG OLDER LATINOS**

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Disparities exist between Latinos and non-Latino whites in physical function, putting Latinos at increased risk for mobility disability. Physical activity (PA) can protect against mobility disability, however,

older Latinos are not physically active at recommended levels. Dance is a culturally appropriate form of PA for older Latinos that physically challenges individuals. This pilot randomized controlled trial (RCT) tested the impact of the BAILAMOS© dance program on mobility in older Latinos. Participants were randomly assigned to a 4-month, twice-weekly dance program or to a health education control group. Participants (N=56) were low active, older [M(SD) age= 64.9 (5.9)], Spanish-speaking Latinos [81.8% female, 81.8% Mexican, years in US= 31.2 (16.8), years of education = 7.0 (4.3)]. Participants engaged in a 400 meter walk test “at their usual pace” pre- and post-program. A repeated measures ANOVA revealed a main effect for time  $F(9.25) = p < .05$  for the 400 meter walk test. Dance participants completed the walk in 429.9(66.28) seconds at baseline and 391.83 (58.8) seconds at post-testing. Health education participants completed the walk in 419.25 (93.78) seconds at baseline and 409.10 (74.30) seconds at post-testing. Results indicate that both groups improved; however, dance participants improved by 38.07 seconds, whereas health education improved by 10.15 seconds. It is possible that participation in regular dancing can improve physical function. Finding innovative ways to improve and maintain physical function is important in order for older Latinos to maintain independence and prevent disability. Funded by the Alzheimer’s Association (NIRGD-11-205469) and NIH/NIA (P30AG022849).

#### PERSONAL AND ENVIRONMENTAL CORRELATES OF PHYSICAL ACTIVITY IN CHINA’S OLDER ADULTS

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**Objective:** Socio-ecological models emphasize that environmental factors play a role in shaping older adults’ moderate to vigorous physical activity (MVPA). However, little research validates this relationship in China. This study aims to explore the associations of individual and environmental factors with MVPA among Chinese older adults. **Methods:** We used the 2011 China Health and Retirement Longitudinal Survey, a national representative sample of respondents over age 45. MVPA was a binary variable (met guideline or not), using the WHO’s recommendations for physical activity. We conducted a multilevel logistic regression using HLM 6.08 to examine if individual factors and environmental/infrastructure factors at the community level affected the MVPA of older adults. **Findings:** Results showed that at the individual level, single compared to married people and women were less likely to meet MVPA recommendations. Levels of physical mobility and self-rated health were positively associated with MVPA. Health behaviors, such as smoking and drinking, were not associated with MVPA. Interestingly, self-rated standard of living and health before age 15 were negatively associated with MVPA. At the community level, people who lived in plain rather than mountainous areas as well as lived in environments with better infrastructure, such as roads, were more likely to meet activity guidelines. Accessibility to public transportation and shopping were negatively related to MVPA. There was no association between access to sport facility, temperature, and MVPA. **Conclusions:** Strengthening the infrastructure of communities and introducing MVPA programs in accordance with various local conditions may enhance physical activity levels of older Chinese people.

#### FACTORS ASSOCIATED WITH PHYSICAL ACTIVITY AMONG AFRICAN AMERICAN WITH HEART DISEASE

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Physical activity among older adults is very important in the maintenance of independence, prevention of disease and quality of life. Physical activity is recommended for many adults with heart disease. Examples of moderate activity include gardening, cleaning the car, walking at a moderate pace, dancing, and floor or stretching exercises. Racial and cultural factors may be related to physical activity. This study explores factors associated with physical activity among African American with heart disease. This cross sectional study analyzed data from the Health and Retirement Study (2010 wave). Inclusion criteria for the study were: age 65 or older, Black race and heart disease. The sample included (N=377), the mean age was 76 years (65-101 range) and 33 % were male and 37% were married. The average number of years of education was 11.32 (SD 3.26). Bivariate analysis showed a positive association between physical activity and education (0.09), self-rated health (0.22), obesity (0.11) and living near friend(0.10), volunteering (0.12) helping others (0.14) and negative association between age (0.21), income (0.14), never drinking (0.11) and moderate drinking (0.11)  $p < .05$ . An association was observed indicating older African American with heart disease who were physically active had more education, better health, were not obese, lived near friends and volunteered. Not being moderately physically active was associated with being older, lower income and drinking variables in older African Americans with heart disease. Interventions to help these less physically active improve are needed and can be tailored to overcome variables identified in this study.

#### DESCRIBING VERY OLD ADULTS WITH VERY HIGH PHYSICAL ACTIVITY LEVELS: FINDINGS FROM THE HEALTH AND RETIREMENT STUDY

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The very old is one of the fastest growing segments in the older population. Research on this group tends to focus on frailty and decline. However this study examines those who are optimally aging by frequently engaging in vigorous physical activities. In this cross-sectional study using 2010 HRS data, the analytic sample (N=1,052) included adults 85 years or older. The mean age was 88.58 years (85-101 range) and 18.3% reported participating in vigorous activities on a daily or weekly basis. 62% of the sample was female, 85.1% were white, 61.2% were widowed, and the average level of education was 12.2 years. 49% of the sample fell within the normal weight range, had 3 diagnosed chronic conditions, and 62% reported having felt rested after a full night’s sleep. Consistent engagement in physical activity was positively correlated with males, being married and volunteering and was negatively correlated reporting self-rated fair/poor health and ADLs/IADLs. Based upon the logistic regression, respondents with fair/poor self-rated health were less likely to perform physical activities compared to those who reported good self-rated health (OR=.51). Also, respondents who have more chronic conditions or ADLs/IADLs were less likely to participate in physical activities (OR=.84, OR=.75, OR=.73, respectively). Those who reported living near a relative were more likely to participate in physical activities compared to otherwise (OR=1.73). This research illustrates the heterogeneity of the very old and highlights factors associated with exceptional physical aging. Characteristics of optimal aging is explained for others to utilize and maximize their aging potential.

## DOSE-RESPONSE EFFECTS OF EXERCISE ON EMOTION REGULATION AMONG YOUNGER, MIDDLE-AGED, AND OLDER ADULTS

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National recommendations (CDC, 2011; NIH, 2012) advise adults to engage in 20 minutes of vigorous exercise three times per week or 30 - 40 minutes of moderate intensity exercise five times per week. Dose-response effects of physical exercise on physical health for adults ages 18 to 64 years and adults aged 65+ have been reported, with more minutes of activity being associated with more physical health benefits. We tested whether this dose-response effect would be evident for emotion regulation among a large and age diverse sample. Five hundred younger (YA, M age = 26.6), middle-aged (MA, M age = 48.8) and older (OA, M age = 64.1) adults completed self-report surveys of health behaviors. Activity was summarized into a categorical variable representing those who did not meet the minimum exercise advice (44.6%), those who met minimum standards (26.9%), and those who exceeded minimum standards (28.5%). We conducted a series of Age (3) by Activity (3) ANOVAs on a variety of emotion regulation outcomes. Main effects for age emerged for Negative Affect (YA > MA & OA), rewarding Interpersonal Relationships (OA > YA), and effective Stress Management (OA > YA & MA). Dose-response effects of physical activity were observed for Positive Affect, Interpersonal Relationships, and Stress Management. No Age by Activity interactions emerged. Results are discussed in terms of the psychological benefits of physical activity across the life span.

## WHICH SOCIAL INFLUENCE PROCESSES AFFECT PHYSICAL ACTIVITY INTENTIONS AND BEHAVIOR IN LATER LIFE?

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Maintaining a physically active lifestyle is critical to the prevention of a variety of serious health conditions prevalent in older adulthood. Growing evidence suggests that social networks (e.g., family, friends, neighbors, co-workers) are among the most important psychosocial factors that affect physical activity. Especially needed, however, is research that moves beyond the examination of general measures of social networks or social support in order to focus more precisely on the specific types of social influence processes most likely to encourage and discourage physical activity during later life. Using structural equation modeling, we investigated the effects of four types of social influence processes (physical-activity related emotional support, positive social control strategies, negative social control strategies, and physical-activity related informational exchange) on behavioral intentions and physical activity (CHAMPS; Stewart et al., 1997) in a sample of older adults (N = 217). Although each social influence process was separately related to the outcomes, only physical activity-related emotional support ( $b = .347, p < .001$ ) and negative social control strategies ( $b = -.191, p < .01$ ) showed significant independent associations with intentions to engage in physical activity. Results also indicated significant indirect effects for emotional support and negative control on energy expenditure as mediated by intentions ( $b = .094, p < .05$  and  $b = -.052, p < .05$ , respectively). The findings suggest that targeting some areas of social influence, such as promoting emotional support and reducing negative social control attempts from network members, may be the most effective strategies for encouraging physical activity in older life.

## PREVALENCE OF ENGAGEMENT IN MOVEMENT THERAPY FOR HEALTH PROMOTION IN A NATIONAL U.S. SAMPLE

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An important objective of public health is the identification of lifestyle activities that enhance wellbeing across the life course. Exercise/movement therapies, such as yoga, tai chi and Pilates, have been growing in popularity as a path to better mental and physical health. The objectives of the present analyses were to examine the prevalence of engagement in exercise/movement therapies to prevent/treat illness or maintain health at two time periods approximately a decade apart, potential age variation in the prevalence of engagement, and the mental and physical health correlates of exercise/movement therapy engagement. Participants were from the wave II (2004-2006) and Refresher (2013-2014) cohorts of the National Study of Midlife in the U.S. (MIDUS). Analyses were restricted to those age 34 to 64 years in each sample (wave II  $n = 3,691$ ; Refresher  $n = 1,550$ ) to maximize comparability across cohorts. The prevalence of engagement was 15.2% in 2004-2006 and 25.6% in 2013-2014. Age was not related to likelihood of engagement in exercise/movement therapy in either cohort. Those engaging in exercise/movement therapy had higher levels of self-rated physical health in age-adjusted analyses (both cohorts: engagers  $M = 3.8$  vs. non-engagers  $M = 3.6, p's < .05$ ) but no significant differences in self-rated mental health. Findings indicate a greater level of engagement in exercise/movement therapy in the more recent MIDUS cohort, irrespective of age, suggesting increasing societal engagement in exercise/movement therapy as a health promotion tool. The more favorable self-rated health among engagers points to the health-promoting potential of this lifestyle activity.

## INCREASING PHYSICAL ACTIVITY AMONG OLDER LATINO ADULTS

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Physical activity is a form of disease prevention that can improve cognitive and physical health. Currently, the recommendations are 150 minutes per week of physical activity. Recent research shows that on average, Latino men and women participate in recreational physical activity for only 12.7 and 10.2 minutes, respectively, per day. A pilot randomized controlled trial (RCT) tested the impact of the BAILAMOS® dance program on lifestyle physical activity. Participants were randomly assigned to a 4-month, twice-weekly dance program or to a health education control group. Participants ( $N=57$ ) were low active, older [ $M$  (SD) age= 64.9 (5.9)], Spanish-speaking Latinos [81.8% female, 81.8% Mexican, years in US= 31.2 (16.8), years of education = 7.0 (4.3)]. Participants completed the CHAMPS physical activity questionnaire pre- and post-program. There was a main effect for time in minutes of light, moderate, and vigorous leisure physical activity (LMVLPA) per week  $F(5,2)= (p<.05)$ . The dance group reported 650.6 (472.5) minutes of LMVLPA at baseline and reported 817.8 (529.4) minutes of LMVLPA at post testing. The health education group reported 522.8 (368.6) minutes of LMVLPA at baseline and reported 628.9 (387.5) minutes of LMVLPA at post testing. The dance group increased the amount of time of LMVLPA by 345.2 minutes compared to the health education group which improved by 106.1 minutes. Participation in a dance program that is culturally tailored may increase physical activity in multiple domains. Strategies to increase physical activity may directly impact the health of older Latinos. Funded by the Alzheimer's Association (NIRGD-11-205469) and NIH/NIA (P30AG022849).

## LONG-TERM EFFECTS OF A COMBINATION OF SPACED RETRIEVAL WITH MONTESSORI-BASED ACTIVITIES IN REDUCING OVEREATING BEHAVIORS AMONG DEMENTED RESIDENTS WITH HYPERPHAGIA

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**Aims.** The aims of this study were to compare the long-term effects of both training programs in reducing overeating behaviors for demented residents with hyperphagia. **Methods.** One hundred thirty-five demented residents with overeating behavior were chosen from six dementia special care units and randomly assigned into an Experimental I (EI) group, an Experimental II (EII) and the control group. Forty-four subjects in the EI group were received spaced retrieval combined with Montessori-based activities training over 30 sessions, forty-eight subjects in the EII group were received spaced retrieval training only over 30 sessions, while 43 subjects in the control group were received routine activities. Data were collected at pre-test, post-test, and at post intervention periods of 1, 3, and 6 months. Data was analyzed and long-term effects were compared using generalized estimating equation. **Results.** Research findings revealed both EI and EII training could significantly reduce devouring the food and eating amount of residents with dementia at post-test. Moreover, EI training had long-term effects notably in improving in devouring the food and eating amount. Except for post 1 month EI training, there was no significant difference of BMI in both EI and EII training. **Conclusion.** Both training programs have effects in improving devouring the food and eating amount. In comparison with spaced retrieval only, spaced retrieval combined with Montessori-based activities training has better and long-term effects. However, it costs more in training time for caregivers. Thus, managers in institutions should decide which training they prefer based on their manpower and budget.

## PERSONALITY AND COGNITIVE, PHYSICAL, AND SOCIAL COMPONENTS OF LEISURE ACTIVITIES: FINDINGS FROM SONIC STUDY

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Previous research has shown significant associations between personality and cognitive function. We thought leisure activities mediate the relationship between these two variables. We examined whether and how Big Five personality traits are associated with cognitive, physical, and social components of leisure activities in Japanese older adults. We used a subsample of 1,936 older adults from the first wave of Septuagenarians, Octogenarians, and Nonagenarians Investigation With Centenarians (SONIC), a multi-cohort longitudinal survey project. This subsample consisted of two age cohorts, those aged 70 and those aged 80 at the time of survey. Among 76 leisure activities, SONIC participants answered which ones they engaged in on a regular basis. Quantifying cognitive and physical loads as well as social interactions required for each activity, we computed cognitive, physical, and social scores to represent how much participants managed each of the three during their leisure activities as a whole. We regressed each of the three scores separately on Big Five traits while controlling for participants' age, gender, and years of education received. A series of multiple regression analyses indicated a consistent association between Big Five traits and components of leisure activities; that is, three of the five traits, namely, openness, extraversion, and conscientiousness, were positively associated with all three (i.e., cognitive, physical, and social) scores. Another trait, neuroticism, also was associated with cognitive but not with physical or social score. Findings suggest that analyzing

each component separately may offer further insight into the association between personality and leisure activities in older adults.

## A PROPOSAL FOR AN ECOLOGICAL EVALUATION INSTRUMENT OF THE ACTIVITIES OF DAILY LIVING: RESULTS FROM THE ELDERBASK STUDY

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There is a growing need to evaluate the capacity of the older person to carry out the activities of daily living using more ecological and adapted instruments to everyday life. These activities make possible for the individual to be independent but they are also a central axis that structures his/her daily life. Being able to carry out these activities gives a sense of personal identity and allows the older person to continue with his/her vital trajectory. We are currently developing a new ecological instrument that case managers may use to assess, in a standardized way, the capacity of an older person with dementia to carry out activities of daily living including those which s/he would like to do but s/he is not able to do, assessing the meaning of the activity for the older person (e.g. independence, dignity, etc). The expected output of this project will be an ecological instrument to assess the daily activities of people with dementia. As a previous step, we have addressed which activities are relevant for the older people. 71 users (52 female, 16 male, age range: 62-92; average age=70.14) were interviewed by means of an exhaustive protocol. A daily activity relevance scale composed by 18 dichotomous items (yes/no) was administered as a part of the protocol, obtaining frequency. Most part of the activities was rated as relevant by most part of the participants, ranging 80.3-95.5%. Further instrument development will take into account the results in order to select the most relevant items.

## PICTURING RESIDENTS WITH DEMENTIA: VIEWS OF ACTIVITY DIRECTORS IN CARE COMMUNITIES

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Long-term care culture change seeks to individualize activities to match residents' abilities and interests, including the 40% with dementia. We studied activity planning for persons with dementia through in-depth semi-structured interviews with activity directors in 12 care communities with and without memory care in North Carolina. As part of our larger project, we asked participants to draw a resident with dementia and to describe their drawings. The drawings and verbatim descriptions were our study data. Three researchers coded the sketches and descriptions. Inter-rater agreement was high (.95). Most drawings depicted women. Most included details such as clothing, a handbag, a tennis racket, eyelashes, jewelry, faces, and hair. Half showed residents smiling. Many depicted action, such as waving, dancing, arms outstretched. About 20% included questions such as "Where are you?" or "Who are you?" In their verbal descriptions, most professionals emphasized, "A person with dementia looks like a person without dementia" or "I see my residents as happy and always on the go...happy because we let them be who they are." A few explained in more detail: "The arms are outstretched because the residents are always reaching for something, maybe something they can remember." "Just like they were before, but maybe a little less put together." "I drew her smiling and happy, because that's how my residents with dementia are most of the time." Most participants drew and described unique needs, abilities, and interests of individual residents. This approach elicits unscripted new information about providers' views of persons with dementia.

## THE EFFECT OF ARTHRITIS ON THE TRAJECTORIES OF PHYSICAL FUNCTION DIFFICULTY FOR OLDER ADULTS

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**Purpose:** The purpose of this study was to explore the effect of arthritis and covariates on physical function trajectories among older adults. **Methods:** The representative national data of older Taiwanese adults (TLSA) with five waves from 1993 to 2007 were analyzed (n=2288 persons). The Nagi scale was used as the measure of physical function, and group-based trajectory analysis was used for the analysis. **Results:** Four trajectory groups of physical function difficulty were identified for all the samples as follows: low (28.5%), moderate (25.2%), increasing (37.3%), and early impaired (9.1%). The incidence of arthritis, age, gender, education, self-rated health status and BMI predicted the trajectory groups, whereas economic satisfaction, social participation, comorbidity, depressive symptoms, and alcohol use affected the functional difficulty within the trajectory groups. Among those who had arthritis, four additional trajectory patterns were identified (arthritis-low, arthritis-moderate, arthritis-increasing, and arthritis-high). Age and comorbidity predicted the trajectory patterns for the arthritis patients, and the level of arthritis on daily activities affected the functional difficulty within each trajectory group. **Conclusion:** The incidence of arthritis affects the physical function trajectories for older adults. Preventing and delaying the onset of arthritis are suggested.

## THE ROLE OF PHYSICAL HEALTH AND PERSONALITY INFLUENCING LONELINESS AMONG CENTENARIANS: FINDINGS FROM THE GEORGIA CENTENARIAN STUDY

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The purpose of this study was to analyze the role that selected physical health variables (lifetime of number of hospitalizations and lifetime diseases) and personality (Extraversion and Neuroticism) played in participants of the Georgia Centenarian Study. These variables were analyzed to determine whether they predicted loneliness. Blocked regression analyses were utilized in this study. In the first block, we used age, sex, ethnicity, current marital status, and residential status. In our second and third blocks, we provided the aforementioned physical health and personality variables. Results indicated that the lifetime number of hospitalizations was a significant predictor of loneliness,  $\beta = .26$ ,  $p < .05$ . The greater the number of hospitalizations present in centenarians, the higher the level of loneliness. Moreover, Neuroticism was a significant predictor of loneliness,  $\beta = .56$ ,  $p < .01$ . The higher the Neuroticism score, the higher the loneliness score. Finally, there was a statistical trend for sex,  $\beta = -.20$ ,  $p = .05$ . In essence, being a male centenarian was a significant predictor of loneliness. These results not only add to our understanding of the link between physical health, personality, and loneliness in late life, but also provide a more complete picture of loneliness as well.

## PEAK REACTION FORCE IN A CHAIR RISING PREDICTS INCIDENT MOBILITY LIMITATION: 3-YEARS FOLLOW-UP STUDY

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The vertical ground reaction force (GRF) parameters in a chair rising are useful for measuring lower-limb muscle function in older adults. In recent years, specialized weight scale for easily evaluating those parameters has been developed. This study aimed to investigate whether low peak GRF in a chair rising predicts incident mobility limitation. We

performed analyses on 135 community-dwelling older adults, which included 68 men and 67 women, aged 65-84 years ( $72.4 \pm 5.2$  years), without mobility limitation at baseline. Each participant was asked to stand up quickly from a sitting position. The peak GRF per body weight parameter (kgf/kg) was measured. Incident mobility limitation was defined as 3 consecutive self-reports of any difficulty walking one-quarter mile, chair standing or climbing 10 steps. Participants were divided into 3 groups according to tertile of the peak GRF by gender (and then combined) and followed for 3 years. Mobility limitations were developed by 24.4% (n = 33) of participants. Cox's proportional hazards models, adjusting for age, medication use, knee pain and low back pain, showed a hazard ratio of 4.49 [95% confidence interval (CI), 0.98-20.66] for the middle and 6.90 (95% CI, 1.53-31.15) for the lowest compared to the highest tertile, respectively. These results suggest that lower peak GRF in a chair rising is associated with increased risk of mobility loss. Diffusion of weight scales with this measurement system may bring in more convenient evaluation of risk of incident of mobility limitation in a clinical setting of nursing-care prevention.

## SUPPORT/CONTROL OF EXERCISE AMONG ADULTS WITH DIABETES: THE ROLE OF NORMS FOR INVOLVEMENT IN HEALTH

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Health-related social support and control are two ways in which social network members may impact health behaviors, such as exercise, that are important for successful diabetes management. How patients with diabetes respond to such attempts, however, is likely to be influenced by norms about social network involvement in health. This study thus sought to examine the behavioral and emotional correlates of support and control directed at exercise behaviors. This study further sought to determine whether the discrepancy between norms for family and friends' involvement in patients' health vs. patients' involvement in family and friends' health moderated these associations. We examined these questions using a racially-diverse sample of middle-aged and older adults (45+) with type 2 diabetes (N=56). Patients were more likely to report that they should be involved in family and friends' health than vice versa ( $t(48)=5.02$ ,  $p<.001$ ). Results from multivariate regression analyses revealed that support was related to positive emotional (appreciation) and behavioral (adherence to a prescribed exercise regimen) responses, regardless of norm discrepancy (both  $ps<.05$ ). Social control, in contrast, was unrelated to behavioral responses, but positive social control tactics (persuasion) were related to positive emotional responses (appreciation), whereas negative social control tactics (pressure) were related to negative emotional responses (hostility, guilt) among patients with a norm discrepancy (all  $ps<.04$ ). The findings from this study highlight the importance of examining norms for social network involvement in health in efforts to understand the differential impact of support and control in promoting exercise behaviors.

## THROUGH THEIR EYES: RAISING EMPATHY THROUGH EXPERIENTIAL SIMULATION EXERCISES

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The positive impact of empathy on practitioners and service recipients is well documented (Batt-Rasden, et al., 2013; Gerdes & Segal, 2011). Simulation experiences are often used to develop and enhance empathy (Eymard, et al., 2010; Henry, et al., 2011). Simulating experiences of aging often involve "low tech" approaches (e.g., Vaseline on glasses and stones in one's shoes with the intention of simulating impairments in vision and mobility (Hadad & Hadad, 2013). The current study examines the impact of employing newly emerging experiential tools (e.g., vision goggles, empathy lung) which were designed for the purpose of more closely approximating specific health conditions (e.g., glaucoma, macular degeneration, COPD). A series of in-class experi-

ences was developed and implemented in three areas: (a) simulation of normal and pathological processes of aging; (b) health prevention activities (e.g., screenings and exercise); and (c) assistive and adaptive technology using Universal Design. For example, participants were asked to make use of vision restriction goggles to complete tasks, navigate through their surroundings and interact much as a person with a specific impairment might. Pre/post surveys (N= 162) were gathered from undergraduate and graduate gerontology students regarding the impact of these hands on classroom activities. Additionally, a similar series of activities were completed with 75 staff members (including CNA's, Nurses, Social Workers and Recreational Therapists) at a local residential care facility. In both, student and staff participants reported the simulation activities to be instrumental in enhancing their understanding of the challenges older adults may face.

#### PROFILES OF LANGUAGE PERFORMANCE IN AGING

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Language changes in aging show decreases in lexical retrieval and sentence processing abilities. Little is known, however, about whether these changes jointly produce distinct profiles of language decrements. This study was designed to characterize profiles of language performance in aging, evaluated by naming and sentence comprehension tasks. We used data on 294 participants from the Language in the Aging Brain project. Participants completed two picture-naming (Boston Naming Test; Action Naming Test) and two sentence comprehension tasks (sentences containing embedded clauses; sentences with multiple negative markers). Each task was scored for accuracy and latency. We conducted a latent profile analysis to identify distinct patterns of language changes in aging. Classes were then compared on demographics (age: 55-96, mean=72, SD=8; 49% female; education: 9-17, mean=15, SD=2). Five classes provided the best fit. Class 1 (8%) included "careless" language users, with performance below mean accuracy and at mean latency. Class 2 (32%) included "average" language users whose performance approximated the mean on all measures. Class 3 (25%) consisted of "careful" language users, who showed accurate but slow performance. Class 4 (19%) included "resilient" language users, with above mean accuracy and faster than mean latency. Class 5 (16%) consisted of "good" language users, with slightly above mean accuracy and slightly below mean latency. Significant differences were found among the classes in age and education, with class 4, the highest language performers, being younger and more educated. Our findings highlight the value of differentiating profiles of language performance in aging.

#### FUNCTIONAL LIMITATIONS AND DEPRESSION PREDICT HEALTH; SMOKING AND WORD RECALL PREDICT MORTALITY

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We analyzed data from 17,930 adults (aged 50-104) from the 2006, 2008, and 2010 waves of the Health and Retirement Study and 1,171 adults who died between 2006 and 2010 to compare the relative strength of predictors of self-rated health (SRH) at 3 time points and mortality. Significantly correlated predictors ( $p < .001$ ) of SRH included age, years of education, delayed word recall (DWR), depression, restful sleep, frequency of mild activities, smoking, body mass index (BMI), waist circumference, self-rated present memory, self-rated memory compared to 2 years ago, subtracting serial 7s from 100, minimum hand grip strength, maximum hand grip strength, and functional limitations. We conducted multiple linear regression analyses, eliminated redundant predictors, and selected predictors that accounted for the most outcome

variance. Education, DWR, depression, sleep, mild activities, smoking, waist circumference, and functional limitations accounted for 42% of the variance in SRH at time 1, 32% at time 2, and 29% at time 3, after controlling for age. Functional limitations was the strongest predictor at all time points, followed by depression, education, waist circumference, and DWR. A segmented time-dependent Cox regression analysis indicated that the strongest predictor of mortality was smoking, followed by DWR, sleep, age, and depression.

#### HAVE WE UNDERESTIMATED FALL RATES? USING TAILORED APPROACHES TO ASCERTAIN FALL EVENTS

S. Stark, J.C. Morris, E. Somerville, *Washington University, St. Louis, Missouri*

Although falls are a serious health risk for community dwelling older adults, their ascertainment has been complicated by issues such as recall and reporting biases. We examined a novel method, individualized tailored calendars, to accurately ascertain falls in older adults. A convenience sample of 125 cognitively normal participants enrolled in longitudinal studies of cognitively healthy aging at the Knight Alzheimer's Disease Research Center was followed prospectively for 12 months. Tailored calendar journal pages, customized to include personal dates, holiday preferences, and color choices were used to document falls daily and returned via US mail monthly. Participants received as an incentive a five dollar gift card for each month's calendar pages returned. Participants returned 1,487 of 1,500 calendar journals over the 12 month follow up for 99.1 % compliance rate. There were 154 falls reported. The reported fall rate was higher than expected for the healthy population. Tailored calendar journals and gift card incentives may be an effective method to ascertain falls among community dwelling older adults.

#### SESSION 620 (POSTER)

##### SUCCESSFUL AGING I

#### DECISION-MAKING COMPETENCE, LIFE REGRETS, AND SUBJECTIVE WELL-BEING IN MATURE ADULTS

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Mature adults not only need to be competent in making decisions every day, but then also live with the consequences of those decisions. The present study examined age differences in decision-making competence (DMC) and decision outcomes in adults ages 39 through 76. The present study also examined how decision-making competence, dispositional factors, and life regrets differentially predicted life satisfaction. Results revealed that increasing age was related to lower DMC, but higher real life decision-making outcomes (i.e. better consequences of decisions). Older adults, therefore, have demonstrated that they can make good real-life decisions despite declines in decision-related competence. Upon further investigation, life regrets was related to real-life decision-outcomes, whereas DMC was not. The results suggest that the DMC measure may only reflect the cognitive component of decision-making, but other factors are likely to be involved in real-life decision outcomes. In addition, life regrets uniquely explained variance in life satisfaction on top of decision-making competence and dispositional factors. These findings suggest that affective aspects of decision-making, as reflected by life regrets, are more predictive of actual decision outcomes and well-being than cognitive aspects.

#### RESILIENCE, SAVORING, AND PSYCHOLOGICAL WELL-BEING IN OLDER ADULTS

J. Smith, L. Hollinger-Smith, *Mather LifeWays, Evanston, Illinois*

The benefits of positive emotions extend far beyond momentary pleasant feelings. Positive emotions enhance resilience and increase



resources that people can draw upon when they encounter challenges or stressors. Guided by Fredrickson's broaden and build theory of positive emotions and Zautra's dynamic model of affect, the current study examines the relation between resilience and well-being for people with high and low abilities to regulate positive emotions (i.e., savoring). A sample of 164 (74% female) older adults living in a large metropolitan area participated in this study. Participants were recruited from a continuing care retirement community and senior cafés in the surrounding area. Participants completed a survey measuring resilience, savoring, happiness, depression, and satisfaction with life. In older adults, higher resilience and greater ability to savor positive experiences were both independently associated with greater happiness, lower depression, and more satisfaction with life (i.e., greater psychological well-being). The relation between resilience and participants' level of psychological well-being depended on their level of savoring. For people with high savoring beliefs, there was no relation between resilience and psychological well-being. In contrast, people with low savoring beliefs who had high (vs. low) resilience reported greater happiness, less depression, and more satisfaction with life. Lower savoring beliefs tend to be associated with more negative outcomes; however, high resilience appears to buffer or protect against these poor outcomes. These findings have implications for the development of positive interventions to enhance resilience in older adults.

#### **THE PROPORTIONAL POSITIVES OF PURPOSE: EXAMINING ITS LONGEVITY BENEFITS ACROSS ADULTHOOD**

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Research consistently demonstrates that purposeful individuals experience better emotional, psychological, and physical wellbeing. However, it is as yet unclear whether these benefits hold across demographic and developmental groups. Moreover, research is needed that compares purpose to other positive indicators when predicting major outcomes such as mortality risk. For instance, are the benefits of purpose reducible to simply experiencing more positive emotions or relationships with others? Using data from the MIDUS study of U. S. adults (n = 6163; mean age = 47 years), we examined whether the hazard risks associated with purposelessness differed by age or retirement status. Findings suggested that purposeful adults tend to experience longevity benefits across different age groups, as well as before and after retirement. In other words, the value of purpose appears proportional across adulthood. Furthermore, purpose remained a significant predictor of mortality risk even when controlling for known correlates, such as positive affect, negative affect, and positive relations with others. As such, the link between purpose appears robust across adulthood, and when considering multiple alternative explanations.

#### **FACTORS ASSOCIATED WITH NEGATIVE ATTITUDE TOWARD CHILDREN AMONG THE ELDERLY**

Y. Murayama, T. Takahashi, S. Murayama, T. Ninomiya, H. Suzuki, H. Yoshida, S.P. Obuchi, Y. Fujiwara, *Tokyo Metropolitan Institute of Gerontology, Kazo, Japan*

Several studies show that some elderly express the negative attitude toward children through intergenerational exchange. However, little is known about the factors associated with the negative attitude. The objective of this study was to investigate the factors associated with negative attitude toward children among the elderly. A questionnaire survey was conducted to 3,545 older adults. Finally, total of 2,657 participants were included for data analysis (mean age [SD], 72.5 [5.5] years). We used three items to measure negative attitude toward children, which was selected through interview research for elderly (Cronbach's alpha, 0.65). We examined the relationship between negative attitude toward children and variables, and conducted multiple linear regression analyses using significant factors as perceived health status, past medical his-

tory, social role and volunteer experience as the independent variable, and the negative attitude toward children as the dependent variable controlling for sociodemographic variables. The analyses were conducted separately for men and women. The results show that the social role was negatively associated with negative attitude toward children of men and women. On the other hand, volunteer experience was negatively associated with negative attitude toward children of men, and perceived health status and past medical history was negatively associated with attitude toward children of women. These results suggest that social role may be essential factors for elderly to express negative attitude toward children. Furthermore, participation in volunteer activities for elderly men and health promotion activities for elderly women may likely to reduce negative attitude toward children and promote intergenerational exchange.

#### **HOW COULD LAY PERSPECTIVES ON SUCCESSFUL AGING COMPLEMENT SCIENTIFIC THEORY? FINDINGS FROM A US AND A GERMAN LIFE-SPAN SAMPLE**

D.S. Jopp<sup>1</sup>, D. Wozniak<sup>3</sup>, A. Damarin<sup>2</sup>, M.M. De Feo<sup>1</sup>, S. Jung<sup>1</sup>, S. Jeswani<sup>1</sup>, *1. Psychology, Fordham University, Bronx, New York, 2. Georgia Perimeter College, Dunwoody, Georgia, USA Minor Outlying Islands, 3. Heidelberg University, Heidelberg, Germany*

Despite the strong interest in the concept, there is still no consensus in how to define successful aging. The present paper investigates lay perspectives of the concept of successful aging in young, middle-aged and older adults from two cultures, the USA and Germany, to potentially guide the development of scientific theories of successful aging. Two samples of young, middle-aged, and older adults from the USA (N = 151) and Germany (N = 155) were asked about definitions and determinants of successful aging. Codes were developed to capture common themes among the answers (clustering or open coding; Miles & Huberman, 1994), resulting in 16 main categories. Themes mentioned included resources (personal, social), behaviors (activities), and psychological aspects (strategies, attitudes/beliefs, well-being, meaning) with striking similarities across countries, age, and gender. Health and social resources were mentioned most frequently, followed by Activities/Interests, Virtues/Attitudes/Beliefs, Well-being and Life-management/Coping. Age differences were limited to Growth/Maturation, Respect/Success, and gender differences were limited to Social Resources and Well-being. Education and cultural background effects were limited to psychological aspects and Education/Knowledge, which were more often mentioned by US participants and individuals with more years of educations. In sum, young, middle-aged and older lay persons from the USA and Germany have quite similar concepts of successful aging and consider substantially more dimensions as important than established scientific theories. Given evidence that these factors (e.g., resources, psychological aspects) promote successful aging, considering these aspects in a more comprehensive model of successful aging may enhance our understanding of aging well.

#### **LIFE SATISFACTION AND VOLUNTEERING AMONG OLDER WHITES AND HISPANICS: FINDINGS FROM THE HRS**

B. Kim, B. Gaines, C. Somerville, E. Dugan, *UMass Boston, Boston, Massachusetts*

Volunteering has been studied for decades. However, research on the racial, ethnic and cultural factors related to volunteering is limited. The purpose of this study was to investigate the association between life satisfaction and volunteering among older Whites and Hispanics. Data from the 2010 wave of the Health and Retirement Study, Leave-Behind Questionnaire were analyzed. The sample included 5,895 respondents who aged 50 and over (White N=5,209 and Hispanic N=686). The mean age of the respondents was 66, most were women (58%), 64% were Whites and 14% Hispanics. Ordinary Least Squares regression was used to study factors related to levels of life satisfaction. There was a posi-

tive relationship between volunteering and life satisfaction, and racial/ethnic differences were found. Volunteering was significantly associated with life satisfaction among Whites ( $p < 0.01$ ,  $R^2 = 0.27$ ) but not among Hispanics ( $R^2 = 0.20$ ). Similarly, social support ( $\beta = -0.12$ ) and living alone ( $\beta = -0.19$ ) were significantly related to life satisfaction among Whites but not Hispanics. Hispanics had higher life satisfaction than Whites in general. In both groups, people who were divorced or widowed had lower life satisfaction compared to married people. Results suggest that there were racial/ethnic differences in life satisfaction among Whites and Hispanic associated with volunteer status. These findings could be used to inform current volunteers and encourage people to be involved in volunteer activities. Future research is needed to study the potential factors that may lead to racial differences among older adult volunteers in terms of mental and physical health.

#### MANAGING EVERYDAY HAPPINESS: THE RELATIONSHIP BETWEEN SELF-REGULATORY STRATEGIES AND WELL-BEING ACROSS THE LIFESPAN

S. Teshale, M. Lachman, *Psychology, Brandeis University, Waltham, Massachusetts*

A review of the findings on the U-shaped well-being curve in adulthood (Ulloa et al., 2013) suggested that well-being is related to the use of adaptive self-regulatory strategies such as selection, optimization, and compensation (SOC). Indeed, SOC and well-being are positively correlated in midlife (Freund & Baltes, 2002); and past work with older adults (Jopp & Smith, 2006) indicates SOC is beneficial for those with limited personal resources. However, SOC differences have usually been studied in terms of between-person differences; it is unclear how within-person SOC usage in midlife and older age connects to well-being from day to day. In this study we used regression models and multilevel modeling to examine the relationship between SOC usage and happiness over one week, among adults aged 22 to 94 ( $N = 122$ ). We also examined how years of education, a marker of personal resources, affected the relationship between SOC usage and well-being. As predicted, on days in which middle aged and older individuals reported more SOC behaviors than their average, they reported higher happiness. Only middle-aged adults showed a significant relationship between weekly averaged SOC and happiness. Results also showed an interaction between years of education and SOC; those with lower education showed a positive relationship between SOC and happiness. Results suggest SOC may be a useful strategy for individuals with fewer personal resources to increase day-to-day well-being, and illustrate SOC's benefits for different age groups. Future studies should examine the directionality of the relationship between daily SOC usage and well-being.

#### WHO IS YOUR ROLE MODEL OF SUCCESSFUL AGING?

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Although the concept of successful aging has received increasing consideration, little attention has been paid to how people develop ideas about successful aging. To date, no studies have examined whether people identify a specific role model of successful aging. This study examined 151 individuals aged 18 to 96 (58% female) living in New York, and asked them to identify a role model of successful aging and reasons why they were chose. The answers provided by study participants were categorized using theme-based coding (Miles & Huberman, 1994) and a coding manual including six categories was developed: Most participants mentioned role models from their family, including parents (26.5%), grandparents (23.2%), and other relatives (15.2%). Other role models included public figures (14.6%) and non-family acquaintances such as mentors or friends (14.6%). Interestingly, only a small number of participants did not indicate any role model (10.6%). While there was limited evidence for age and gender differences, younger participants (18-30 years) were more likely to mention their grandparents as

their role models than the middle-aged (31-60 years) and older participants (61 years or above). Reasons mentioned most often for choosing the models were maintaining good health (45.0%), social resources (27.8%), activities (27.2%), and quality of life (21.9%). Gender and age differences were limited to health being mentioned more often in middle-aged participants compared to other age groups. In sum, findings support prior observations that individuals learn most about aging, and particularly successful aging in their immediate family environment.

#### FIVE-YEAR TRAJECTORIES OF PSYCHOLOGICAL WELL-BEING AMONG LATE MIDLIFE U.S. ADULTS: SIGNIFICANCE OF GENDER AND EDUCATIONAL CORRELATES

H. Ko, K. Hooker, *School of Social and Behavioral Health Sciences, Oregon State University, Corvallis, Oregon*

Research has shown significant sociodemographic correlates and decreasing trends in eudaimonic well-being between adult groups (Ryff & Singer, 2008). However, results are mostly from cross-sectional studies. We examined how five-year trajectories in Psychological Well-Being (PWB) differed by midlife adults' gender and education. Data were from the Foley Longitudinal Study of Adulthood, in which 163 White and African American adults in the greater Chicago area have been surveyed since 2008 (MeanAge = 56.38,  $SD = 1.00$ ). The sample was composed of 64% females, and 43.6% had graduate degrees, 23.9% had college degrees, 27.0% some college education, and 5.5% were high school graduates. Multilevel modeling was used to investigate the association between gender and education with psychological well-being dimensions (autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance). Results showed quadratic trajectories in four dimensions, except for linear trajectory in purpose in life and cubic trajectory in autonomy. Females reported higher well-being than males across all dimensions, except for autonomy. Such gender difference was significantly increased over time for two dimensions, self-acceptance and personal growth. Compared to those with graduate degrees, those with high school degrees had lower, inverted U-shape trajectories in self-acceptance, personal growth, and positive relations with others. Those with college degrees reported consistently lower sense of self-acceptance, personal growth, and autonomy than those with graduate degrees. However, education was not related to trajectories in environmental mastery and purpose in life. The findings underscore that opportunities across trajectories of well-being are not equally distributed by sociodemographic factors.

#### CENTENARIAN OFFSPRING PRESERVE INDEPENDENCE IN DAILY FUNCTIONING

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Exceptional longevity has been shown to be associated with compression of functional disability towards the end of life. We sought to determine if the offspring of centenarians, in their 60's and 70's are already showing a preservation of physical function compared to a referent cohort. Methods: We collected health and function data on offspring and referent participants of the New England Centenarian Study at enrollment and annual follow-ups. Physical function was assessed using the instrumental activities of daily living (IADL) items from the Older Americans Resources and Services Multidimensional Functional Assessment Questionnaire. Mixed effects models for repeated measures were used to determine average trajectories for centenarian offspring and referent cohorts by sex. Results: Data were collected for 575 centenarian offspring and 337 referents (mean age  $78.8 \pm 7.1$  years) over an average follow-up period of 8 years. Male offspring showed a mean age of onset of physical function impairment of 73 years compared with 70 years for referents. The female offspring did not differ from female

referents in the age of onset of impairment (66 years). Both male and female offspring compared to their referent groups demonstrated slower rates of decline over the follow-up period and a significant divergence in the trajectories with increasing age. Conclusions: Even at relatively young ages, centenarian offspring are exhibiting the functional benefits of familial exceptional longevity by maintaining independent living skills longer and with slower decline compared to referents. They may be an important cohort for discovering the genetic and environmental correlates of successful aging.

#### **DIVERSITY OF INTIMACY FORMS AND THEIR IMPORTANCE FOR WELL-BEING IN LATER LIFE**

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This paper focuses on different forms of intimacy in later life in late modern Sweden and their consequences for well-being. The results are based both on qualitative interviews with 28 Swedes (63–91 years), living in new relationships initiated after the age of 60 (marriage, cohabitation, LAT) or currently dating; and on a quantitative survey to 60–90 year old Swedes (n=1225; response rate 42%). The results show: A great diversity in relationship careers over the life course; a preference for LAT (70%) and cohabitation (26%) in new unions established 60+; strong support from adult children for parents' new LAT (86%) and cohabitation (76%) relationships, but less support for marriage (50%); that new relationships are as important for life-satisfaction as long-lasting ones; after subjective health, a partner is the second most important explanation for life-satisfaction, more important than having children; LAT was the union form that added most to life-satisfaction for men while marriage was the only form that significantly added to the life-satisfaction of women. Results were the same for newly established relationships and older relationships. Results will be discussed in relation to the shift from marriage to divorce culture (Hackstaff), the transformation of intimacy (Giddens), potentials of the third age (Laslett), and gender socialization, but also in terms of how the results can be interpreted in a context of Swedish welfare-state supported individualism where a partner provides both autonomy in relation to adult children and social integration.

#### **EVALUATING AGING POSITION AT RETIREMENT TO REFORMULATE THE CONCEPT OF SUCCESSFUL AGING**

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Broadening our understanding of the science of aging to improve quality of life has been a primary goal of the field of gerontology from its inception. Characteristics of quality of life are closely related to successful aging, a term whose operational definitions are frequently equated with good health. This is often in contrast to individual self-assessments of successful aging, which repeatedly include a variable array of subjective and objective criteria framed by personal perception. In this era of person-centered care, constructing a plan for living that addresses the multifaceted nature of the term success requires an interdisciplinary approach, and conceptual clarity in the evaluative process. This paper evaluates existing literature on what it means to age successfully and uses qualitative interviews with recently retired persons to provide the basis for the development of an operational definition of successful aging which considers the diverse aging positions present at time of retirement. Since aging position is seen as modifiable, this information will be useful to the future development of trajectories related to bio-psycho-social-spiritual interactions that can be used to formulate individualized aging plans. Cultivating these plans will be essential for improving quality of later life as efforts are focused on achieving maximum potential at the individual level, regardless of any limitations.

#### **FAITH, RELIGIOUS DOUBT, AND WISDOM IN LATER LIFE**

M.M. Duddy, S.Z. Moroz, E. Hillis, M. McGowan, E.H. Thompson, A. Futterman, *College of the Holy Cross, Worcester, Massachusetts*

Our study examines the impact of age-related cognitive change - the emergence of wisdom - on the relationship between faith and doubt in later life in two ways. First we examined the factorial stability of measures of ends (intrinsic) and quest (doubt) in younger (62-75 yrs) and older (75-101) adults in a random sample of 342 older adults living in the Worcester community. Second we examined in 80 semi-structured interviews of older adults (over 60 yrs of age) living in Worcester (including 11 members of the Holy Cross Jesuit Community) the relationship between faith and doubt. These interviews were recorded and later coded for wisdom, using the rating system developed along the lines of the Berlin Aging Study model of wisdom. Shifts in factorial structure were demonstrated in keeping with the development of wisdom in later life: older adults in both late middle age and older samples demonstrated much higher correlations between faith and doubt than that observed in younger adults. In open-ended interviews, older adults frequently demonstrated evidence of wisdom in the way they understood their faith; many voiced robust questioning in the presence of deep faith and relativistic, nuanced, expressions of their faith as one among many "truths". Among demonstrated relationships between background variables and faith and religious doubt, higher levels of education were associated with more doubt in randomly sampled late middle age and older adults as well as in the open ended interviews.

#### **HEALTH, LIFE STRESS, AND WAYS OF BEING RELIGIOUS IN LATER LIFE**

M. McGowan, E. Hillis, M.M. Duddy, S.Z. Moroz, A. Futterman, E.H. Thompson, *Psychology, College of the Holy Cross, Worcester, Massachusetts*

Religious belief and behavior is frequently seen as a buffer for stress in later life. For example, religious involvement following the loss of a spouse in later life has been associated with better bereavement outcomes in several studies. By contrast, few studies have examined the impact of different stressors in later life on religious belief and behavior. Our study examined the relationship between life stress in later life (as measured by Moos and colleagues Health and Daily Living Questionnaire) and measures of religious belief and activity in a random sample of 342 older adults living in the Worcester, MA. community. In particular, we examined the impact of both illness, functional impairment, and a variety of both negative and positive life events on ways of being religious - ends religiousness (intrinsic religiosity or religion as and end in itself), means religiousness (extrinsic religiosity or religion as a means to other social and emotional ends), and quest religiousness (religious doubt and questioning of the purpose and meaning of life). In younger samples, these ways of being religious are largely independent of one another and demonstrate inconsistent relationships with stress. In our study, stressors are differentially associated with religious orientation (e.g., ends and quest religiousness are negatively and positively correlated with stress, respectively), and we found a shift in the correlations between ways of being religious in the face of different stressors (e.g., ends and quest religious become more positively correlated in individuals experiencing functional impairments and loss, but less correlated in individuals suffering serious illness). Based on these findings, it appears that some stressors in later life prompt questioning that potentiates faith, while other stressors prompt questioning that may undermine faith.

#### **INFLUENCES OF GRATITUDE AND SPIRITUAL GROWTH ON WELL BEING ACROSS ADULTHOOD**

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Positive psychology focuses on ways to increase emotional well-being (Seligman, 2002), yet few studies have examined the effects of

positive psychology measures among age-diverse samples. Using data from 490 adults ages 18 to 85 years, we examined the unique contributions of gratitude and spiritual growth on well being, using a pair of 2-step hierarchical regressions. Younger age, female gender, and lower levels of gratitude explained significant variance in Negative Affect [ $F(3, 490) = 36.01, p < .001, R\text{-square} = .18$ ]. Introducing spiritual growth at step 2 explained an additional 3.2% of variance [ $F(1, 490) = 20.02, p < .001$ ]. Together, the four independent variables accounted for 21.4% of the variance in Negative Affect. The strongest predictor was gratitude ( $\beta = -.26$ ). In a parallel regression predicting Positive Affect, female gender and higher gratitude contributed uniquely to the equation [ $F(3, 490) = 59.71, p < .001; R\text{-square} = .259$ ] at Step 1. Introducing spiritual growth at Step 2 explained an additional 12.2% of variance [ $F(1, 490) = 96.04, p < .001$ ]. When all four independent variables were included, this model accounted for 38.2% of the variance, with gratitude and spiritual growth uniquely contributing to the variance explained in Positive Affect. In the presence of spiritual growth ( $\beta = .45$ ), neither age nor gender uniquely added to the variance explained. Results are discussed in terms of the positive effects of spiritual growth, above and beyond that of other positive psychology predictors.

### OLDER ADULT'S SPIRITUALITY AND ADJUSTMENT TO AGING: DEVELOPMENT OF A MULTIPLE CORRESPONDENCE ANALYSIS

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**Purpose:** To analyze the indicators of adjustment to aging (AtA) and to investigate the latent constructs that can work as major determinants in spirituality for a cross-national older community-dwelling population. **Methods:** Questionnaires were completed, assessing participants' background information. Interviews were performed, addressing one core area: indicators of AtA. Complete data were available for 154 older adults, aged between 75-103 years ( $M = 86.6, SD = 6.98$ ) from two different nationalities. Data was subjected to content analysis. Representation of the associations and latent constructs were analyzed by a Multiple Correspondence Analysis (MCA). **Results:** The most prevalent response of the interviewed participants for indicators of AtA was 'spirituality' (43.2%) whereas 'financial stability' was the least referred indicator of AtA (10.3%). 'Spiritual activities' was the most reported response regarding 'spirituality' (20.0%). Spirituality for older adults was explained by a three-factor overall model: 'spiritual and existential meaning', 'limit-related awareness' and 'community embeddedness'. **Conclusions:** The findings presented in this paper emphasized the need to explore the potential of spirituality to AtA and the need for improving the spiritual dimension of health care for the older population. **Key Words:** Spirituality; Adjustment to Aging; Multiple Correspondence Analysis; Community-Dwelling Older Adults.

## SESSION 625 (POSTER)

### MENTAL HEALTH II

#### DELIBERATE SELF-HARM AMONG YOUNGER AND OLDER ADULTS: AN EXPLORATORY STUDY USING THE SELF-HARM INVENTORY

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Deliberate self-harm (DSH), a non-fatal way of inflicting pain upon oneself, is part of the spectrum of suicidal behaviors. Despite high rates of elder suicide, limited research exists regarding the basic nature of self-harming behaviors among older adults. To address this gap, community-dwelling younger adult ( $N = 157; M \text{ age} = 20.5 \text{ years}; 69\% \text{ women}$ ) and older adult ( $N = 124; M \text{ age} = 73.6 \text{ years}; 65\% \text{ women}$ ) participants anonymously completed the self-report Self-Harm Inventory (SHI), which measures a diverse range of self-harming behaviors

and includes a total score. Internal consistency (Cronbach's alpha) for SHI total scores was good among younger adults (.86) and older adults (.79). Results from a 2 (age group) x 2 (gender) factorial ANOVA showed a significant main effect for age such that younger adults ( $M = 3.42, SD = 3.86$ ) had higher SHI total scores than older adults ( $M = 1.58, SD = 2.35$ ),  $F(1, 251) = 17.89, p < .001$ , with a medium effect size (partial  $\eta^2 = .07$ ) indicating that 7% of the variance in SHI total scores was explained by age. Neither the main effect for gender nor the age x gender interaction were significant. Finally, to explore specific self-harming behaviors, a chi-square test was computed for each of the 22 SHI items for both age groups (see Table 1). Younger adults endorsed "Yes" responses significantly more frequently than older adults on 13 of 22 SHI items. Future research should examine specific behaviors of older adults who self-harm more frequently and explore relationships between self-harming behaviors and other risk and resiliency factors for elder suicide.

#### GREATER HEARING IMPAIRMENT PREDICTS WORSE MENTAL HEALTH AMONG OLDER ADULTS

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**Objectives:** Hearing loss affects 80% of older adults. It can lead to conversational and social difficulties, prompting isolation and depression. However, few researchers have studied hearing loss and mental health; interdisciplinary work between audiology and clinical psychology is needed. After attending this session, participants will understand the connection between hearing loss and mental health and recognize the value of interdisciplinary approaches. **Methods:** Preliminary data were collected on participants 60 years and older ( $N=35$ ) who do not wear hearing aids and have a range of hearing ability (i.e. normal hearing to moderate loss). They completed the SF-36 mental health index, which has good psychometric properties. Hearing thresholds were tested with pure tone audiometry at 250Hz, 500Hz, 1,000Hz, 2,000Hz, and 4,000Hz. Normal hearing was classified as -10-25 dB, mild hearing loss as 26-40 dB, and moderate as 41-55 dB. A simple regression was conducted, with the pure-tone average (PTA) of each participant's five hearing thresholds as the independent variable and the SF-36 mental health score as the dependent variable. **Results:** The regression of mental health on hearing ability showed hearing was significantly associated with mental health,  $B = -0.42, SE = 0.20, \beta = -0.35, p < .05$ . The more hearing impairment participants had, the worse their mental health. **Conclusion:** The sobering effects of hearing loss on mental health can potentially be reversed with hearing aids, yet only 20% of eligible older adults get them. Audiologists and clinical psychologists must work together to identify candidates and motivate them to pursue intervention.

#### FEELING THE SQUEEZE? THE EFFECTS OF COMBINING WORK AND INFORMAL CAREGIVING ON PSYCHOLOGICAL WELL-BEING

T. Hansen, S. Daatland, *Aging research, Norwegian Social Research, Oslo, Norway*

Does employment provide respite or add stress to caregivers? As a result of population aging and increasing female employment rates, growing numbers are facing the competing demands of paid work and caregiving. This study explores the effect of providing regular personal care by employment status on six dimensions of psychological well-being. We concentrate on partner and parent care recipients and differentiate between in-household and out-of-household caregiving. We use cross-sectional data from the Norwegian Life Course, Ageing and Generation (LOGG) study ( $n=11,047, \text{age } 25\text{--}64$ ). Results indicate that out-of-household caregiving has no significant relationship with men or women's well-being, irrespective of employment status. In-household

caregiving, however, relates to lower psychological well-being, but only among women who do not work full-time. The advantages of full-time employment to caregivers may be due to greater opportunity to achieve the full benefits that this role has to offer. There is little to suggest that combining work and caregiving harms well-being. In fact, a “double burden” seems to be experienced by women who combine extensive caregiving with limited employment.

#### **FACTORS AFFECTING MENTAL HEALTH CARE IN DEPRESSED, HOMEBOUND OLDER ADULTS**

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Geriatric depression is a significant public concern as it is expected to be second to heart disease in global disease burden. Although depression is prevalent among older adults, fewer than 3% of older adults with documented need report seeing a mental health professional for treatment. Despite the personal costs of depression, most older adults do not seek mental health care. Accordingly, this study applied the Gelberg-Andersen Behavioral Model for Vulnerable Populations to assess the impact of traditional factors and factors specific to vulnerable populations on mental health treatment utilization among homebound, depressed, older adults. We used archival data from a sample of 179 homebound, depressed, older adults, to assess independent predictors of treatment utilization. Initial analyses indicated that female gender and younger age were predictive of prior psychiatric treatment use, whereas Hispanic ethnicity was predictive of current psychiatric treatment. Follow-up logistic regression analyses determined that both low perceived social support ( $B = -0.15$ ) and mobility impairments ( $B = -0.12$ ) predicted prior treatment utilization in older adulthood. Poor ADL functioning ( $B = -0.74$ ) was found to be the single predictor of current treatment utilization. Our findings suggest that perceived deficits in social support and physical functioning may have the most profound effects on treatment utilization for depressed, homebound older adults. We advise clinicians to screen for mobility limitations, poor ADL functioning, and limited social support, as these variables may best predict who is likely to access mental health treatment among the homebound, depressed, older adult population.

#### **BARRIERS TO MENTAL HEALTH CARE UTILIZATION BY RACIALLY/ETHNICALLY DIVERSE OLDER ADULTS: IMPLICATIONS FOR MENTAL HEALTH POLICY**

K. Ford, G. Kim, *Psychology, University of Alabama, Tuscaloosa, Alabama*

**Objective:** This study aims to identify barriers that racial/ethnic minority older adults face to properly utilizing mental health services (MHS), with a view to current and future mental health policy. **Methods:** Data were drawn from the Collaborative Psychiatric Epidemiology Surveys (CPES). We selected participants with a need for MHS who indicated that they had not utilized services, delayed seeking services, or used MHS and then terminated those services prematurely, and who answered questions regarding the reasons for their underutilization (barriers). Using a series of chi-squared tests of proportional differences, we compared barriers endorsed by Asians ( $n=250$ ), Hispanics/Latinos ( $n=806$ ), Blacks/African Americans ( $n=1,602$ ), and non-Hispanic Whites ( $n=1,525$ ) across three age groups (18-29; 30-54; and 55+). **Results:** Asian older adults were more likely than their younger counterparts to endorse items indicating that they were simply not bothered by their psychological problems ( $\chi^2 [2]=8.694$ ;  $p<0.05$ ). Hispanic/Latino older adults were more likely than younger participants to believe that their problem would get better on its own ( $\chi^2 [2]=8.055$ ;  $p<0.05$ ). Black/African American older adults were less likely than younger Blacks/African Americans to delay treatment because they thought it would not work ( $\chi^2 [2]=7.831$ ;  $p<0.05$ ), and less likely to refuse treatment altogether because they thought they could handle

their problems without professional help ( $\chi^2 [2]=7.098$ ;  $p<0.05$ ), or that the problem would get better on its own, anyway ( $\chi^2 [2]=7.216$ ;  $p<0.05$ ). **Conclusions:** Efforts should be made to increase awareness among racial/ethnic minority older adults of the services available to them and the effectiveness of those services.

#### **DO FUNCTIONAL LIMITATIONS AND CHRONIC HEALTH CONDITIONS INCREASE DEPRESSIONS SCORES IN THE ELDERLY?**

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The role of age related functional limitations and self-reported chronic disease on depression scores was investigated in the Health and Retirement Study's 2008 data. The sample included 5835 respondent's ranging in age from 50-83. Multivariate adaptive regression splines (MARS) modeling was employed to identify multiple linear splines. Predictors included functional limitations (ADL, IADL), chronic diseases (back pain, stroke, arthritis, cancer, high blood pressure, heart disease, lung disease, & diabetes) and demographic measures (age, education, gender, being white, being Hispanic). The MARS modeling process resulted in a model that included the following predictors: ADL, IADL, back pain, stroke, education, being female and being Hispanic. ADL limitations included two splines with a large increase in depression score from zero to one limitation, and a more shallow increase from one to three limitations. IADL limitations included two splines with a linear increase in depression score from zero to two limitations and a decrease in score from two to three limitations. Reporting back pain or stroke resulted in higher depression scores. Two splines were identified for education in which the highest depression scores were associated with zero to 7 years of education; there was a linear decline in depression from seven to 17 years of education. Females and Hispanics were associated with higher depression scores compared to males and non-Hispanics. Results emphasize the importance of functional status and selected chronic health conditions on depression scores and provide a more detailed description of change than traditional regression-based models.

#### **SIX-MONTH OUTCOMES OF MOTIVATIONAL INTERVIEWING ON PRESCRIPTION OPIOID MISUSE AMONG OLDER ADULTS**

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**Background:** Prescription opioid misuse or abuse is a problematic, but preventable, behavior and therefore needs interventions; particularly if such interventions can be delivered in the setting where older adults receive their usual care. Motivational interviewing (MI) is a low-cost brief intervention and has been widely used to promote healthy behaviors. The study aimed to examine the six-month outcomes of a 4-week office-based MI on the risk of prescription opioid misuse, motivation to change, pain intensity, self-efficacy, depression, and anxiety in older adults with chronic non-cancer pain. **Methods:** This study used a one-group with pre-post design and took place at a primary care office and a pain management clinic. A manualized MI was developed based on current literature focusing on medication adherence. The MI consisted of one face-to-face and three telephone sessions. Outcomes including risk for opioid abuse, alcohol use, self-efficacy, motivation to change, depression, anxiety, and pain intensity were measured at baseline, post-treatment, 1, 3, and 6-month follow-up. Descriptive statistics and repeated measured ANOVA were used for data analysis. **Results:** Twenty-five participants completed the study. Findings indicated a significant reduction in the risk of opioid misuse at post-test and this change sustained at 6-month follow-up. Other improved outcomes include decreased alcohol consumption, improved self-efficacy and motivation to change, decreased pain intensity, decreased depression, and decreased anxiety. **Conclusions:** The MI demonstrates promising

6-month effects on reducing older adults' risk for prescription opioid misuse and improving other psychological outcomes. Our findings suggested that MI can be effectively delivered in outpatient settings.

### PROGRESSION FROM SUBSTANCE USE TO DEVELOPMENT OF SUBSTANCE USE DISORDERS IN THE OLDER PERSON

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As the proportion of older adults in the population continues to increase in many countries around the globe, forecasts project increasing service needs for substance use problems among the elderly. For example between 2000 and 2020, the number of older adults with substance use problems or in need of treatment for a substance use disorder (SUD) are expected to more than double in Europe and the US. Physicians and other caregivers may be more attuned to the physical health problems of older populations, ignoring the signs and symptoms of misuse and SUD. Very little is known about the continuance and onset of substance abuse and its progression to addiction among older adults. This presentation provides a framework for substance involvement and briefly describes various stages that can occur within a continuum of use. Progression can be influenced by individual-level susceptibility (e.g., physiological changes and genetic vulnerability), properties of the substance (e.g., reinforcing properties), and by social environmental factors (e.g., prescribing practices). Age can influence the detection of addiction as signs of abuse and problems resulting from substance use are often dismissed or mistaken for symptoms of ageing problems. Given the impact that substance use problems in older people are likely to have on social and healthcare services, there is a need for a better understanding of substance use behaviors and trajectories, and influences or risk factors for progression among older adults.

### PSYCHOSOCIAL BARRIERS TOWARD MENTAL HEALTH CARE SERVICES IN MIDDLE AND OLD AGE

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Purpose: The underutilization of mental health care services has been particularly high among older age groups. Although psychosocial factors significantly influence individuals' perceptions and attitudes toward mental health care utilization, little knowledge exists about psychosocial barriers. This study investigated to what extent financial and physical resources influenced psychosocial barriers that can discourage the use of mental health care services. Method: Six cross-sectional data from 2006-2011 National Surveys on Drug Use and Health were used. The sample was restricted to middle and older adults over 50 years of age who reported that they recognized their mental health problems but had never received mental health care (N =890). The dependent variables included three different types of psychosocial barriers toward mental health care services: stigma, mistrust, and self-perceived ability to handle their mental illness problems (perceived agency). Financial resources were measured with insurance coverage, and physical resources included the geographic proximity to mental health services, the availability of transportation, and information on mental health care services nearby. Results: Even after controlling for various socioeconomic factors, physical resources were found to be associated with lower levels of stigma and perceived agency ( $p < .01$ ). Financial resources were significantly related with lower levels of mistrust and perceived agency ( $p < .01$ ). Implications: This study found that psychosocial barriers in mental health care service use systematically varied by physical and financial situations. These results highlight the importance of understanding the different contexts of unmet service needs in mental health care services.

### CORRELATES OF OBJECTIVE AND SUBJECT MEASURES OF CAREGIVER BURDEN AMONG DEMENTIA CAREGIVERS: INFLUENCE OF UNMET PATIENT AND CAREGIVER DEMENTIA-RELATED CARE NEEDS

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BACKGROUND: This study examines the relationship of unmet dementia-related care needs of community-dwelling persons, and their caregivers, to measures of caregiver burden. METHODS: Cross-sectional baseline data were analyzed from participants in a dementia care coordination trial of community-residing persons with dementia (PWD) (n=254) and their caregivers (CG) (n=246). Participants were recruited from Northwest Baltimore, MD. The Zarit Burden Inventory (ZBI) was used to measure subjective caregiver burden. Objective burden was measured by estimating the total hours per week spent doing things for the PWD and or how many hours CGs missed paid work in the prior month due to caregiving responsibilities. The Johns Hopkins Dementia Care Needs Assessment was used to identify unmet dementia-related care needs. Bivariate and multivariate linear regression analyses examined the relationship of unmet needs, demographic, clinical or functional characteristics with CG burden measures. RESULTS: In adjusted multivariable models, patient neuropsychiatric symptoms (NPS) and caregiver unmet emotional needs explained 22% of the variance in ZBI scores. In adjusted multivariable models, caregiver need for respite, patient functional dependency, and caregiver unmet specialty medical needs explained 26% of the variance in the hours per week spent caregiving. PWD's level of functional dependency was the sole correlate of missed time at work, explaining 11% of the variance. CONCLUSIONS: Addressing potentially modifiable unmet caregiver needs may reduce subjective and objective CG burden.

### THE DEVELOPMENT OF SELF-ADMINISTERED DEMENTIA CHECKLIST (SDC) (1); EXAMINATION OF INTERNAL VALIDITY USING CONFIRMATORY FACTOR ANALYSES

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OBJECTIVES: To facilitate access to early diagnosis of and to provide comprehensive services for dementia, it is crucial to educate the early signs and symptoms of dementia to the public. The aim of this study is to examine the internal validity of the Self-administered Dementia Checklist (SDC) which is in the process of development for an education program for dementia. METHODS: The subjects were all residents aged 65 years and older living in an urban residential district in Tokyo (N=5,199). A questionnaire survey including 20 items concerned with "subjective experience of cognitive decline" and "subjective experience of IADL decline" was conducted by mailing and collecting methods. Using exploratory factor analyses (EFA), a 10-item version (SDC-10) was developed. Using confirmatory factor analyses (CFA) and Cronbach's alpha, internal validity and consistency of the SDC-10 was examined. RESULTS: In data from 4,649 valid respondents (male: n=2,118; female: n=2,531; Mean age±SD yrs.: 73.8±6.5 yrs.; response rate: 89.0%), the SDC-10 was developed and designed to have two-factor structure using EFA. This scale had two subscales: subjective cognitive decline subscale (5 items) and subjective IADL decline subscale (5 items). Internal consistency of each subscale and total scale were sufficient ( $\alpha = .837-.935$ ). Using CFA, a two-factor structure was confirmed with sufficient indices ( $\chi^2 = 347.686$ ,  $df = 30$ ,  $GFI = .961$ ,  $AGFI = .937$ ,  $RMSEA = .049$ ). CONCLUSION: The SDC-10 had sufficient internal validity and consistency.

## CLINICAL UTILITY OF THE SYMPTOMS OF DEMENTIA SCREEN IN A PRIMARY CARE POPULATION

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As the aging population expands, the need for brief and clinically useful screening methods for dementia and cognitive impairment grows with it. The Symptoms of Dementia Screen (SDS) is an 11 item screening measure given to caregivers to assess the care receiver's dementia status. Although it demonstrated excellent psychometric properties at its development, its use has not been explored in primary care settings nor extended to diagnoses of Mild Cognitive Impairment (MCI). This study sought to establish the reliability and clinical utility of the SDS in an outpatient primary care population. Thirty-six physician-referred older adults completed a neuropsychological battery, with a family member completing the SDS. MCI or dementia diagnosis was derived from current diagnostic criteria for dementia and mild cognitive impairment on neuropsychological testing. Analyses suggested borderline acceptable internal consistency,  $\alpha=.64$ . Based on a cutoff score of 5, sensitivity and specificity rates were at 83% and 75% for dementia. For MCI, a cutoff score of 4 offered the greatest sensitivity (93%) but limited specificity (50%). Combined, these results suggest the SDS is a sensitive screening measure of cognitive impairment among an outpatient sample. The sample size of unimpaired patients was low, which might have impacted findings related to specificity. Future studies should examine the potential of utilizing a shorter SDS form as well as further development on specificity of items to differentiate between dementia, mild cognitive impairment, and individuals without suspected pathology.

## STRUCTURAL REPRESENTATION OF DEPRESSION, ANXIETY, AND AGITATION IN LONG-TERM CARE RESIDENTS WITH DEMENTIA

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Dementia, depression, and anxiety are the most common psychiatric disorders among long-term care residents. Since dementia is associated with behavioral problems that can be difficult to manage, the growing number of long-term care residents with dementia and mental health disorders presents a challenge for providing quality care. Research has established the co-occurrence of depression and anxiety, as well as anxiety and agitation, in this population. However, a consensus on the conceptualization of the co-occurrence of these constructs has not been reached. Through confirmatory factor analyses, this study tested two models of the relationship of depression, anxiety, and agitation. The first model suggested depression and anxiety were linked according to the tripartite model, and agitation and anxiety were connected by shared behaviors. The alternative model indicated depression, anxiety, and agitation were subsumed under a construct representing general distress. The results of this study were consistent with the alternative model ( $\chi^2 [33, N = 65] = 34.48, p = .40; CMIN/df = 1.05, IFI = .96, TLI = .98, CFI = .98, RMSEA = .03$ ). This study suggests depression, anxiety, and agitation may be best considered expressions of general distress rather than discrete manifestations of psychopathology for individuals with dementia in long-term care. Though not clearly defined as disorders, the experience of depression, anxiety, and agitation warrant clinical attention due to increased risk for impairment, distress, and mortality. Along with regular assessment of depression and agitation in long-term care residents, consistent screening for anxiety should also be completed to provide optimal care.

## PSYCHOMETRIC PROPERTIES OF A READINESS TO CHANGE MEASURE IN DEMENTIA

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A recently developed self-report questionnaire, Stages of Change-Dementia Memory loss (SC-DM) for assessing readiness to change in individuals with dementia (IWDs) and their caregivers (CGs) was tested. The measure was developed based on the The Transtheoretical Model (TTM) of behavior change. This model outlines a five-step categorization of an individual's readiness to alter a behavior. Participants were 73 dyads tested as part of a strength-based intervention study. Findings indicated good reliability for both IWDs as well as CGs. Exploratory factor analysis found that factors were best understood in terms of two stages (ready to change/not ready to change) as opposed to the full five stages. The use and value of the SC-DM is discussed in terms of guiding intervention, as well as suggestions for future research.

## EFFECT OF CLIENT HEALTH STATUS ON MENTAL HEALTH TRAINEES' CLINICAL JUDGMENTS AND AGEIST BEHAVIORS

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Ageism is a widely cited concern in mental health delivery, and health status, particularly poor health, is a component of aging that can contribute to discrimination against older adults (James & Haley, 1995; Messier, 1998). Recent research on ageism fails to address the potential confound of health status in psychotherapy outcomes. In the present study, a sample of 474 mental health trainees were randomly assigned to read a case vignette of either a healthy or an ill older adult client to examine the effects of client health status on trainees' ageist behavior and clinical judgment. One-way MANOVA results showed significant differences between trainees receiving the healthy older client vignette versus the ill older client vignette (Wilks'  $\lambda=.925, p<.001$ ). Follow-up ANOVAs indicated that the health status of the hypothetical client had a significant effect on trainees' self-reported negative ageist behaviors ( $p=.004$ ), therapeutic process issues ( $p<.001$ ), and professional bias ( $p<.001$ ) such that the group receiving an ill hypothetical client endorsed more ageist behaviors, increased difficulty with clinical process issues, and more clinical bias. Group differences between master's and doctoral level trainees in social work, counseling, clinical, and school psychology are also discussed. Consistent with the findings of James and Haley (1995), who surveyed licensed psychologists, our study found evidence of health bias among mental health trainees. Our results contribute to an increased understanding of the role that health status plays in the presence of ageism in trainees and may aid in future formation of curriculum development and clinical education.

## ATTITUDES TOWARDS SEEKING MENTAL HEALTH SERVICES AMONG OLDER ADULTS: PERSONAL AND CONTEXTUAL CORRELATES

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Objectives. Especially older adults underutilize professional mental health services. However, little is known about the factors associated with older adults' attitudes towards seeking mental health services (ATSMHS). We therefore investigated a wide range of contextual (e.g., physical access, residence) and personal (e.g., perceived social support, life satisfaction, openness to experience) predictors of ATSMHS in a sample of older community-dwelling adults in Germany. We predicted that representations of old age as well as perceptions of (younger) psychotherapists would be uniquely important for determining ATSMHS. Method. A diverse sample of  $N=156$  older adults ( $Mean=71.5$  years,  $SD=6.4$ , range: 60-92) completed questionnaire measures. We used

hierarchical linear regression analyses to identify predictors of ATSMHS. Results. In the final saturated model, female gender, urban residence, personal and vicarious experience with psychotherapy and higher perceived social support were each associated with more positive ATSMHS. In addition, more positive representations of old age and less negative perceptions of (younger) psychotherapists explained unique variance in ATSMHS over and above the other predictors. The overall model was significant and explained 49% of the variance in ATSMHS. Discussion. Our findings can be used to inform interventions to improve older adults' ATSMHS. Interventions that seek to improve older adults' representations of their own aging as well as of psychotherapists may be useful for reducing the treatment gap.

#### **INFLUENCE OF PAIN, ANXIETY AND DEPRESSION ON PARTICIPATION IN ELDERLY WITH ARTHRITIS: FINDINGS FROM THE NATIONAL HEALTH AND AGEING TRENDS STUDY (NHATS)**

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**Introduction:** As per NHATS (National Health and Ageing Trends Study), more than half (51.52%) of the elderly (65+) had arthritis. Pain due to arthritis was higher (68.9%) than other examined conditions. Pain, anxiety and depression may potentially influence participation of elderly in society. We aim to study: (a) prevalence of pain, anxiety, depression and participation, and compare these in arthritic and non-arthritic elderly; (b) influence of pain, anxiety and depression on participation in society. **Methods:** NHATS, 2011 (N=8245) dataset was analyzed. Cross-tabulations were performed for arthritic and non-arthritic populations for pain: bothered by pain and pain ever limited activity; anxiety: feeling nervous, anxious or on edge, and unable to stop worrying; depression: little interest and pleasure in doing things, and felt down, depressed or hopeless; and participation: restricted in one or more of the activities - socializing, going out, caring for others, volunteering, and group/religious. Next, binary logistic regression with participation as outcome was performed after controlling for age, gender, marital status, education, and number of members and children in household. **Results:** 61.7% were bothered by pain, 42.4% were limited by pain, 42.7% had little interest or pleasure in doing things, 36.8% felt down, depressed or hopeless, 42.9% felt nervous and anxious, 33.5% could not stop worrying and 44.8% reported participation restrictions. These were significantly higher ( $p < 0.05$ ) in arthritic elderly. Activity limitations due to pain, anxiety and depression ( $p < 0.001$ ) significantly predicted participation restrictions. **Conclusions:** Pain, depression and anxiety have significant influence on arthritic elderly, and limit their participation in society.

#### **THE EFFECTS OF AGE, STRUCTURE, AND TASK GOALS ON PROBABILISTIC SEQUENCE LEARNING**

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We learn about complex sequential regularities in our environment through experience. This study explored how sequence structure, age, and task goals (predicting vs. responding) moderate this type of learning. Younger and older adults completed one of two probabilistic sequence learning tasks, The Triplets Learning Task (TLT) or the Triplets Prediction Task (TPT). These are similar in that on each trial, or "triplet", participants view two sequentially presented "cues", followed by a "target". Unbeknownst to them, one cue probabilistically predicts the target's location, resulting in some triplets occurring with high (HP) and others with low probability (LP). Structure can be manipulated

by changing which cue (Cue 1 or Cue 2) is predictive. Crucially, the tasks differ in their goals; the TLT requires participants to respond to targets appearing on the screen, whereas the TPT requires participants to predict the target's location. Learning in both tasks is characterized by comparing performance on HP vs. LP triplets. We asked: (1) when during training do age differences in learning appear, and (2) how does the structure of the regularity affect learning? The pattern of learning differed dramatically depending on which task participants completed. Age differences appeared early in training when participants were predicting (TPT), but late when participants were responding (TLT). Furthermore, the effect of structure depended on age and task goal. Structure influenced older adults more when making predictions, and younger adults more when making responses. These results suggest that task goals can influence age differences in learning complex sequential regularities.

#### **INDEPENDENT AND INTERACTIVE ASSOCIATIONS OF TWO GENETIC POLYMORPHISMS WITH FIVE PERSONALITY TRAITS ON DECLARATIVE MEMORY PERFORMANCE IN OLDER ADULTS**

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Exploring complex biology-personality-cognition linkages in aging, some recent research has reported promising associations among selected genetic polymorphisms, personality factors, and neurocognitive phenotypes. This study examines the influence and magnitude of risk (independently and interactively) associated with (a) two neurodegenerative-related polymorphisms (i.e., Apolipoprotein E (APOE; rs7412; rs429358) and Clusterin (CLU; rs11136000)) and (b) five personality traits with (c) performance and change on two declarative memory domains (i.e., episodic, semantic) in (d) normal older adults. Structural equation modeling was used to examine independent and interactive effects of APOE, CLU, and personality traits (NEO-PI, especially openness to experience and neuroticism) on memory performance at baseline and up to 14 years of longitudinal change in older adults (N = 282; baseline age range = 53-84 years) from the Victoria Longitudinal Study. Several supportive results were observed. First, we observed two personality-memory associations, with higher openness to experience levels associated with better episodic and better semantic memory. Second, three significant gene x personality interactions were observed whereby differentially worse declarative memory performance occurred in the following patterns: (a) APOE allelic risk ( $\epsilon 4+$ ) carriers with lower openness to experience levels, (b) CLU allelic risk carriers (C+) with higher extraversion levels, and (c) CLU allelic risk carriers (C+) with higher neuroticism levels. The first two results support a gene x personality intensification hypothesis for semantic memory performance in aging. Specifically, selected personality trait levels (i.e., openness to experience, extraversion) moderate and magnify the risk contributed by specific neurodegenerative-related genetic polymorphisms (i.e., APOE and CLU) on declarative memory at baseline.

#### **AWARENESS OF CHANGE IN MEMORY AND EXECUTIVE FUNCTIONING PREDICTS EXECUTIVE FUNCTIONING DECLINE**

J.S. Carmasin, B.T. Mast, *Psychological and Brain Sciences, University of Louisville, Louisville, Kentucky*

Recent studies suggest that awareness of cognitive decline is a multi-dimensional construct and that awareness of executive functioning (EF) is underexplored. The current study examined the association between awareness of memory, awareness of EF, and EF decline. The sample included 625 older adult participants (27.2% cognitively normal, 63.2% MCI, 9.6% mild AD) and their study partners (adults who spend 10+



hours a week with a participant) from the Alzheimer's Disease Neuroimaging Initiative (ADNI). Linear regression analyses were used to determine the effects of baseline memory and EF awareness on Trails B performance (a timed EF task) at a 12-month follow-up visit. Memory and EF awareness were respectively operationalized as the 8 Memory and 15 EF questions on the Everyday Cognition (ECog) scale. Higher scores on the ECog indicate greater perceived decline in everyday tasks compared to 10 years prior. The analyses controlled for age, gender, education, baseline depression, and baseline Trails B score. More impaired baseline ECog memory ratings by participants and study partners predicted poorer Trails B performance at 12-month follow-up (participant self-ratings: model  $R^2=0.646$ ,  $\beta=0.058$ ,  $p=0.024$ ; study partner ratings: model  $R^2=0.654$ ,  $\beta=0.120$ ,  $p<0.001$ ). More impaired baseline ECog EF ratings also predicted poorer Trails B performance at 12-month follow-up (participant self-ratings: model  $R^2=0.645$ ,  $\beta=0.051$ ,  $p=0.050$ ; study partner ratings: model  $R^2=0.649$ ,  $\beta=0.086$ ,  $p=0.001$ ). These results suggest that both memory and executive functioning subjective ratings on the ECog, among both older adults and close family/friends, are predictors of EF decline.

### SUBJECTIVE MEMORY APPRAISAL IN NONAGENARIANS

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Subjective memory appraisal plays an important role in successful aging. In this study, we report the first findings from a pilot intervention designed to improve self-rated memory abilities by increasing memory awareness in everyday life. Participants were young-old (60-89 years) and oldest-old (90+ years) adults enrolled in the Louisiana Healthy Aging Study (LHAS). All completed the Memory Controllability Inventory (MCI; Lachman, Bandura, Weaver, & Elliott, 1995) and a 10-item memory self-efficacy scale from the Memory Functioning Questionnaire (MFQ; Zelinski & Gilewski, 2004) at pretest and posttest. Participants were tested in one of three groups: control group 1 (no further contact until posttest), control group 2 (personal memory diary kept over a 4-week period) or an experimental group (received objective information about memory aging, two sessions of memory exercises, and kept the memory diary). For all participants, MCI scores (perceived memory ability subscale) improved at posttest relative to pretest ( $p < 0.01$ ). However, MFQ scores (memory self-efficacy) were comparable from pre to posttest. Analyses of the memory diary data indicated that the prevalence of memory successes and failures was not associated with age group. These data indicate that subjective memory appraisal remains strong in late life. This research was supported by the Louisiana Board of Regents through the Millennium Trust Health Excellence Fund [HEF(2001-06)-02] and the National Institute on Aging (P01 AG022064).

### DO OLDER ADULTS AVOID USING MEMORY RETRIEVAL IN EVERYDAY SITUATIONS? A DAILY DIARY STUDY OF STRATEGIES AND INFLUENCES

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For many everyday tasks, skilled performance depends on the ability to shift from an algorithmic strategy (e.g., following a map while driving) to a retrieval-based strategy (e.g., navigating from memory while driving). In previous studies, older adults demonstrated a reluctance to shift to retrieval-based strategies when completing novel tasks. However, the novel tasks used involved numerous massed trials within a laboratory setting. It is currently unknown whether or not older adults will demonstrate retrieval reluctance for everyday tasks involving longer, less intense learning periods. The current study examined older adults' endorsement of various strategies used to complete everyday tasks. For seven consecutive days, younger and older adults completed a diary survey which asked whether or not they performed thirteen

everyday activities (e.g., did you go shopping today?). Each activity could be completed using different strategies that varied in their reliance on memory retrieval. For each task, participants specified which strategies they used, indicated how frequently they perform that task, and rated their confidence in using each possible strategy. Hierarchical linear models were used to examine the influence of age on retrieval use, while controlling for frequency of task engagement, time since initial learning (how long ago they first completed the task), task complexity, and motivation to avoid errors. Initial data indicate that older adults use fewer retrieval-based strategies in everyday tasks and report lower confidence in their ability to use retrieval-based strategies, particularly for less frequently completed tasks.

### MUSICAL TRAINING, HYPERTENSION, AND NEUROPSYCHOLOGICAL FUNCTIONING IN OLDER ADULT MUSICIANS

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Previous research suggests that musical training has a positive impact on cognitive functioning in late life, and that high activity musicians (10+ years of training) show even greater cognitive benefits. Older musicians may also have better cardiovascular health. This study examined whether high levels of musical training had a positive impact on cognition, both directly and indirectly via lower levels of hypertension. We collected the music training history of community dwelling older adult musicians ( $n=19$ ) and assessed health conditions and neuropsychological profile using a standard battery. All musicians had extensive experience either in an ensemble or in private lessons, and many had pursued careers in music related fields (e.g., performance or education). Musicians were separated into two groups based on the number of years enrolled in private lessons (i.e. "high activity" had more than 10 years). High activity musicians had lower than expected rates of hypertension (27.3% reported a diagnosis of hypertension), whereas "low activity" musicians had higher than expected rates (62.5% reported a diagnosis,  $\chi^2=3.616$ ,  $p=0.05$ ). Furthermore, musicians without a diagnosis of hypertension performed significantly better on verbal fluency (Animal Naming,  $F(1,13)=7.02$ ,  $p<0.05$ ), delayed verbal memory (California Verbal Learning Test,  $F(1,13)=4.41$ ,  $p=0.05$ ), and processing speed (Trails A,  $F(1,13)=6.75$ ,  $p<0.05$ ). These findings suggest that some of the beneficial effects of musical training on cognition may be due, in part, to better cardiovascular health.

### INFORMATION PROCESSING AND DEPRESSIVE SYMPTOMS IN OLDER JAPANESE ADULTS

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The present study assessed the associations between information processing and depressive symptoms in 11 young (aged 18-27 yr) and 37 elderly male volunteers (aged 60-69 yr). Reaction times (RT) for a simple RT task and a flanker task were collected. For the simple RT task, participants pressed a key as quickly as possible once the stimulus appeared on the screen. For the flanker task, stimuli consisted of a row of 5 items with the third (central) item as either a leftward or rightward pointing arrow. Participants pressed one key when the central target pointed to the left or a different key when it pointed to the right. The two items (flankers) on either side of the central target were either horizontal lines (neutral condition) or arrows pointing in the same (congruent condition) or opposite direction (incongruent condition) as the central target. Participants completed 96 trials of the flanker task. Information processing speed was calculated by subtracting the median simple RT (i.e., reflecting motor response time) from the median RT of each flanker condition. Depressive symptom was assessed by the Center for Epidemiological Studies Depression Scale. Elderly subjects had significantly slower processing speed in all flanker conditions com-

pared to young subjects. There was a significant and positive association between processing speed for incongruent condition and the level of depressive symptom in elderly subjects. These results indicate that impaired information processing in the conflict condition requiring executive control might be caused partly by depressive symptoms in the elderly.

#### **THE MEDIATING ROLE OF OPTIMISM AND PESSIMISM ON THE RELATIONSHIP BETWEEN SPIRITUALITY AND DEPRESSION**

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**Background:** Numerous studies have demonstrated the important protective qualities of spirituality against the negative effects of depression. However, few studies examine spirituality's underlying mechanisms through which effects on depression may be produced. Finding a mediating variable linking the spirituality-depression relationship may help practitioners and researchers to develop appropriate spirituality-based intervention models for depression of cancer patients. **Methods:** In this study, we considered whether optimism could be a mediating variable linking spirituality and depression. We examined relationships between spirituality, optimism, and depression among a sample of 600 South Korean older adults diagnosed with cancer who participated in a three-year longitudinal study about their quality of life. **Results:** Results from regression and path analyses confirmed that optimism linked spirituality and depression. Higher spirituality levels were associated with increased optimism levels, and in turn the increased optimism levels by spirituality were associated with decreased depression (CI=-.04/-02). Higher spirituality levels were associated with decreased pessimism levels, and in turn the decreased pessimism levels by spirituality were associated decreased depression (CI=-.05/-02). **Discussion:** Understanding optimism and its inverse association with depression level is critical for the appropriate provision of spirituality-based interventions for cancer patients experiencing a difficult time in their life.

### **SESSION 630 (POSTER)**

#### **METHODOLOGICAL ISSUES IN AGING RESEARCH**

##### **QUALITATIVE RESEARCH TRENDS IN GERONTOLOGY: AN 18-YEAR ANALYSIS OF 7 JOURNALS (1995 – 2012)**

ÁINE. Humble, *Family Studies and Gerontology, Mount Saint Vincent University, Halifax, Nova Scotia, Canada*

It is suggested that qualitative gerontology research is increasing, but little systematic analysis has been carried out to test this assertion. A 2007 study by Schoenberg, Shenk, and Kart that reviewed three years (2003 – 2005) of content in three journals (The Gerontologist, Journal of Applied Gerontology, and Journal of Gerontology: Social Sciences) found that 10% of all empirical studies were qualitative. They also suggested there were “no discernible trends signaling an increase or decrease in the proportion of qualitative articles published” (p. 5), however an analysis of more than three years and more than three journals is needed to make adequate trend claims. This study identified qualitative findings in the same three journals as Schoenberg et al.'s study as well as four additional journals (Canadian Journal on Aging, Journal of Aging Studies, Journal of Cross-Cultural Gerontology, and Journal of Women and Aging) over an 18-year period (1995 – 2012). The overall percentage of qualitative research was 22.93% during that 18-year period, much higher than Schoenberg et al.'s findings. Looking at 3-year intervals for all seven journals, results showed an increase over time: (a) 1995 – 1997: 15.18%, (b) 1998 – 2000: 19.86%, (c) 2001 – 2003: 21.14%, (d) 2004 – 2006: 21.39%, (e) 2007 – 2009: 25.49%, and (f) 2010 – 2012: 32.22%. However, there were dramatic differences

across different journals. For example, Journal of Gerontology: Series B published the least amount (2.51% overall), and Journal of Aging Studies published the most (82.66% overall). Some general comments about features such as method details will be presented.

#### **MODELING CHANGES IN GAMBLING BEHAVIOR USING LATENT TRANSITION ANALYSIS**

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Gambling behavior lies along a dynamic continuum. Some individuals choose not to gamble while others gamble socially or recreationally. Still other individuals may experience problems with their gambling and these problems may vary in terms of severity and duration. To date, little is known about whether subpopulations of gamblers exist, their prevalence, and factors associated with transitions in gambling behavior over time. Past research suggests at least two types of gamblers: 1) recreational (social) and 2) pathological gamblers, but between two and four gambling types of gamblers have been proposed. We apply latent transition analysis to a sample of 328 gamblers (60% women, 61% partnered, aged 18-82) in Winnipeg, Manitoba, sampled 6 months apart. We identified Recreational, Moderate, and Problematic gamblers within each. The majority were classified as Recreational (63%) at the time of the prevalence study. Bootstrap likelihood ratio tests were used with factor mixture analysis suggested that a 3-class model best characterized the data. Classes are consistent with occasional gamblers, moderate gamblers, and problematic gamblers. Transitions toward less intensive gambling were more prevalent than transitions toward less intensive gambling. Results suggest that latent transition analysis can be a valuable tool for gambling researchers.

#### **USING TREE-STRUCTURED ANALYSIS TO EXPLORE SOCIO-DEMOGRAPHIC AND CANCER TREATMENT CHARACTERISTICS ASSOCIATED TO QUALITY OF LIFE IN OLDER RURAL BREAST CANCER SURVIVORS**

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**Background:** Breast cancer is the most common invasive cancer in women. It is most prevalent among women 50 or older (90% of all cases). Risk of dying from breast cancer decreased in the past decades due to improvements in detection, treatment, and supportive care. Although providing primary treatment remains the priority for clinicians, maintaining survivors' quality of life (QOL) post-treatment is also a main objective. **Methods:** Secondary analysis of data from 331 older survivors (ages 55-90) enrolled in the Rural Breast Cancer Survivors Study, a study of psychoeducational support interventions among rural Florida-dwelling women. Tree-structured analyses were used to explore the relationships between health-related QOL (measured by SF-36) and socio-demographic and treatment characteristics. Classification trees are models useful for identifying relevant combinations of predictors that cannot be uncovered by traditional linear models. Tree models are not easily described by equations and are therefore depicted graphically. **Results:** The mental aspect of health-related QOL was predicted by combinations of social support (measured by MOS-SS), number of prescriptions, and reports of changes in economic lifestyle. These variables with the addition of body mass index emerged also as the predictors of the physical aspect of health-related QOL. **Conclusion:** Results corroborate previous findings linking social support with quality of life, and provide further insight on the interactions of survivors' characteristics influencing QOL. Strengthening of social support networks should be emphasized in post-treatment care of older rural breast cancer

survivors, to help improve or maintain both mental and physical aspects of these survivors' QOL.

### PSYCHOMETRIC EVIDENCE FOR THE USE OF PARENTING SCALES WITH CUSTODIAL GRANDMOTHERS

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Although parenting is increasingly recognized as the central responsibility of custodial grandmothers (CGM), it is unknown if valid and reliable measures of their parenting behaviors exist. We examined the psychometric properties of five parenting scales designed originally for birth parents with a sample of 343 CGM (M age = 54, SD = 10.17) of target grandchildren ages 4-12 (M age = 7.81, SD = 2.56 ; 51% male) enrolled in a multisite randomized clinical trial. At baseline, CGM were asked to complete five parenting scales commonly used with birth parents to assess Inconsistent Discipline; Harsh Discipline; Effective Discipline; Warmth; and Nurturance. Confirmatory Factor Analyses (Mplus 7.11) revealed that the respective items on these five scales measured the same latent constructs in our CGM sample that they were intended to assess among birth parents (CFI = .94 ; RMSEA = .05 ). We also computed Cronbach's alpha values to evaluate the internal consistency of each measure (range = .72 to .88). To examine construct validity, we then used SEM analyses (Mplus 7.11) to see if these five parenting scales related to indices of CGM psychological distress and TCG behavioral outcomes as theoretically predicted by the Family Stress Model. As expected, statistically significant pathways were observed between CGM distress, each of the five parenting scales, and TCG behavioral outcomes (CFI = .97; RMSEA = .054 ). We conclude that the five parenting scales examined here are psychometrically sound and suitable for use with samples of CGM. [Funded by R01NR012256]

### THE EFFECT OF SPEED OF PROCESSING TRAINING ON IADLS AND DEPRESSIVE SYMPTOMS: RESULTS FROM THE IHAMS RANDOMIZED CONTROLLED TRIAL

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Background: Age-related declines in cognition are common. Recent clinical trials have shown that computerized speed of processing training (SOPT) can improve both targeted and non-targeted cognitive outcomes, but evidence of its effects on health outcomes is limited. Methods: Within two age-bands (50-64, > 65) 681 patients were randomized to four groups that each received ten hours of initial training. There were three SOPT intervention groups (on-site, on-site with four hours of subsequent booster-training, or at-home) and an on-site attention-control group using computerized crossword puzzles. Six-hundred-twenty participants (91%) were re-assessed at one year. The onset of difficulties with one or more additional IADLs, and depressive symptomatology reductions of three or more points (0.66 SD) were evaluated using logistic regression analysis. Results: 97 participants (15.6%) experienced the onset of one or more additional IADLs. The SOPT with booster-training group reduced the odds of additional IADL onset (AOR = 0.39, p = 0.013) compared to the attention-control group, but the on-site SOPT and at-home SOPT groups did not. 102 participants (16.5%) experienced declines of three or more points on the CESD-12. The SOPT with booster-training group increased the odds of experiencing such declines on the CESD-12 (AOR = 2.80, p = 0.003) compared to the attention-group, but the on-site SOPT and at-home SOPT groups did not. Conclusion: Fourteen hours of SOPT training led to meaningful and enduring improvements in the everyday lives

of older adults by protecting against IADL progression and reducing depressive symptomatology.

### THE MULTIDISCIPLINARY DIAGNOSTIC MEDICAL VISIT AT THE COGNITIVE DISORDERS PROGRAM

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The University of Michigan Geriatrics Center, Cognitive Disorders Program provides neurological evaluation and treatment planning for patients with changes in memory. The full evaluation typically spans 3 clinic appointments, including full neurology intake, neuropsychological or imaging testing and diagnostic test review appointment. Since 2013, the Cognitive Disorders Program (CDP), piloted a multidisciplinary team approach for the diagnostic clinic visit schedule of two neurologists: test results review, diagnosis, and treatment planning are reviewed with patients and family caregivers and addressed by a neurologist, nurse practitioner and social worker during one joint clinic appointment. Research (Bunn et al/2012) shows that patients and families desire ongoing support throughout their experience with dementia. Research also indicates that the patient and family caregiver(s) experience the discussion of diagnosis and condition very differently. A multidisciplinary approach provides both patient and family member ample opportunity for individual attention by various team members, or separate time to discuss individual concerns and questions privately with clinic providers. In order to evaluate the effectiveness and value of a multidisciplinary diagnostic visit, a quality improvement project was initiated during the implementation of the pilot process. The CDP team conducts on average 3-5 weekly multidisciplinary diagnostic visits. An analysis of a telephone survey to patients/ family caregivers was designed to provide data about effectiveness and quality improvement areas for the multidisciplinary approach. This study's aim is to verify the hypothesis that patients/families benefit from direct access to the multidisciplinary team and benefit from available supports in managing care giving concerns.

### A MENTAL MODEL APPROACH TO AGING AND STRATEGY SELECTION

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Older adults often perform worse in laboratory task compared to younger adults. Although primarily attributable to decreases in fluid cognitive abilities, age-related performance declines are sometimes exacerbated by sub-optimal strategic choices. Models of strategy selection assume an accurate mental task representation is necessary to choose appropriate strategies. However, task understanding has not been measured directly in older and younger adults. We take a mental model approach to understanding how older and younger adults understand a task and how this impacts strategic choices. Of particular interest is how task understanding and strategic choices change with task experience. Mental model and metacognitive theories suggests that errors in task understanding are corrected through a process of task and performance monitoring and updating. If monitoring and updating require executive control, older adults may fail update their mental models of the task and persist with sub-optimal strategies as a result. Participants learned about a novel chemistry task requiring them to manage a chemical solution and decide what chemicals to add to maintain a chemical balance in the solution. The task was disguised by arbitrary terminology (e.g., Liquid Chemical D, Property Q) but otherwise directly analogous to managing a swimming pool (e.g., adding chlorine, managing pH). Older and younger adults' mental models of the task were measured after instruction and again after task performance. Participants mental models were compared with task performance to assess the impact of mental model updating on strategic choices.

## PSYCHOMETRIC PROPERTIES OF THE CAREGIVER REACTION SCALE

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Reliable and valid measures of caregiver burden and stresses are critical components of providing effective care to family caregivers because these measures inform treatment options and interventions. Assessments should be comprehensive, including positive aspects of caregiving as well as multiple dimensions of stress and burden. One such measure is the Caregiver Reaction Scale (CRS; Qualls & Kenny, 2008), a clinical tool adapted from research protocols developed by Pearlin et al. (1990) for use in mental health service settings. The CRS is a multi-dimensional scale designed for clinical practice that assesses caregiver burden in addition to feelings of competence and self-confidence. This study examined the psychometric properties of the CRS using a sample of  $N = 483$  family caregivers seeking services in a community based mental health and aging family service agency. 9 of the 10 subscales of the CRS exhibited very good internal reliability consistency  $\alpha \geq .82$ . Test-retest reliability, conducted on a smaller sample of caregivers, was  $r \geq .7$  and convergent validity evidence is positive. A report format was created using visual analog presentation of results for each of the subscales. Means and standard deviations are reported for the clinical sample, both of which are visible on the analog report format used by clinicians. The CRS offers service providers a tool to assess particular dimensions of caregiver experience that can guide interventions and may be used in evaluation.

## MEASUREMENT INVARIANCE TESTING OF A MULTIDIMENSIONAL SCALE OF ATTITUDES TOWARD OLDER ADULTS IN TAIWANESE AND AMERICAN COLLEGE STUDENTS

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Previous research has produced mixed findings about the relative positivity of aging stereotypes in Asia and the United States, and one underexplored explanation is that cross cultural differences are domain specific. We examined the utility of one measurement tool for drawing these comparisons across domains by adapting the Older Person Scale (OPS; developed in Taiwan, Lu & Kao, 2009) for use in English and examining its psychometric properties of partial measurement invariance across two samples of Taiwanese ( $N=658$ ) and American ( $N=936$ ) college students. The 35-item OPS assesses four domains: Physical (5 items), Psychological (10 items), Relationship (15 items), and Employment (5 items). However, confirmatory factor analyses did not support the four-factor model as suggested by the original scale model in either sample. Analyses of each domain separately demonstrate invariance for the Physical, Psychological, and Relationship domains constrained for equality of factor loadings across culture groups. In particular, the Physical domain items exhibit the strongest measurement properties for both groups. Items from the Psychological and Relationship domains required substantial revisions to the measurement model to achieve equality of factor loadings across groups. The Employment domain performs poorly for the American sample. Even after excluding poorly performing items, our findings suggest that items from this scale are not tapping the higher order construct of attitudes toward older adults in the hypothesized four domains for Taiwanese or American college students in this study. Results suggest that some items may have different meanings between Taiwanese and American cultural contexts.

## A VALIDATION OF THE LIFE SATISFACTION SCALE IN A POPULATION OF ADS PARTICIPANTS

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With evidence building that adult day services (ADS) benefit family caregivers of frail elders, attention turns to measuring their effect on participants. Life satisfaction is a subjective indicator of well-being

that may be difficult for cognitively impaired adults to express. Virginia Tech's ADS adopted the 32-item Lohmann's Life Satisfaction Scale (LSS;1980) for care planning because items reflect dimensions of well-being relevant to the client population. Published psychometrics on the scale, however, are limited. With several years' worth of LSS assessments with a population exhibiting mild to moderate dementia, the current study explores the psychometric properties of the LSS as a research and practice tool. Virginia Tech's ADS integrated assessment system includes an established measure of depression (Geriatric Depression Scale [GDS]; Greenberg, 2007), reflecting the mental health dimension of quality of life (QOL). We assessed the psychometric properties of the LSS by analyzing data for individuals ( $N = 87$ ) who had completed the GDS and LSS within one week of each other. The LSS demonstrated high internal consistency ( $\alpha=.91$ ). Most individual items positively correlated with the LSS sum score ( $p < 0.01$ ). Individual item and sum LSS scores negatively correlated with GDS sum scores ( $r = -.23$  to  $-.81$ ,  $p < 0.01$ ), indicating that individuals with less depressive symptoms are more satisfied with life. With few options for self-reported QOL for persons with dementia, our data suggest that the LSS is a viable tool for care providers and researchers striving to understand and improve participants' experiences in ADS.

## OUTCOME RATING SCALE: VALIDITY IN AN OLDER ADULT SAMPLE

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Evaluating outcomes and assessing the client's belief about their progress have been shown to improve overall effectiveness of the treatment and improve treatment success in cases with poor prognoses. The Outcome Rating Scale (ORS; Miller, Duncan, Brown, Sparks, & Claud, 2003) was designed to assess treatment outcomes and can be administered quickly and efficiently in a clinical setting but it has not been validated in a sample composed entirely of older adults. The ORS is a 4-item scale that uses a visual analog to assess individual, social, interpersonal, and overall well-being. This preliminary study examined the psychometric properties of the ORS for older adults using a sample of  $N = 42$  help-seeking older adults (age  $M = 71$ ) who completed the assessment on at least 3 occasions approximately 7 days apart during the course of treatment. Test-retest for 3 of the 4 items and the total score were good  $r \geq .71$ . Internal consistency reliability for the ORS at all times of assessment was excellent  $\alpha \geq .95$ . Overall, no notable differences in ORS scores for male and female participants were found. The ORS appears to be a valid and reliable assessment of treatment effectiveness for use in an older adult population.

## A SYSTEMATIC REVIEW OF TYPE 2 DIABETES MELLITUS AND HYPERTENSION IN NEUROIMAGING STUDIES OF COGNITIVE AGING: TIME TO ESTABLISH NEW NORMS

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The rising prevalence of type 2 diabetes (T2DM) and hypertension in older adults and the deleterious effect of these conditions on cerebrovascular and brain health warrant attention from cognitive aging neuroimaging research. Specifically, interpretation of individual or group differences in blood oxygenation level dependent (BOLD) MRI or positron emission tomography (PET H2O15) signals as reflective of differences in neural activation underlying a cognitive operation of interest requires assumptions of intact vascular health amongst the study participants. Without adequate screening, inclusion of individuals with T2DM and/or hypertension in "healthy" samples may introduce

unwanted variability and bias to brain and/or cognitive measures, and increase potential for error. We conducted a systematic review of the cognitive aging neuroimaging literature to document the extent to which researchers account for these conditions. Of the 232 studies selected for review, few explicitly excluded individuals with T2DM (9%) or hypertension (13%). A large portion had exclusion criteria that made it difficult to determine whether T2DM or hypertension were excluded (44% and 37%), and many did not mention any selection criteria related to T2DM or hypertension (34% and 22%). Of all the surveyed studies, only 29% acknowledged or addressed the potential influence of inter-subject vascular variability on the measured BOLD or PET signals. To reinforce the notion that individuals with T2DM and hypertension should not be overlooked as a potential source of bias, we provide an overview of metabolic and vascular changes associated with T2DM and hypertension, as they relate to cerebrovascular and brain health.

### **WHAT'S THAT SMELL? EXPLORING THE ASSOCIATIONS BETWEEN APOE E4, WORRY, AND AGE THROUGH OLFACTION**

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The aim of the current study was to explore the effects of worry and the e4 allele of the Apolipoprotein E gene (apoE4) on olfactory learning and memory in healthy young and older adults. The olfactory modality is uniquely suited for studying the interaction of apoE4 and worry on cognition. Carriers of e4 allele (apoE4+) perform worse on tests of olfaction compared to noncarriers (apoE4-), and olfactory deficits are associated with certain anxiety-related psychological disorders that are associated with worry. It was hypothesized that higher worry scores would be associated with the poorest performance on tests of odor memory in older apoE4+ adults. Approximately 32 older (60+ years) and 32 younger (18-26 years) adults completed the California Odor Learning Test to obtain measures of odor recall, recognition, and identification. All participants were genotyped for apoE4 status, and completed the Penn State Worry Questionnaire to measure their tendency to worry. Multiple regression analyses including all the 2-way and 3-way interactions were conducted for each of the memory indices. Results for odor recognition and identification revealed nonsignificant interaction effects. Results for odor recall indicated that higher self-reported worry was associated with higher scores on delayed odor recall in both younger and older apoE4- adults. In apoE4+ younger and older adults, worry was not significantly associated with odor recall. These findings may suggest that apoE4+ older and younger adults are not benefiting from performance effects of anxiety.

### **VASCULAR LESIONS AS A PREDICTOR OF FUNCTIONAL DECLINE AMONG OLDER ADULTS WITH MAJOR DEPRESSION**

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Depression is a leading cause of disability among older adults, but it is not fully known why some patients with depression experience functional decline. Research has shown that cerebral vascular changes, or specifically, increased white matter hyperintensities (WMH) seen on brain imaging, are associated with functional impairment. These vascular changes are also associated with late life depression. Our objective was to examine within a sample of older adults initially diagnosed with major depression whether white matter lesion volume was associated longitudinally with functional decline. The study sample was 244 patients with major depression enrolled in the Neurocognitive Outcomes of Depression in the Elderly study and followed for up to sixteen years. Limitations in basic activities of daily living (ADLs), instrumental activities of daily living (IADLs) and mobility were assessed

annually. Using mixed model regression analyses and controlling for age, race, sex, education, hypertension, and cognition at their baseline values, increased volume of WMH was associated with an increase in total limitations ( $p=0.0030$ ). The association was significant across different domains of function. We observed an increase in IADL limitations ( $p=0.0281$ ), an increase in ADL limitations ( $p=0.0011$ ), and an increase in mobility limitations ( $p<0.0001$ ) over time associated with increased WMH volume. These findings suggest increased vascular lesion volume seen in some older patients with major depression is associated with an increased risk of functional decline. Older depressed patients with vascular risk factors may benefit from treatment of cerebrovascular risk factors as well as their depression. (Supported by NIH R03MH095917)

### **PATTERNS OF EARLY EXPERIENCES AND TRAJECTORIES OF INFLAMMATORY MARKERS: THE VA NORMATIVE AGING STUDY**

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Inflammation is a key mechanism linking early adversities to later-life morbidity. We previously used a person-centered approach to identify patterns of childhood experiences across multiple domains. This study investigated the association between these patterns and trajectories of inflammatory markers in later life. We used data from the VA Normative Aging Study. In 1996, participants responded to a retrospective measure of childhood experiences, the Childhood Experiences Scale (CES). 635 men who had completed the CES provided up to 5 serum measures of inflammatory markers (CRP, IL-1 $\beta$ , IL-6) between 1999-2010 (1st visit age:  $M=72.5$ ,  $SD=6.6$ ). In a latent class analysis of CES data, we identified 3 distinct patterns of childhood experiences: normative/supportive (42%), difficult/harsh discipline (15%), and low social integration (43%). Here, we related these patterns to inflammation. First, for each biomarker, we examined whether a no-change, linear, or quadratic change model best described its age trajectory, and extracted for each man the estimated biomarker intercept and slope from the best-fitting model. ANOVA was then used to examine differences in these outcomes among the 3 childhood experience classes. For CRP, there was no significant change over age. The difficult/harsh discipline class had higher CRP than the other classes. IL-1 $\beta$  declined over age; the decline was steeper for the difficult/harsh discipline class, but not significantly so. Rates of IL6 change over age were highly variable, but classes did not differ systematically on IL6 intercept nor slope. Our findings provide some evidence supporting an association between childhood adversities and pathophysiological processes in later life.

### **PERCEIVED EVERYDAY DISCRIMINATION AND C-REACTIVE PROTEIN IN MIDDLE-AGED AND OLDER ADULTS**

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Past studies have documented that discrimination is associated with negative physical (e.g., mortality) and mental health (e.g., depression) outcomes. Cumulative disadvantage theory suggests that facing more than one type of discrimination increases the risk of negative health outcomes. Several studies have shown that C-reactive protein, a marker of systemic inflammation, predicts future cardiovascular events, chronic disease, and mortality. The current study used 2006 psychosocial and biomarker data from the nationally representative Health and Retirement Study on 4,486 middle- and older-aged adults, in order to examine age, sex, and race everyday discrimination and their relationships to elevated C-reactive protein levels ( $>3.0$  mg/L), controlling for known

covariates of C-reactive protein. The mean age of the sample was  $68.16 \pm 9.84$  and over half were female (52.10%), Caucasian (91.85%), and had at least a high school education (85.56%). We hypothesized that experience of everyday discrimination, and particularly more than one type of discrimination (age, sex, race) will be associated with elevated C-reactive protein levels. Preliminary results support the literature and suggest that less than high school education ( $OR=1.46$ ,  $p = .0003$ ), being female ( $OR=1.82$ ,  $p < .0001$ ) or African American ( $OR=1.54$ ,  $p = .0007$ ), or having a BMI over 30 ( $OR=2.90$ ,  $p < .0001$ ), as well as perceived everyday discrimination ( $OR=1.13$ ,  $p = .026$ ), are associated with elevated C-reactive protein levels. These results suggest that everyday discrimination may contribute to elevated C-reactive protein levels. The results also support the current literature that there may be long-term consequences of facing discrimination on health.

#### LEVELS OF HOMOCYSTEINE AND TRAJECTORIES OF COGNITIVE FUNCTION IN A LONGITUDINAL POPULATION-BASED STUDY

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In a recent evidence-based analysis on the association between vitamin B12 and cognitive function it was concluded that based on very low quality evidence, there does appear to be an association between homocysteine levels (a by-product of B vitamins) and the onset of dementia. One of the big challenges in research on cognitive aging is how to assess cognitive function and how to measure change in cognitive function across time. There are only a few longitudinal studies on the association between cognitive function and homocysteine that have measured cognitive function across time with multiple assessments. We examined homocysteine in relation to trajectories of cognitive function measured with a range of cognitive tests, at five time points across 8-years. The cognitive abilities examined included tests of long-term memory, short-term memory, speed, verbal and spatial ability, and the MMSE. At baseline the sample of 422 individuals was without dementia. Data was analysed using multilevel modeling adjusting for demographic- and lifestyle factors, and relevant diseases. The results showed that higher levels of homocysteine were associated with lower performance in all cognitive abilities, however, homocysteine was only associated with steeper decline in long-term memory and the MMSE. Our results indicate that high level of homocysteine is related to lower overall cognitive function in old age. The fact that the homocysteine-related effects were noted in mean level differences in cognitive performance, whereas only two cognitive measures showed differences in slopes, suggests that the negative effect of homocysteine are most pronounced in memory.

#### OLDER ADULTS' ABILITY TO IMPLICITLY LEARN AND USE NOVEL VISUOSPATIAL CONTEXTS TO ENHANCE VISUAL SEARCH

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This study investigated the ability of young (18-35 years) and older adults (60-85 years) to use contextual information in inherently low meaning visual scenes (letter arrays) to increase search efficiency. Context was created by generating repeated configurations (consistent target-distractor spatial covariation) and random configurations (no target-distractor spatial covariation). Both young and older adults implicitly learned the spatial covariation in the repeated configurations and used that knowledge to respond faster to repeated configurations than to random configurations. The results suggest that older adults could successfully use context in the form of spatial predictability to guide attention in low meaning visual scenes.

#### CHECKING OUT: EFFECTS OF TASK DURATION AND TEXT GENRE ON AGE DIFFERENCES IN ZONING OUT WHILE READING

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Previous research has found that older adults report less mind-wandering during reading than younger adults, but the reasons for this are unclear (Krawietz et al., 2012; McVay et al., 2013). The current study investigated whether task duration and text genre may account for these age differences. 34 younger and 34 older adults read a narrative and an expository text for 30 minutes each. While reading, participants were randomly probed every 2-4 minutes for the content of their thoughts. Participants indicated whether their mind was on- or off-task and whether they were unaware of being off-task ("zoning out"). We analyzed the data in a 2 (Age) x 2 (Genre) x 2 (Epoch: First or Second Half of Task) ANOVA. A significant Genre x Epoch interaction,  $F(1,66) = 6.29$ ,  $p < .05$ , showed that participants reported more zoning out for the expository text than the narrative text early in reading. Later in reading, however, zone-outs were equivalent across genres. Furthermore, the aforementioned interaction was subsumed by a significant 3-way interaction with Age,  $F(1,66)$ ,  $p < .05$ . The data show that for older adults, zoning out increased over time only for the narrative text (pairwise  $t(33)=2.09$ ,  $p < .05$ ), whereas for younger adults, zoning out increased over time only for the expository text (pairwise  $t(33) = 2.31$ ,  $p < .05$ ). Results suggest that task duration and text genre affect older and younger adults differently with regard to the extent of their mind-wandering during reading. Findings are discussed in terms of implications for cognitive aging and language processing.

#### SESSION 635 (POSTER)

##### TECHNOLOGY

#### EFFECTS OF VIRTUAL GROUP EXERCISE AT HOME (V-GEAH) ON REDUCTION IN FALL RISKS IN OLDER ADULTS WITH A HISTORY OF FALLING

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The purpose of the study was to find the adherence rate to and effects of a virtual group exercise at home (V-GEAH) program utilizing video-conference technology, which offered progressive Otago exercise three times a week for 24 weeks. The study used a randomized controlled trial. Participants were community-based people (60-89 years old) without cognitive deficit, who had fallen in the past year. Health, gait and balance, lower extremity strength, and other risk factors were assessed at baseline, 12 and 24 weeks. A treatment group ( $n=25$ ) received the V-GEAH program, a control group ( $n=27$ ) received a Tai-chi DVD. Repeated measures ANOVA and post hoc tests were the main statistics. The two groups were equivalent for all demographic and health characteristics at baseline. For the V-GEAH program, attrition was zero and an adherence rate to 72 exercise sessions was excellent (84%-93%). After interventions, the treatment group improved on strength of quadriceps, hamstring, ankle and hip extension and adduction more than the control group. Only the treatment group improved in balance confidence, stride width, basic activities of daily living, and cognition, and had fewer falls. Doing regular solitary home exercise may not be an easy task. The V-GEAH project, connecting participants and healthcare researchers, provided motivation and accountability to continue exercise, which resulted in a high adherence rate to the program and the reduction of fall risk factors. As social media technology advances, its applications to improve health behaviors will increase. Therefore, this approach should be further tested for home therapy and treatment.

## MY STROKE TEAM (MYST): A MOBILE TECHNOLOGY SOLUTION TO ENHANCE INTERPROFESSIONAL STROKE CARE

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**Purpose:** The purpose of this study was to co-create a technology-based solution with community-based interprofessional healthcare providers to support evidence-informed care and community reintegration of stroke survivors. **Methods:** A qualitative descriptive and user centered design approach was used. Interviews and focus groups were conducted with 28 providers to identify current challenges for community-based stroke care in Ontario, Canada. In addition, ten consultations were completed with 23 key stakeholders involved with Canadian stroke rehabilitation to capture insights into current gaps in community care, and provide feedback related to the technology co-creation. **Results:** Four challenges were identified: 1) fragmented communication within the homecare team; 2) no consistent means to trend client progress/deterioration; 3) home healthcare providers have limited access to resources at the point of care; and 4) gaps identified above translate to critical safety issues. The solution designed was a mobile application (My Stroke Team, MYST) to support best practice implementation in stroke care through: 1) real-time, secure, communication within the circle of care (including client and family caregiver); 2) evidence-informed safety assessments; 3) alerts to relevant providers regarding changes in client status; and 4) access to resources for stroke survivors and providers. **Conclusion:** Fundamental to the success of this innovation was engagement of end-users throughout the iterative process. MYST has potential to bridge the communication and safety gap in home healthcare, ultimately improving quality of care for stroke survivors and their families. It also has potential to be scaled up, tailored and extrapolated to other chronic conditions.

## INTELLIGENT SENSOR SYSTEM FOR EARLY ILLNESS ALERTS IN SENIOR HOUSING

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Early illness detection promotes the health, independence, and function of older adults, and is a key component of aging in place. Identifying health decline from its onset allows interventions during the first stages of illness, thus keeping older adults healthier for longer and “squaring the life curve”. Technology, in the form of environmentally embedded intelligent sensor systems, offers a cost-effective and minimally-intrusive means of early illness detection. Our team has developed an intelligent sensor system consisting of motion sensors, a hydraulic bed sensor, and a Microsoft Kinect that monitors activity, vital signs, and falls. The system is installed in the residence of an older adult, and requires no upkeep or behavior change from the resident. The system sends email messages to facility nursing staff to alert them of changing health indicators. Through a one-year prospective intervention study, we are measuring the clinical and cost-effectiveness of using sensor data compared to using only traditional health assessments to detect early signs of illness or functional decline in older adults living in 12 assisted living facilities in Missouri. Our team includes expertise from nursing, medicine, social work, electrical and computer engineering, and computer science. In addition to refining the sensor system, we are developing a user-friendly sensor interface while exploring residents’ and clinicians’ perceptions of living with and using the system. Qualitative and quantitative data will be presented from the first six months of the study.

## FUN, SOCIALIZATION AND HELPFUL STRATEGIES: SUPPORT IN CHRONIC CONDITIONS THROUGH SELFHYP'S VIRTUAL SENIOR CENTER PROGRAM

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**Background:** 3.6 million older adults with multiple medical and functional problems are considered homebound. They are socially isolated, cannot attend self-management programs and have low health literacy. Technology allows participation in the “Virtual Senior Center”(VSC) through touchscreen computers and internet. This was a feasibility study of this novel means of reaching this underserved population. **Methods:** Selfhelp Community Services offered VSC through its case management program to community dwelling, homebound elders. “Being Well” was a 4 week series of workshops lead by a geriatrician and a volunteer that adapted the Chronic Disease Self Management Program for the homebound. Pre and post phone interviews collected self-reported health and symptoms, and self-confidence in managing their health. **Results:** 23 of 50 potential participants joined at least 1 workshop, 8 participated in 3 or 4 workshops and 11 gave pre and post interviews. Participants were mostly female, average age 82.7 years and averaged 15.2 years of education. After the workshop, more than half reported increased confidence in managing their illness. Over 70% had plans to prepare a list of questions for their doctor. They enjoyed “Being Well” and would recommend it. Self-reported health status was unchanged. **Conclusion:** “Being well” workshop was well received by VSC members. We found improvement in self-efficacy, such as better communication strategies with their doctors. Continuation of these workshops with Geriatric fellows leading the sessions has been well received. These results suggest expansion of telehealth with interactive communication could benefit this homebound population.

## DAILY ROUTINES OF OLDER ADULTS: A NOVEL METHOD OF MEASUREMENT

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Characterizing health trajectories of older adults, reflected in patterns of day-to-day activities (routines), might help identify older adults who are at the greatest risk for decline and adverse events. Automated in-home monitoring systems may note deviations from daily routines and alert healthcare providers to implement timely interventions. The aim of this study was to develop clinically meaningful measures for daily routine activities using a currently developed passive sensor network. A collaborative, multi-campus project between the Schools of Nursing and Department of Engineering and Computer Science at the University of Missouri and the University of California, Los Angeles School of Nursing, focused on analyzing sensor data collected in a retirement community, TigerPlace. The resident apartments were equipped with a wireless network consisting of motion, bed and depth sensors. A retrospective multiple case study (N=6) design was used to quantify sitting behavior, bathroom visits, and sleep, operationalized as daily routine, over a 2-year period. Sitting activity (time spent sitting, sit-to-stand [STS] time) was extracted using a Kinect depth sensor positioned in the living room. A motion sensor captured activity in the bathroom (time, frequency, duration of each visit), while a hydraulic bed sensor detected restlessness and sleeping time. Data was visually inspected for trends. Within-person variability of routine activities may be useful to predict the health trajectories of older adults. Continuous and unobtrusive monitoring of routine activities by an environmental sensor network may be able to capture progressive functional decline of the older adult over time.

### PRINTED TELEPRESENCE ROBOT FOR IN-HOME TELECARE FOR AGING POPULATION

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3D printed fully customizable telepresence robots with low cost present a future-now solution to the elder care problem of modern society. The proposed telepresence robot is a teleoperated mobile robotic systems in the home of the elderly, can be either operated by a family member for remote homecare purposes, or by a healthcare professional in case of routine medical check-ups and in case of a medical emergency. The affordable laser-based 3D printing solution from our team offers these robots limitless customizability to adapt to each user's medical and health conditions. With user friendly touch screen interface, two robotic arms, a mobile platform, wifi or 3G/4G LTE as standard configuration, they can also be equipped with sensors to detect vital signs including blood pressure, glucose, heart rate, etc. for routine check-ups, and emergency solutions for medical emergency. With advanced artificial intelligence and man-in-the-loop designs, the telepresence robots could act as reliable companions bridging the user with their family members for alleviating loneliness, and offering the possibility of shifting from hospital-centred model of care in geriatrics to a home-based model, creating a future of using telepresence with mobile robotic systems in home telecare.

### THE ABSENT SENTRY IN TELEHEALTH FOR OLDER ADULTS WITH HEART FAILURE

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Data from Veterans with a diagnosis of heart failure, participating in the initial 90 days of the Care Coordination Home Telehealth program is described. First, the study thoroughly describes each daily telehealth component measurement, alerts generated from measurements exceeding either upper or lower pre-defined limits and the addition of nurse documentation after generated alerts, before reporting the association between telehealth program participation and healthcare utilization. Aim: To examine data collected for demographic, telehealth measures, and healthcare utilization the initial 90 days of program participation to identify lapses in human response to a technologic monitor of physiologic health. Results: A high proportion of older Veterans with HF participating in one telehealth program (n=186) submitted telehealth measures at least three sessions throughout the study period. Compliance was high with measuring weight, heart rate, blood pressure, and self-reported health status at each session. The data collection system and secure web-server were reliable. Duration of telehealth alerts were approximately four days before nurse documentation was found to address the occurrence of the alert episode. There were no significant differences in alert frequencies for weight, heart rate, blood pressure, or self-reported health status prior to emergent hospital readmission for decompensating heart failure. Conclusions: Description of home telehealth measurements within one telehealth program contributes to a better understanding of participant and nurse activities within one telehealth program. Full description of telehealth program data contributes to the identification of program vulnerabilities associated with the occurrence of healthcare utilization, including hospital readmission for the participant older veteran with HF. Baseline rates for compliance increased for self-monitoring and adherence with prescribed regimens, self-monitoring for symptom worsening, and reporting worsening symptoms to a member of the care coordination team when duration of alert episodes were less than four days. Nurse response to telehealth alerts was not well-documented in the electronic medical record. More research is needed to determine if nurse response to telehealth alerts impacts hospital readmission rates for worsening HF.

### VALIDITY OF A SMARTPHONE-BASED ACTIVITY MONITORING AND FALL DETECTION APPLICATION FOR OLDER PERSONS

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Background: The GoLivePhone® (GLP) is an easy-to-use smartphone-based application with various functionalities (e.g. activity monitoring, fall detection, medication management support, etc.) that can assist community-dwelling older persons in independent living. The aim of this study was to evaluate the validity of the activity monitoring and fall detection functionality of the GLP. Methods: For the validation study of the activity monitoring functionality 15 participants (6 men, age 18-70) were included. Participants walked on a treadmill for 10 minutes starting at 3 km/h accelerating their walking speed with 1 km/h each minute, while wearing a GLP in their trouser pocket and an Actigraph GT3X and a PAM accelerometer on their hip. Pearson Correlations were calculated for intensity of activity registered per minute (in METs). For the validation study of the fall detection functionality, 8 healthy adults (4 men, age 18-24) were included. Participants simulated in total 400 falls, 200 falls with recovery, and 440 daily activities while wearing the GLP in their trouser pocket. Sensitivity and specificity were calculated. Results: Pearson correlation between the GLP activity monitoring application and the Actigraph GT3X and PAM accelerometer were .77 and .84 respectively (p < .01). Sensitivity and specificity of the fall detection application were .89 and .89 respectively. Conclusion: Smartphone-based applications, such as the GLP, can support older persons in independent living by providing valid feedback to them regarding their level of physical activity. Furthermore, valid fall alarms can be generated but it is recommended that sensitivity and specificity are increased before implementation in practice.

### INFLUENCE OF COMPUTERIZED COGNITIVE TRAINING ON MEASURES OF PHYSICAL FUNCTION

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Background: Cognitive training has been shown to improve components of cognition with a transfer effect into improvements in function. The purpose of this study was to examine the effects of a computerized cognitive training (CCT) program focused on the areas of attention, set shifting, and visual spatial ability on measures of physical function and fall risk in two groups of community dwelling older adults: those with an initial gait speed of <1.0m/s and those with a gait speed of >1.0m/s. Methods: Twenty community dwelling older adults (slow gait speed group: N=10; fast gait speed group N=10) participated in six weeks of CCT at 3x/wk with measurements at pre/post intervention. Outcomes measures included gait speed, TUG performance, and repeated sit to stand testing. Results: At pre-test, the groups did not differ in age, education level, or in the performance on the cognition assessments. At post-test, subjects in the slow gait speed group demonstrated a statistically significant improvement in gait speed after CCT (Mdn=.65, z= -3.1, p=.002). No significant differences were found on the FTSTS or TUG in either group after CCT. Discussion: For slower walkers, participating in a six week CCT program resulted in an increase in gait speed, however other measures of fall risk were not significantly different from the faster walkers. Conclusions: Further studies are needed to examine how other frequencies of CCT affects physical function and potentially, fall risk.



## REHABILITATIVE CARE

**REVIEW OF RESEARCH EVIDENCE ON THE EFFECTIVENESS OF WHOLE BODY VIBRATION (WBV) ON THE MUSCLE MASS AND STRENGTH OF ADULTS 55 AND OLDER**

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**PURPOSE:** To evaluate research evidence on the effectiveness of WBV in increasing muscle mass and muscle strength of adults 55 and older. **DESIGN:** Research review, consisting of an evaluation of the level of evidence and the quality of research. **METHODS:** A literature search of articles evaluating the effects of WBV on muscle mass and/or muscle strength was conducted using PubMed and an EBSCOhost. The articles should have been English-only articles published between January 2000 and November 2013. Studies comparing WBV to other forms of strength training were included if there was a control group that did not receive any training or received sham WBV. Studies were included if their subjects involved active, healthy adults 55 years and older during. **RESULTS:** Twelve articles met the inclusion criteria. One assessed muscle mass, three assessed muscle mass and strength, seven assessed strength, and one was a follow-up study measuring muscle mass and strength. The study assessing muscle mass reported no significant changes. All other studies reported significant improvements in muscle mass and/or strength. The follow-up study reported a reduction in muscle mass a year after the study. **CONCLUSIONS:** Research on the effect of WBV training on muscle mass and/or strength in adults aged 55 years and older were either Level Ib or IIa. Ten were moderate quality and two were weak quality. All reported significant changes in both measures except one. The follow-up study suggested that gains in muscle mass would be lost without an exercise program; improvement in strength may be retained.

**ANALYSIS OF EXERCISE PROGRAMS IN ASSISTED LIVING FACILITIES – A CROSS-SECTIONAL STUDY**

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**Introduction.** As the population ages, there is an increasing need for data on nature and type of exercise programs in healthy elderly individuals. The purpose of this study was to describe the characteristics of exercise programs in assisted living facilities. **Methods.** This study was conducted in 12 assisted living facilities in an urban area. The inclusion criteria for subjects were: 65 years and older, able to walk to the activity room with or without an ambulatory device, and able to follow two-step commands. The data collected included number of participants during at the time, demographics of participants and activity directors as well as exercise characteristics (type/mode, quality, intensity, and frequency). **Results:** In total 216 subjects, ranging from 9 to 29 subjects depending on facilities, participated the study. Fifty five percent of them used assistive devices including walkers or canes. The activity directors' year of experience is from 2-12 years and their education background vary from liberal arts to science. Seated exercises were provided in all 12 facilities, but 4/12 also had additional standing exercise activities. The exercise programs included range of motion exercise only (6/12) or combined with resistance training (6/12). The exercise parameters were identified as: 3-5 times a week, 30-45 minutes each session, 1-2 sets of 10-20 repetitions for each exercise. Exercise precautions were stressed in 4 facilities by activity directors. However, no facility had emphasized exercise precaution and quality movement of each exercise (defined as "true completion of full range of motion for each exercise movement"). **Conclusion:** Exercise programs in residential care settings encompass a wide range of exercises. The exercises programs predominantly were

low intensity chair exercises including flexibility with or without light resistance training. The selection of exercise programs and parameters are affected by the activity director's year of experience and education background. Training and re-training of activity directors may be needed to ensure quality exercises to be provided.

**EFFECT OF A QI-GONG ON BALANCE AND QUALITY OF LIFE AMONG OLDER ADULTS – A PILOT STUDY**

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**Background:** Tai Chi (TC) and Qi-Gong (QG) are two most commonly performed exercise programs among older adults in China. In recent years in US, TC has been extensively studied and strongly promoted by medical clinicians and researchers to improve balance, strength, endurance, and general health among elderly people. However, the QG, which emphasize slow movement and more attention to the circulation of Qi (the inner energy) in the body, has not been as widely practiced and studied in US as the TC has. The purpose of this study was to identify if the first 6 forms of the routinely used 24 forms can improve subjects' balance and quality of life. **Method:** The pilot study was conducted in a retirement community. The most popularly practiced Qi Gong movement "Ba-Duan-Jin" (Eight Silk Movement) was introduced, learned and practiced by the study participants. The Ba-Duan-Jin includes eight different slow movements with each focusing on different accupoints of meridians. The intervention parameters were 30 minutes per session, 3 times per week for total of 12 weeks. Twenty subjects qualified with the following selection criteria: 65 years and older, cognitively intact, and able to ambulate independently with or without an assistive device to walk to the activity room. **Outcome measures include:** a short questionnaire asking about subjects' subjective feeling of balance, control of daily movement, general health, general breathing, single leg stance (SLS), chair rising test (CRT), Tinetti Balance Test (TBT), modified Falls Efficacy Scale (MFES), and SF-12 for quality of life. Data from the study was analyzed with PASW 17.0. **Results:** Six subjects dropped out of the study because of personal reasons or hospitalization. Among 14 subjects who completed this study, all of them (100%) felt their balance and control of daily movement improved as somewhat to great deal. Seventy-one of subjects reported general health improvement and 79% reported that they have better ability to adjust their breathing. With the paired t-tests, statistically significant differences were identified between the post-intervention in SLS, TBT, and MFES (all  $p < .01$ ) as well as CRT and SF-12 ( $p < 0.05$ ). **Conclusions:** The eight movements Qi Gong (Ba-Duan-Jin) can improve balance, lower extremity strength, quality of life, and fear of falling among older adults living in a retirement community. This Qi Gong Program may provide one of many exercise choices for clinicians to consider for older adults living in senior communities.

**SELF-MANAGEMENT GROUPS FOR PEOPLE WITH DEMENTIA AND THEIR SPOUSAL CAREGIVERS - A RANDOMIZED, CONTROLLED TRIAL**

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**Introduction** No previous studies have investigated the effectiveness of self-management group rehabilitation for people with dementia and their caregivers on their quality of life (QOL). **Method** During 2011-12, 136 patients with dementia and their spouses were randomized into two arms: group-based self-management intervention group (n=67 couples) and controls (n=69 couples). The patients and spouses met in separate

closed groups (ten participants per group) 4 hours once a week for 8 weeks. Intervention sessions were based on “Circle of Friends-method”, facilitating peer support and discussions including topics according to participants’ preferences and needs. The aim was to enhance participants’ self-efficacy, problem-solving skills and mastery. Participants were assessed at baseline, 3 and 9 months. Results The mean age of participants with dementia was 76.8 years, 38% were females, and 72% were at mild stage of dementia according to the Clinical Dementia Rating (CDR) scale. The participation rate in group sessions was high among patients (93%) and their spouses (93%). Participants felt the group sessions useful and supportive for themselves. Cognitive scores (clock drawing test and verbal fluency) of the patients and QOL (SF-36) of the spousal caregivers improved relative to baseline in the intervention group compared with the controls. This change was significant at 9 months assessment. Conclusion Self-management group rehabilitation improved patients’ cognition and caregivers’ QOL. This is a new treatment model to support patients at their early stage of dementia and their caregivers.

#### **AGE RELATED SATISFACTION WITH INDIVIDUALIZED CARE, THERAPIST CHARACTERISTICS, OUTCOMES AND ORGANIZATION AT A FREE CLINIC FOR PERSONS RECEIVING PHYSICAL THERAPY**

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Satisfaction is associated with quality healthcare, improved adherence and improved outcomes. The purpose of this study is to evaluate satisfaction with pro bono physical therapy for older compared to younger adults, all of whom have no health insurance and thus, have barriers to accessing physical therapy care. Methods: This is a prospective observational cohort study. Survey was developed from validated satisfaction research questions related to individualized care, therapist characteristics, outcomes and care organization. Final 30 item survey was administered after the first visit. Medical chart abstraction collected additional data on functional difficulties and comorbidities. SPSS 19 used for univariate and bivariate analysis. Surveys were scanned for data entry. Results: Seventy-two subjects completed surveys with 56% female, 71% black, 36% older than 55 years, 44% depression diagnosis and an average of four comorbidities related to function. Subjects were overall satisfied after the first visit of physical therapy. The strongest associations with satisfaction for both age groups was therapist characteristics and individualized care ( $r=.49$ ). “The way the condition affected me was taken into account” was the strongest satisfaction related question ( $r=.5$ ) overall. “The meaning of the illness to me personally was taken into account” was the strongest satisfaction related question ( $r=.53$ ) for older adults. Conclusions: Data suggest pro bono physical therapy is valued after an initial visit. Satisfaction is related to both therapist characteristics and individualized care. Physical therapists practicing in pro bono settings should emphasize individualized care that considers adult lifespan differences

#### **EFFECTS OF CO-MORBIDITIES ON MEDICARE CLAIMS FOR REHABILITATION SERVICES AFTER STROKE**

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The majority of older adults who experience strokes have multiple chronic conditions. Multi-morbidity is thought to have many adverse health consequences including disability, higher rates of institutionalization and increased use of health care resources, but little is known about whether the presence of co-morbidities affects usage of physical therapy (PT), occupational therapy (OT), or speech and language therapy (SLT) after a stroke event. Using data from the national Caring for Adults Recovering from the Effects of Stroke (CARES) project,

Medicare claims data were examined for 81 CARES participants who had traditional Medicare coverage continuously for at least 6 months before and 6 months after an adjudicated stroke event. Medical records were reviewed to determine the presence of coronary artery disease, peripheral vascular disease, arrhythmias, diabetes, or hypertension at the time of stroke. The sample was 46% female and 30% African American. The association of each co-morbidity with the use of rehabilitative therapy after stroke was examined. A history of coronary artery disease was associated with fewer Medicare claims for PT ( $p=0.002$ ), OT ( $p=0.008$ ), and SLT ( $p=0.008$ ) in the 6-month period after stroke. No significant relationships with rehabilitative care utilization were observed for the other co-morbidities. These data suggest that stroke survivors with coronary artery disease are less likely to receive rehabilitative care post-stroke. It remains unclear if this is due to poor exercise tolerance, frailty, or other barriers to rehabilitative care. Further study is needed to better understand the determinants of receiving rehabilitative care after stroke among Medicare beneficiaries.

#### **BALANCE IMPROVEMENT AFTER MOTOR-COGNITIVE TRAINING IN ELDERLY PEOPLE**

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Background. Video game interventions have demonstrated consistent positive effects on physical and cognitive abilities in older adults. This study compared two training groups that achieved similar amounts of mobility and balance exercise where one group received a balance intervention by interactive video games that combined physical activity and cognitive challenge. The aim was to investigate the different effects of these two training programs on balance and cognition function in community-living, healthy, and well-functioning older adults. Methods. A randomized controlled trial was conducted with a total of 34 participants with blinded baseline and follow-up assessments. The participants were sedentary older community-dwelling adults. The 14 individual intervention sessions were composed for usual exercises to improve the mobility and balance exercises in standing, without upper limb support, with reducing the base of support and slow and fast movements of the center of gravity. Both programs were similar apart from the use the Nintendo Wii Fit Plus video game for the balance training. Balance, cognition and functional assessments were administrated at baseline, 1-week and 2-month follow-up. Results. There was a statistically significant improvement of the balance and cognitive function restrict to the training group that use the video game. This group obtained statistically significant superior performance after training in comparison to the control training group for all of outcomes. Conclusion. Balance training associated with video games that combine physical activity and cognitive challenge can improve balance and cognitive functions in healthy older adults, remediating the aging decline.

#### **IMPROVEMENT ON GAIT, FUNCTIONAL STATUS AND COGNITION AFTER MOTOR COGNITIVE TRAINING IN PATIENTS WITH PARKINSON DISEASE**

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The objective was to compare the efficiency of a motor-cognitive training with an isolated motor training on improvement of gait, functional status and cognitive functions of patients with Parkinson disease. It was selected 20 patients with Parkinson disease, mean age of 65.7 (8.24) years, 12 men and 8 women, stages 1 and 2 of Hohen Yahr scale. Participants were randomized between experimental and control group. Both groups performed 14 sessions of 1 hour, twice a week. The first 30 minutes were composed by global mobility exercises. After this, the experimental group practiced 10 Nintendo Wii Fit Plus games, 5 per session, that required motor and cognitive responses and the control

group performed a training based on the motor demands of the games practiced by the experimental group. It were compared: the scores of Unified Parkinson Disease Rating Scale (UPDRS) and Montreal Cognitive Assessment (MOCA); gait performance on single and dual task and functional gait before training (BT), after training (AT) and follow up of 30 (RET1) and 60 days (RET2). There was significant interaction among both kind of training and assessment (BT, AT, RET1 and RET2) related to scores of UPDRS and MOCA (ANOVA;  $p < 0.001$ ); gait performance in dual task and functional gait (ANOVA,  $p < 0.0001$ ), confirmed by post hoc test of Tukey, that showed a higher improvement of the experimental group. The motor-cognitive training was superior to the isolated motor training in order to improve the gait, functional status and cognitive functions in Parkinson disease.

#### **FALL PREVENTION IN COMMUNITY-DWELLING OLDER ADULTS AND THE TRANSTHEORETICAL MODEL: A SYSTEMATIC REVIEW**

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**Background:** Stages of Change (SOC) and other Transtheoretical Model (TTM) methods of instruction can promote adherence to health behaviors and may be useful in fall prevention. **Purpose:** This review examines the use of SOC and related TTM concepts to predict and promote adherence to fall prevention recommendations among community-dwelling older adults. **Data Sources:** PubMed, Cochrane and Google searches of peer-reviewed sources dated February 2003 – February 2013 were conducted using keywords “fall”, “fall prevention” and “adherence” and supplemented by hand searches. **Study Selection:** 72 abstracts were screened resulting in seven articles that met the inclusion criteria of CEBM Levels I-III. **Data Extraction / Synthesis:** A standardized critical appraisal form was used to assign quality ratings and extract information which was entered into literature matrices and narratively summarized. **Results:** Seven studies provided conceptual support for SOC/TTM use by health care providers to promote community-dwelling older adults’ adherence to balance and strengthening fall prevention recommendations. Only one of these studies scored a positive quality rating. No outcomes studies relating adherence to assistive device or environmental modifications met the inclusion criteria. **Conclusions:** There are strong conceptual frameworks but limited empirical support for using SOC / TTM to predict and promote adherence to fall prevention recommendations among community-dwelling older adults. Available studies focus on adherence to strengthening and balance exercises. Further research on exercise, assistive device and environmental modification adherence is needed.

#### **ABILITY TO WALK AMONG HOSPITALIZED ELDERLY PATIENTS TREATED AT AN ACUTE CARE HOSPITAL IN JAPAN**

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**Introduction:** Many older adults lose their ability to walk during hospitalization; most subsequently fail to recover their ambulatory function. This functional decline results in a decreased quality of life and increased physical, psychological and financial burdens on family caregivers. Although many hospitals attempt to shorten the average duration of hospitalization, this results in difficulties in preventing functional declines in walking. Therefore, there is an urgent need to improve this situation. **Objectives:** To assess the ability to walk among hospitalized elderly patients and identify factors that deteriorate this function. **Methods:** A retrospective cohort study of the electric charts of 516 patients over 75 years of age treated at a teaching hospital in an urban area was conducted. On admission, 174 patients had pneumonia, 293 had aspiration pneumonia and 102 had urinary tract infections. Differences in the walking function between the time of admission and discharge were compared. **Results:** A total of 217 patients were bedrid-

den from admission to discharge. No patients were able to maintain their ability to walk independently during hospitalization. Of these patients, 95 required a wheelchair or walking assistance and 113 improved their walking ability, for example, from “bedridden to walking with assistance,” “requiring a wheelchair to walking with assistance,” or “walking with assistance to walking independently.” The walking level declined in 16 patients, and 128 patients died during hospitalization. **Conclusions:** Elderly hospitalized patients are at risk of declines in their walking ability. Further investigation is needed to clarify factors that inhibit the ability to walk.

### **SESSION 645 (POSTER)**

#### **FAMILIES AND CARE**

##### **EXPLORING RELATIONSHIP BETWEEN FAMILY CAREGIVERS’ BURDEN AND QUALITY OF LIFE IN ELDER CANCER PATIENTS**

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**Background / Aim:** Family caregivers (FC) of cancer patients often feel strains from caring for patients’ needs in trajectory of the disease. FC’s health status and positivity attitude may affect cancer patients’ quality of life. To date, few were known regarding the dynamic between FC’s burden and patients’ quality of life. This preliminary data analysis was employed (1) to explore factors affecting family caregiver’s burden and (2) to identify how FC’s caregiving burden affects elder cancer patient’s quality of life. **Method:** Secondary analysis from a large data bank. Data provided from the Psychosocial Data Registry, Case Western Reserve University, CA-103736-02, Barbara Daly, PI. FACT-G (Functional Assessment of Cancer Therapy-General) was used to measure patients’ quality of life; POMS (Profile of Mood States) was used to measure patients’ mood state. Caregivers’ burden was measured by CRA (Caregiver Reaction Assessment) and POMS (Profile of Mood States). **Result:** Total 89 dyads of elder cancer patients and their family caregivers were included in regression analyses. Family caregivers mainly were patients’ spouses. The results yielded (1) FC’s health problem, other psychosocial factors, and patients’ demographic factors significantly explain FC’s mood disturbance (Adjust R<sup>2</sup>= 32%,  $p < 0.001$ ); (2) FC’s disrupted schedule and gender are two significant factors ( $p < 0.05$ ) in the second regression model that explains total of 24% variance of patient’s quality of life. **Discussion:** Results suggested a possible interaction effects between FC’s burden and elder cancer patients’ quality of life. Further investigation on this phenomenon is needed. (**Key Words:** FC, Family Caregivers Burden, Quality of Life)

##### **HISPANIC/LATINOS WITH ALZHEIMER’S DISEASE: DISPARITIES AMONG INDIVIDUALS AND THEIR FAMILY CAREGIVERS**

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There are critical disparities among Hispanic/Latinos with Alzheimer’s Disease (AD) and their family caregivers. Hispanic/Latinos have the fastest growing prevalence of AD in the United States, which will include 200,000- 1.3 million individuals by 2050. Additional disparities for Hispanic/Latinos with AD include: a) delayed diagnosis; b) decreased use of pharmacological treatments; and c) decreased utilization of long-term care. Hispanic/Latino family AD caregivers are on average younger; less likely to be married; more likely to have children or grandchildren under the age of 18 years living in their household; and they report higher levels of care burden. These disparities are often attributed to a lack of knowledge about the signs and symptoms of AD, social factors, cultural beliefs, and economic barriers. Participating in traditional caregivers support interventions is more difficult for Hispanic/Latino caregivers of PWD due to a lack of health insurance,

cultural beliefs, reduced income, lack of transportation, and need for childcare. Targeted interventions are needed to support Hispanic/Latino individuals with AD and their family caregivers.

### **INFLUENCE FACTORS ON FAMILY STRESS IN THE FAMILIES OF THE ELDERLY WITH DEMENTIA**

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**Purpose.** This study was done to examine family adaptation, social support and problematic behavior in elderly with dementia on family stress of families of elderly with dementia and to identify other factors which influence family stress. **Methods.** The participants were 227 and data were collected by personal interviews using questionnaires (family stress, family adaptation, social support, problematic behavior). The data were analyzed using Pearson correlation coefficients, t-test, ANOVA SPSS/WIN 19.0 version, and stepwise multiple regression was done to identify the factors which affect the family stress in the families of elderly with dementia. **Results.** The results of this study showed as follows. The mean score of family stress was 82.62 (Total 140.00), and family stress showed a significant positive correlation with problematic behavior in elderly with dementia ( $r=.241, p<.001$ ), whereas a negative correlation with family adaptation ( $r=-.376, p<.001$ ) and social support ( $r=-.156, p=.019$ ). Family adaptation was found to be a significant predictor (13.7%) of the family stress and social support, problematic behavior of elderly with dementia and daughter-in-law was identified as significant predictors of family stress. **Conclusion.** The results of this study indicate that the daughter-in-law who is responsible for care of the elderly influences family stress as well as family adaptation and problematic behavior of elderly with dementia. Additionally, it is important to consider the socio-cultural factors in order to manage the family stress and to develop nursing intervention program. **Key Words:** Elder, Dementia, Family stress

### **A NURSE-LED CONSULTATION PROGRAM FOR FAMILIES OF THE ELDERLY**

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In old age, frailty, impairment of mobility and chronic health problems can lead to increased need of support. Often family members provide care and assistance to the elderly. Caregivers report a paucity of necessary skills and knowledge, feelings of unpreparedness to provide adequate care and increased conflicts within family. Therefore, professional support to elderly and their family members might be pivotal to alleviate stress in families. With a community-based participatory action research (CBPR) approach a nurse-led family-centered consultation has been developed with family caregivers as well as local health service providers. The program that started 2012 comprises of individual consultation sessions with an Advanced Practice Nurse that allows reflecting on the family and caregiving situation, enhancing practical skills of caregivers, and supporting self-efficacy of the family system. After a slow start the program's attendance increased. Preliminary results show a trend that caregiver burden can be alleviated (60.8,  $\pm$  20.3 vs. 53.6,  $\pm$  22.4,  $p=.268$ ). Preparedness to care increased (2.0,  $\pm$  .48 vs. 2.4,  $\pm$  .57,  $p=.01$ ). The 65 participants of 49 families were highly satisfied with the consultations. To implement a new service using a CBPR is time consuming but eventually rewarding due to a program well-adapted to the families of the elderly. The nurse-led service has a low threshold and it is assumed that the service will be more frequently used in the near future.

### **DIABETES SELF-MANAGEMENT: THE ROLE OF FAMILY IN MANAGING DIABETES OF OLDER HISPANICS**

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Diabetes self-management can be difficult and complex, and may lead to frustrations and confusion. The cognitive and sensory changes associated with aging can compound the complexities of managing diabetes for older adults. Older Hispanics, with less acculturation, may experience even more challenges in diabetes self-management. However, family support may moderate these challenges. This presentation will provide a systematic review of literature on role of the family in supporting older Hispanics in performance of diabetes self-management, focusing specifically on studies of the role family plays in lifestyle modifications and physical activity. The purpose of this presentation is to examine, the extent of role of family in diabetes self-management of older Hispanics. To perform the review, electronic databases such as Cochrane Reviews, PubMed and Google Scholar were searched using keywords "diabetes", "older Hispanic", "family", "diabetes self-management", "physical activity", "diabetes interventions." Intervention studies pertaining to diabetes self-management among older Hispanics that focused on the family were included. Articles focusing on other non-Hispanic ethnic or racial groups and interventions that were not directed to older individuals were excluded. A summary of the state of the science and most efficacious interventions will be part of the presentation.

### **FAMILY CARE-GIVING, GENDER AND LIFE-SPACE MOBILITY**

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**Aim:** Life-space (LS) refers to the spatial area a person moves through in daily life, ranging from one room to home, yard, neighborhood, town and beyond town. LS is restricted if the person reaches independently only the neighborhood level. We examined the association between being a family caregiver and LS mobility among community-dwelling older men and women. **Methods:** A total of 848 community-dwelling people (62% women) aged 75-90 years participated in Life-Space Mobility in Old Age (LISPE). Family caregiver role was established based on self-report. LS mobility composite score (range 0-120) was calculated based on the frequency, need for assistance and life-space level reached during the preceding four weeks. **Results:** In total, 29 men and 40 women were family caregivers. Among men being a caregiver was not associated with life-space mobility (71.7 SD 23.2 vs. 71.0 SD 19.9) but among women family caregivers had higher life-space mobility than those who were not caregivers (64.7 SD 17.7 vs. 59.1 SD 19.6). LS was restricted to neighborhood level for 242 people (28%). For the odds of restricted LS a significant gender by caregiver status interaction was observed ( $p<.001$ ): of the caregivers 28% of the men and 17% of the women had a restricted LS while the corresponding proportions for those not having a caregiver role were 17% and 37%, respectively. **Conclusions:** Being a family caregiver may restrict LS while it may also lead to larger LS as the care-giver needs to run the errands for the person cared for.

**CARE GAP ANALYSIS: IMPROVING OUTREACH OPPORTUNITIES TO ELDERLY PATIENTS WHO ARE DEPENDENT ON ADULT CHILDREN TO OBTAIN ACCESS TO HEALTHCARE KATHY URBAN, MN, CNS, APRN-BC, GROUP HEALTH COOPERATIVE, RISK ADJUSTED SERVICES, SEATTLE, WASHINGTON**

K. Urban, *Group Health Cooperative, Seattle, Washington*

There is strong evidence that elderly patients living on their own are dependent on their adult children to manage their healthcare access particularly related to wellness and chronic disease management. Because of this phenomenon we are able to directly correlate an increased usage of Urgent Care and Emergency Room services, frequently leading to hospitalization, when elders lack this support system. In these circumstances we can bridge the care gap and offer home care to promote optimal wellness and chronic disease management. We are further able to project by age and circumstance those patients at highest risk. We have developed algorithms to identify this at risk patient population, connected clinical teams and developed an electronic risk tracking tool to better manage this patient population. Our results are an improved chronic condition outreach program as evidenced by a greater than 60% sustained improvement in annual review of chronic conditions. We saw a doubling in referrals and utilization of our Medical House Call Program and Primary Care Providers direct referrals have improved x10 fold. The patient and caregiver feedback has been overwhelmingly positive. Our care delivery system has been enhanced, we identified a revenue source and the statistics support our continuing this program while doing additional care gap analysis into coming years.

**SPIRITUALITY AMONG WOMEN DEMENTIA CAREGIVERS: CONSTRUCT VALIDATION OF THE SPIRITUAL PERSPECTIVE SCALE**

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Spirituality has been shown to positively influence physical and psychological well-being of caregivers. Although the Spiritual Perspective Scale (SPS) developed by Reed (1986) has been used to measure spirituality among caregivers, it was originally developed for terminally ill hospitalized patients, and there is no documented psychometric evaluation of the scale's reliability and validity among women dementia caregivers. This secondary analysis of data obtained from 138 women dementia caregivers evaluated the psychometric properties of the 10-item SPS. Exploratory factor analysis revealed a single factor solution for the SPS with average primary factor loadings greater than 0.7. Except for one item, which focused on forgiveness, inter-item correlations were greater than 0.5. As a reflection of strong inter-item correlations, the reliability of the SPS as measured by Cronbach's alpha was 0.93 showed strong internal consistency. Construct validity was supported by significant relationships in the expected directions between the SPS measure of spirituality and theoretically related constructs, including self-assessed health ( $r = 0.31, p < 0.01$ ), resourcefulness ( $r = 0.39, p < 0.01$ ), depression ( $r = -0.34, p < 0.01$ ), negative emotions ( $r = -0.36, p < 0.01$ ) and perceived stress ( $r = -0.31, p < 0.01$ ) thus, providing evidence for convergent and divergent validity. The findings demonstrate that the SPS is internally consistent and measures a single construct and is therefore, a potentially valuable instrument for future studies of the role of spirituality in reducing stressors associated with caregiving of older adults with dementia.

**SESSION 650 (POSTER)**

**RACE, ETHNICITY, GENDER & ACCESS**

**BARRIER TO PROSTATE CANCER SCREENING AND PREVENTION IN AFRICAN AMERICAN MEN**

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Older African American (AA) men are affected with prostate cancer at a very high rate. Of all races, they have the highest number of individuals with the disease and the highest mortality rate. New and extremely innovative approaches are needed to reverse this trend. Data shows older AA men are particularly resistant to prostate cancer screening procedures. As a consequence, the disease is often diagnosed quite late in the disease trajectory. The electronic database such as Jane.org, The Cochran Library, and PubMed, were searched using the keywords "screening barrier", "prostate cancer" "African American". Literature suggests a common barrier to screening for prostate cancer may be mistrust of older AAs towards prostate cancer screening and treatments. Other barriers may be low socio-economic status, low health literacy and lack of access to screening in the community. Some of these barriers like access to screening sites are more prevalent in AA population, and others are evident in other racial/ethnic groups. The purpose of this systematic review is to (1) identify the barriers, and to explore culturally-sensitive interventions that have been shown to be efficacious for reducing barriers to prostate cancer screening in older AA men; (2) perform a cross-cultural comparison of successful interventions with consideration of the theoretical roots of the intervention and, based on the analysis, (3) identify those interventions with most promise for application in older AA men such as family involvement, personalized education using newsletters and electronic medias.

**LIFE-SPACE MOBILITY AND 5-YEAR MORTALITY IN MEXICAN AMERICANS AGED 75 YEARS AND OLDER**

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Objective: Independent mobility is fundamental to maintaining active aging. Life-space defines movement from within one's home to movement beyond one's town or geographic region. The objective of this study is to examine the association between life-space mobility and 5-year mortality in older Mexican Americans. Methods: 731 Mexican Americans aged 75 years and older from the Hispanic Established Population for the Epidemiologic Study of the Elderly. Measures included: sociodemographic, medical conditions, depressive symptoms, cognitive function, body mass index (BMI), and activities of daily living (ADLs). Life-space assessment (LSA) was assessed by asking the participants: "during the past 4 weeks, have you been to other rooms in your home besides the room where you sleep (level 1); been to an area outside of your home (level 2); been to places in your neighborhood other than your own yard or apartment building (level 3); been to places outside your neighborhood but within your town (level 4); and been to places outside your town (level 5)." Results: Of the 731 participants, 233 were confirmed dead five years later through National Death Index (NDI) and reports from relatives. Mean score of LSA was 40.3 (SD=19.6). Controlling for all covariates, the hazard ratio (HR) of death was 0.95 (95%CI, 0.61-1.47) for those in LSA-level 2; 0.56 (95% CI, 0.34-0.96) for those in LSA-level 3; and 0.45 (95% CI, 0.23-0.89) for those in LSA-level 4-5 when compared with those in LSA-level 1. Conclusions: High level in life-space mobility was associated with decreased risk in mortality over 5-years.

## THERAPEUTIC MISPERCEPTION OF DRUG THERAPY AMONG SPANISH-SPEAKING ELDERLY PATIENTS AT A HOSPITAL-BASED GERIATRIC CLINIC: A PILOT PROJECT OF TEACHING MEDICAL INTERNS ON CULTURAL COMPETENCY

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Background: Understanding benefit and harm of drug therapy from patients is critically important in informed decision making. It is well reported that the participants from randomized controlled trials often misunderstood the benefit and harm of drug therapy. It is called “therapeutic misconception”. However, it is unknown whether such misperception exists among Spanish-speaking elderly patients in daily practice. Furthermore, whether such misperception is recognized by medical interns is not well studied. Therefore, this study was designed to enhance medical interns’ cultural competency and informed decision making on drug therapy via exploring Spanish-speaking elderly patients’ understanding of benefit and harm of drug therapy in daily practice. Methodology: this pilot study was done at a Medication Review and Reconciliation Clinic (MRC) for Older Minorities at a hospital-based geriatric clinic where each intern conducted a structured interview for older (65 and above) Spanish-speaking patients. Two questions during the interview were asked to each patient as following: 1) Do you (patient) think each medicine that you are currently taking will help you? 2) Do you (patient) think each medicine you are currently taking will cause any adverse side effect or hurt you? Spanish-speaking nursing staff at the clinic or Spanish translator from the hospital provided translation during the interview. Descriptive data was analyzed by SPSS. Results: forty five patients who used Spanish as primary language were interviewed. 56% patients were female. Average age was 75 years old. Average education was 7 years. They had five medical problems and too five medications on average. 76% (34/45) patients answered the first question. 94% (32/34) of them think medicine will help them. 64% (29/45) patients answered the 2nd question. 14% of them (4/29) think medicine will cause harm. In conclusion: a significant number of participants didn’t know how to answer the questions. Therapeutic misperception of drug therapy among Spanish-speaking elderly patients is very common. Patients perceived much more benefit than harm from drug therapy. This preliminary study could help educators to design cultural competency and informed decision making curriculum for medical interns.

## CHINESE AMERICAN SENIORS WITH HYPERTENSION: LAY STROKE BELIEFS AND TRADITIONAL CHINESE MEDICINE USE

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Methods: We recruited 34 Chinese American seniors with hypertension aged 55 years and older (mean age = 70); none had a history of stroke. A trained facilitator conducted three focus groups in Mandarin and Cantonese at a local social services organization; audio recordings were translated into English and transcribed. After developing a code book using a grounded theory approach, two authors reviewed the transcripts independently for key themes and reconciled any differences in coding. Results: Participants provided biomedical explanations for stroke and were well-informed about risk factors and symptoms; they reported sudden death rather than grave disability as a consequence. Non-biomedical etiologies included wind and extreme changes (e.g. emotions, activity level, environmental conditions). Participants were interested in using diet to prevent stroke; however, they had divergent attitudes towards combining TCM with biomedicine. While participants favored TCM for general health maintenance, they favored prescription

medications for hypertension treatment, citing convenience and rapid action despite side effects. Conclusions: Chinese American seniors are familiar with traditional stroke risk factors but also have explanatory models encompassing cultural beliefs and TCM principles. In addition to treating hypertension with prescription medications, seniors also strongly favor diet-based therapies.

## DO WE REALLY KNOW THE SYMPTOMATOLOGY OF DEPRESSION IN OLDER BLACKS?

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Depression remains as one of the most prevalent mental disorders among older adults, related to increased morbidity, suicide risk, and disability. Depressive symptoms have been found to be more frequent and health crippling for Black elders compared to age-matched Caucasians, attributed by lower life satisfaction and more exposure to major lifetime discrimination, signifying a health disparity. But little is known about the presentation of depressive symptoms in older Blacks, who may minimize or deny these symptoms with health care providers. Data gathered from in-depth qualitative interviews with 10 older Black adults living in metropolitan Los Angeles illuminates the nature and challenges of this population living with depressive symptoms. Using in-depth interviewing techniques, participants were asked about their own self-reported depressive symptoms, perceived consequences of health from their depressive symptoms, and the impact of sociodemographics, cultural beliefs and environment on depressive symptoms. Through content analysis, themes that emerged regarding depressive symptomatology can be used to inform health care providers, especially if facing challenges in detection of depression in the older Black population. By considering cultural beliefs and multiple social factors Black elders have faced in their lifetime, such as racism, health care providers can better understand the expression of depressive symptoms and its outcomes.

## FACTORS THAT INFLUENCE HEALTH CARE ACCESS FOR OLDER HMONG PATIENTS IN THE USA

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Background: Immigrant elders are an increasing percent of the aging population in the U.S. Little has been reported on issues of elderly immigrants, including the Hmong, in gaining access to health care including treatment of illness and prevention. Purpose: The purpose of this study was to identify barriers and facilitators that affect the use of treatment of illness and preventive health care by older Hmong. Methods: Eleven Hmong participants (female n = 6; male n = 5) age ranging from 34 to 70 years were interviewed by a bilingual researcher. Interviews were audio taped, transcribed verbatim, translated to English, and coded using inductive content analysis. Results: Most Hmong participants reported accessing the health care system only when symptomatic (e.g. experiencing pain), not for prevention. They also described the need for tangible proof of illness (e.g. x-rays pictures) before agreeing to treatment and a guarantee of cure before agreeing to surgery. Most Hmong described using home remedies (e.g. herbal medicine) to manage their health problems prior to seeking medical care. Health care decisions including care and treatment were always made in consultation with nuclear family members (e.g. husband/wife, children). Conclusion: Preventive care and treatment for illness in older Hmong require careful attention to Hmong cultural practices. Low access may be the result of cultural beliefs as well as system generated barriers. Increasing prevention and early intervention will require innovative strategies. Greater focus on family knowledge might also increase the use of services for prevention and treatment.

## ACCESS TO CARE AND SUPPORT: IMPACT OF SOCIOECONOMIC STATUS AND ETHNICITY

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This study examines to what extent socioeconomic status and ethnicity affect the frailty (im)balance of community-dwelling older people in Brussels and in which degree they have access to care and support. Data are derived from the Belgian Ageing Studies, a quantitative design that uses structured questionnaires to obtain information about different facets of quality of life of older adults (N=600). Analyses identified the relation between socioeconomic status, ethnicity on the one hand and frailty (im)balance and access to care and support on the other hand. The findings reveal several socioeconomic and ethnic influences on different components of frailty: (1) physical domain (e.g. (a) older people with a lower socioeconomic status suffer earlier and more frequently from health problems and functional limitations; (b) older migrants experience more health issues than older natives); (2) psychological and social domain (e.g. in terms of elder abuse there is more neglect amidst natives and more financial abuse among the migrant population); (3) environmental domain (e.g. (a) wealthier neighborhoods in Brussels know a larger supply of care services; (b) there is a huge difference in adaptation of the housing situation of older migrants and natives: older migrants live much more often in a serious maladjusted home.). Our results stress the need for a community-based approach to balance the state of frailty with respect to the different socioeconomic and ethnic groups within the population of older people in Brussels.

## GENDER DIFFERENCES IN OLDER ADULTS' FOOT SHAPES USING 3D FOOT SCANNER: IMPLICATION FOR SHOE DESIGN

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Knowledge of gender differences in foot shape assists shoe manufacturers with designing appropriate shoes for men and women. Although gender differences in foot shapes are relatively known among young men and women, less is known about how the older men and women's feet differ in shape. A recent development in foot shape assessment is the use of 3D foot scanners. To our knowledge this technology has yet to be used to examine gender differences in the shape of older adults' feet. This cross-sectional study included 151 older men (74.5 ± 5.6 years) and 140 older women (73.9 ± 5.1 years) recruited in Kasama City, Japan. Foot variables were measured in sitting and standing positions using a 3D foot scanner. Scores were analyzed as both raw and normalized to truncated foot length using independent samples t-test and analysis of covariance. Men showed significantly higher values for navicular height, height of first and little finger, instep, width of heel and metatarsal head, girth and presented lower values for the degree of hallux valgus, in both sitting and standing positions ( $p < 0.001$ , Cohen's  $d = 0.63-1.6$ ). However, after normalization, the differences in width of metatarsal head, height of first and little fingers in both sitting and standing positions and also heel width in sitting position were non-significant. Overall, the current study shows evidence of difference between some of the foot characteristics and shapes of older men and women. These differences should be considered when manufacturing shoes for older adults.

## MAKING THE CONNECTION: WOMEN-SPECIFIC BELIEFS ABOUT STROKE PREVENTION AMONG MINORITY SENIORS

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Although older racial/ethnic minority women are at greatest risk for stroke, awareness of risk factors, warning signs and prevention remains low in these groups. In order to inform effective primary prevention strategies, women-specific beliefs about stroke and how to best disseminate stroke knowledge and specific risk reduction strategies such as increasing physical activity need to be examined. The objective of this study was to identify women-specific beliefs about stroke prevention and barriers/facilitators to walking in particular as a stroke prevention method among Korean, Chinese, African American, and Latino women aged 60 years and older. We conducted 12 focus groups (3 with each ethnic group) with a sample of 132 women and men and identified beliefs that were unique or particularly important to women with this data. Focus groups were digitally audio taped, transcribed, and reviewed by 2 coders using ATLAS.ti software. Standard qualitative content-analysis methods were used. Results revealed major themes around safety, chronic medical conditions, and not identifying walking as exercise as barriers for women; motivators included having someone to walk with, fear of entering a nursing home, and losing weight. Results will identify best practices and will be used to develop a culturally-tailored stroke risk factor reduction walking intervention to be deployed in senior centers and similar community-based settings.

## GENDER DIFFERENCES IN THE RELATIONSHIP BETWEEN AGE-RELATED KIDNEY FUNCTION DECLINE AND CAROTID INTIMA-MEDIA THICKNESS IN A HEALTHY CHINESE POPULATION

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Background Aging-related decline in kidney function is an independent predictor for cardiovascular events and death. The objectives of this study were to identify gender differences in the association between age-related renal function decline and changes of carotid intima-media thickness (CIMT) in healthy Chinese individuals. Materials and methods In cross-sectional study, 852 healthy adults (aged 30–98 years, 392 men) were enrolled and examined. Kidney function was estimated by using two markers: estimated glomerular filtration rate (eGFR), which was evaluated by creatinine-based Modification of Diet in Renal Disease (MDRD) Study equation, and cystatin C (CYSC) level. CIMT was assessed using M-mode ultrasonography. Results In both males and females the age was significantly correlated with eGFR ( $r = -0.113$  for males,  $p = 0.025$ ;  $r = -0.23$  for females,  $p < 0.001$ ), CYSC ( $r = 0.38$  for males and  $r = 0.634$  for females,  $p < 0.001$ ) and CIMT ( $r = 0.429$  for males and  $0.418$  for females,  $p < 0.001$ ). In unadjusted model eGFR ( $r = -0.155$  for males,  $p = 0.02$ ;  $r = -0.194$  for females,  $p < 0.001$ ) and CYSC ( $r = 0.213$  for males and  $r = -0.372$  for females,  $p < 0.001$ ) were significantly correlated with CIMT. Multiple linear regression analysis showed that only in females CYSC was significantly associated with CIMT ( $B = 0.213$ ,  $p = 0.001$ ) after full adjustment. The association between eGFR and CIMT was significantly only in an unadjusted model and was lost after full adjustment. Conclusions Our results confirm that aging is a major factor contributing to changes in both kidney and CIMT in a healthy population. Only in females the age-related decline of kidney function was independently associated with the CIMT thickness.

## SOCIOECONOMIC INEQUALITIES IN COMPONENTS OF THE NEUROENDOCRINE SYSTEM AMONG OLDER ADULTS

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The neuroendocrine system is influenced by environmental factors operating across life, and its functioning may contribute to socioeconomic inequalities found in functional aging. We examined associations between childhood and adult socioeconomic position (SEP) with insulin-like growth factor-I (IGF-I) and testosterone among 791 men and 799 women from mainland Britain participating in the MRC National Survey of Health and Development. Fasting morning blood samples were obtained at 60–64 years—plasma IGF-I was measured by immunoassay and plasma testosterone by liquid chromatography-tandem mass spectrometry. Associations between prospectively ascertained paternal occupational class (4 years) and household income (60–64 years) with IGF-I and testosterone were examined using the relative index of inequality. Lower childhood and adulthood SEP were associated with lower IGF-I among women but not men—mean percentage difference in IGF-I comparing the lowest with the highest childhood SEP (women: -9.16, 95% CI: -17.86 to -0.46; men: 5.57, -3.05 to 14.19), adult SEP (women: -12.16, -20.63 to -3.68; men: -5.16, -13.67 to 3.35). Childhood SEP was not associated with testosterone (men: -3.65, -14.53 to 7.24; women: 15.13, -3.52 to 33.78), but lower adult SEP was associated with lower testosterone among men (-18.77, -29.43 to -8.10) but not women (-2.58, -20.82 to 15.66). Socioeconomic inequalities were found in circulating IGF-I (among women) and testosterone concentrations (among men) in early old age. Further research will examine the extent to which these inequalities explain socioeconomic differences in functional aging, and investigate whether SEP is associated with the typical mid-life declines in these profiles.

## RACE AND ETHNIC DIFFERENCES IN MORTALITY BY PHYSICAL ACTIVITY LEVEL

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Background: There is strong evidence of an association between physical activity (PA) and mortality. However, the dose response relationship is not well characterized, particularly among racial/ethnic groups. Methods: The sample comprised 2732 women and 2541 men drawn from NHANES III (1988-1994) aged  $\geq 60$  years. Participants self-reported PA and were classified as inactive, active (3-6 METs for  $\geq 5$  times/week or  $>6$  METs,  $\geq 3$  times/week), or insufficiently active (those meet neither criteria). Racial differences were modeled using proportional hazard regression (HR) adjusting for age, gender, smoking, poverty level, comorbidities. Results: Compared with whites, physically active African Americans (AA) males had reduced risk of all-cause mortality (HR: 0.71, 95% CI 0.52-0.97). In AA and Mexican American (MA) females, inactivity was associated with 28% and 35% decreased risk of all-cause mortality (HR: 0.72 [0.53-0.99] and HR: 0.65 [0.47-0.88] respectively) when compared to whites. Race/ethnicity was not related to increased CVD mortality among physically active males or females. Insufficient activity was associated with an approximately 42% decrease in overall mortality in males and females. Conclusion: The risk of all-cause mortality was decreased only in physically active AA males and those with insufficient PA. Further investigation, including

studies with longer follow-up, are needed to address the definition and health consequences of varying degrees of PA.

## SESSION 655 (POSTER)

### CAREGIVING AND SOCIAL SUPPORTS

#### KINSHIP CAREGIVERS: PREDICTING THE LIKELIHOOD OF ADOPTING THE CHILD/REN IN THEIR CARE

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Background and Introduction. Kinship caregivers are often crucial as a child care resource for families experiencing stress or temporary parenting due to illness, incarceration, or death of a parent. The purpose of this paper is to examine the demographic and social factors that predict kinship caregivers who are “likely to adopt” the children in their care. Methods. Kinship caregivers who were enrolled in a federally funded KinNET program completed the survey (N=102) and the data were entered anonymously into SPSS for analysis. Their mean age was 57.51 years (SD=10.13), 95% were female (SD=.19) and two-thirds were non-white (SD=.73). Results. Using “likelihood of adopting the child in my care,” as the outcome variable in the regression analysis, caregiver’s age, monthly income, and total hours employed were significant predictors. Data from the participants in the study were entered anonymously into the computer for analysis using the SPSS. Total pressures score, total family needs score, and total physical problems score were not statistically significant predictors. The adjusted R Square was .439 and significant (.006). Implications: This topic is important for researchers, policy analysts and practitioners who are interested in the welfare of children in kinship care. Understanding the factors that are predictive of adopting children in kinship care will help programs target services more effectively. Helping kinship caregivers and the children in their care is also important in promoting their health and social well-being.

#### INTERGENERATIONAL FAMILY RESPONSIBILITY AND SOLIDARITY IN TAIWAN: IMPLICATIONS FOR AGING POLICY

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In Taiwan, the increasing old-age dependency ratio puts state under rising financial pressure. Simultaneously, families with fewer children are faced with higher financial and caring responsibilities for their old-aged members. Do children and the elderly compete for restricted resources in families (and state)? This study had two goals: first, latent class analysis (LCA) was used to examine a typology of public opinion about how responsibility for care and financial security for elders and children should be divided between the family and society. Second, the multinomial logistic regression (MLR) was performed for analyzed the effects of the experience of intergenerational solidarity within the family on people’s attitudes towards intergenerational family responsibility and policy preferences. Data were taken from the 2011 Taiwan Social Change Survey consists of an island-wide sample of 2110 adults aged 18 years old and above. Four types were found for people’s attitudes: (a) Family Centered: both child and elderly care were family’s responsibility, (b) Shared Responsibility: both family and government had responsibility for child and elderly care, (c) Cooperative: government and family cooperated to take care elderly, and child care was family’s responsibility, (d) The Elderly Care by Society: elderly care was government’s responsibility. Overall, intergenerational solidarity matters for people’s attitudes towards family responsibility and policy preferences. The attitudes are not only subject to egocentric considerations.



## THE IMPACT OF WORK-FAMILY CONFLICT ON LIFE SATISFACTION AMONG THE ‘SANDWICH GENERATION’: THE ROLE OF INTERGENERATIONAL RELATIONS

C. Yu, J. Lin, P. Tai, C. Huang, *National Taiwan Normal University, Taipei, Taiwan*

In Taiwan, substantial reductions in fertility and increases in life expectancy over the last couple of decades have resulted in a rapidly aging society. Sandwich Generation, those people “sandwiched” between the competing demands of caring both for their children and for their parents have gained attention. This study analyzed the implications of work-family conflict and intergenerational relations for life satisfaction among the sandwiched-generation adults. Data were taken from the 2011 Taiwan Social Change Survey. Hierarchical multiple regression models were used to test intergenerational relations variables – living arrangement (co-reside with parents), intergenerational support exchange (financial support, help with household chores) and intergenerational affection – as potential mediators of the proposed negative relationship between work-family conflict and life satisfaction in mid-life. Western studies have found that providing support to elderly parents has negative effect on the wellbeing of adult children. However, the present study found that support exchanges between generations exhibited no effect on life satisfaction for either women or men. In addition, although the extended family model is culturally dominant in Taiwan, this study found no effect on life satisfaction stemming from co-residence with aging parents. This study underscores the importance of the emotional component in intergenerational relations. The emotional bonds with aging parents played an important, mediating role in the negative relationship between work-family conflict and life satisfaction for women. The results are discussed in light of the Confucian concept of filial piety and the theoretical model of intergenerational solidarity.

## CONNECTING DIVERSE CARE IDEAS: IMMIGRANT CAREGIVERS AND THE GLOBALIZATION OF ELDERCARE

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Concerns about the availability and quality of eldercare have surfaced as aging populations contend with the lack of appeal of frontline care jobs. In Massachusetts, Caribbean and African immigrants fill this labor market niche. This migration affects both the eldercare climate in the U.S. and the countries from which the caregivers migrated. Social theorists have attempted to define globalization, but few scholars ground these processes in empirical research that identifies individuals as agents of global change. Through evidence from forty in-depth interviews with first generation immigrants working as homecare and nursing home aides, this paper explores the globalization of eldercare by focusing on how paid immigrant caregivers think about and perform care for both their clients in the U.S. and for their aging relatives abroad. Immigrant caregivers evaluate the climate of government abandonment in regard to services in their sending countries in comparison with the U.S. healthcare system and entitlement programs for seniors, a system which they see lacking in communal family values. They change the climate of eldercare in their countries of origin by sending remittances, organizing care, sending medical equipment, sharing tips on hygiene and eldercare, and encouraging aging relatives to join them in the U.S. To their American clients, they emphasize fictive kinship. In essence, these immigrants are connectors of diverse ideas of eldercare across borders that homogenize eldercare “best practices” globally. By virtue of their social location as first generation immigrants working in direct care, these caregivers affect change in both sending and receiving countries.

## A STUDY OF FACTORS RELATED TO DIFFERENCES IN TYPES OF ABUSE AMONG OLDER COUPLES IN JAPAN

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The purpose of this study was to examine factors related to differences in types of abuse among Japanese older couples, by using data collected from Japan’s first nationwide survey of Certified Social Workers (CSWs) at 4,042 Community Comprehensive Support Centers (CCSCs) in August 2010. A structured questionnaire survey was provided to a randomly selected 1,282 CCSCs. A total of 621 responses from CSWs were obtained (response rate of 48.4%). 379 respondents (61.0%) reported their most recent clients for an abuse case was an older couple. Preliminary analyses revealed statistically significant relationships between types of abuse among older couples and factors, such as gender, victims’ age, degrees of care burden, whether or not victims has dementia, whether or not abuser has dementia, and perceived causes of elder abuse. For example, it was found that financial abuse was significantly related to victims being male, abusers’ health status, revenge for domestic violence (DV) at younger age, and financial distress among older couples. It was also found that neglect was significantly related to victims being male, with higher degree of care burden and with dementia, revenge for DV at younger age, caregiving fatigue, financial distress, and spousal relationships between victims and abusers. Moreover, psychological abuse was significantly related to continuation of DV from younger age and spousal relationships. Findings indicate that some current abuse cases may be reflective of long-term abusive relationships (e.g. revenge for DV, continuation of DV). CSWs may need to explore additional approaches to addressing their abuse cases that account for this.

## LONELINESS IN A SENIOR HOUSING COMMUNITY: A PILOT PROJECT

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**Aims:** The purpose of this study is to determine the extent of loneliness in a low-income senior housing building and to determine associated socio-demographic factors. **Methods:** Seventy-three older adults living in a senior housing building were invited to participate in the Social Connections Survey. In total, 70% (N=51) of the residents completed the survey which included the Hughes 3 item Loneliness Scale, and items on socio-demographics and residential history. Ethnicity is not included as an independent variable because all but two respondents were African American. **Analysis:** Correlations, T-Tests, and one-way ANOVAs were conducted to address the study aims. **Findings:** 59.2% reported that they lack companionship some of the time or often, 40% feel left out some of the time or often, and 36% feel isolated from others some of the time or often. Residents who moved further from their previous residence to live in the building ( $R=.32, p=.025$ ) and older adults of younger ages reported more loneliness ( $R=-.295, p=.049$ ). Gender, education, current employment status, and willingness to move to the senior housing community were not significantly associated with the residents’ loneliness. **Implications:** Despite living in a building with other peers, there are notable levels of loneliness, especially lack of companionship, among residents living in the senior housing community. Given the lack of association with many socio-demographic variables in this analysis, more work is needed to identify risk factors. More research on this topic is warranted given the potential for programming to reduce loneliness among older adults living in senior housing.

## WHAT MAKES INHERITANCE PROCEDURES FAIR FOR PARENTS AND ADULT CHILDREN? A PROCEDURAL JUSTICE LENS

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While “being fair” is known to be a common goal in family inheritance decisions, relatively little is known about the multiple meanings of fairness and internal guidelines family members use to evaluate fairness. This study examined if and how multidimensional conceptualizations of procedural fairness criteria are connected to and relevant for inheritance decision procedures. Participants included a convenience sample of six intergenerational family sets (one older parent and two adult children per family or 18 individuals). Data collection involved separate personal interviews including three written inheritance scenarios designed to facilitate discussions about fair processes for financial assets as well as personal possessions. Data analysis included identifying emerging fairness criteria themes from individual level transcribed texts using open coding. Modified analytical induction coding followed comparing seven a priori procedural fairness constructs to the open coded themes. Family members consistently articulated some aspect of all seven previously identified procedural justice criteria for judging the if procedures are fair including: 1) Participation (having a voice as owners/receivers, communication, sense of control), 2) Respect for status and standing in the family (who is in and out as decision makers, receivers (in-laws), 3) Accuracy (of owners wishes, value of possessions), 4) Neutrality (consistency across siblings, a level playing field), 5) Trustworthiness (transparent and honest motives), 6) Correction (fixing mistakes, making it right), and 7) Ethicality (not in line with moral/ethical values; taking or stealing). Findings offer baseline rationale for addressing gaps in inheritance prevention and intervention resources needed by family members and practitioners.

## FRIENDSHIP MATTERS: EFFECTS OF AN ONLINE FRIENDSHIP INTERVENTION FOR OLDER ADULTS

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An online friendship program was developed to help older people improve the quality and quantity of their social relationships and to help them cope with loneliness. The program encourages participants to develop their relationship network, and also pays attention to two other loneliness coping strategies: adapting standards and reducing the importance of the problem. Data were collected among 337 adults (180 in an intervention and 157 in a control group) aged 50 or over who enrolled in the online friendship program in 2013. The program consists of weekly lessons with exercises, social diaries and several questionnaires. Part of the questionnaires are the measurement of Friendship Expectations on six subscales; symmetrical reciprocity, agency, similarity, enjoyment, instrumental aid and communion. Results shows that the average loneliness of participants is high. Loneliness of the participants in the intervention group decreased after six weeks in the program, while the loneliness in the control group did not change. Additionally, participants in the intervention group had lower loneliness on the days that they conducted exercises from the program and evaluated this exercise as successful. Daily loneliness was lower for both participants in the control group and those in the intervention group when they had valuable contacts during the day. Results with respect to changes in friendship expectations were less clear. Results show that the online friendship program is successful in helping people in their daily social functioning.

## YOUNG ADULT PERSPECTIVE: FILIAL PIETY AND ELDER CARE IN CHINA

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China has the largest net aging population in the world along with a rapid growth in aging adults. Historically, the family has been the source of support and care for elders, and filial piety has been a fundamental tenet in Chinese culture. However, increased geographic mobility and reduced family size have made more adult children unavailable for elder care. Very little empirical research has examined the attitudes and perspectives among college students in China towards older adults and elderly care. A mixed method approach was used with both quantitative and qualitative data collection. A convenience sample (N= 380) was collected through anonymous, self-administered survey questionnaires. In addition three one-hour long English focus groups were conducted. Survey data were inputted and analyzed using SPSS. Focus groups were transcribed and analyzed using content analysis methods. Quantitative data reported that the ASD scores are neutral, and indicate there are gender differences in perspectives on future elderly care for their parents. Qualitative data suggested that traditional Chinese obligations to live with one's parents throughout life are not as prominent today. In addition, the nursing home business has developed and this option has seemingly become more popular among Chinese families with aging adults. Findings from this study provide important and meaningful information for gerontological educators, service providers, and policy makers. With the one-child policy in place for a generation, China is facing an ever-growing need for trained professional service providers such as social workers to address the needs of older adults.

## PREDICTORS AND MODERATORS OF CANCER CAREGIVER BURDEN

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Being unprepared to provide necessary and complex cancer care may intensify the burden caregivers experience. Limited research has examined the conditions placing cancer caregivers at risk of experiencing greater burden in conjunction with their preparedness to care. This study was a secondary analysis of baseline data of an enhanced self-efficacy training for informal cancer caregivers prior to their loved one's discharge from the hospital. The current analysis focused on demographic characteristics and caregiver preparedness (measured using the Preparedness for Caregiving Scale, Archbold et al., 1990) as predictors of caregiver burden (measured using the 5 subscales of the Caregiver Reaction Assessment, Given et al., 1992). A second aim included identifying the factors moderating the relationships between the predictors and outcomes, such as caregiver employment status. Caregivers of patients age 50 and over were included in the analyses, resulting in a sample size of 101. Some main effect findings included caregiver preparedness being positively related to caregiver self-esteem ( $b = .20, t = 2.22, p < .05$ ), yet negatively related to impact on caregiver schedule ( $b = -.23, t = -2.04, p < .05$ ). Moderation analyses revealed that the older an employed caregiver was, the greater their reported impact on their schedule ( $b = .03, t = 2.20, p < .05$ ), and the greater their reported impact on their finances ( $b = .05, t = 2.38, p < .05$ ) compared to younger not working caregivers. Study implications will be discussed including how the findings can be used to inform healthcare providers about cancer caregivers who may be at a greater risk of experiencing caregiving burden.

## **SOCIAL RELATIONSHIPS OF OLDER ADULTS WITH INTELLECTUAL DISABILITIES FROM A LIFE COURSE PERSPECTIVE**

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Background: Research demonstrates that the quality of social relationships affects the health of aging persons (Antonucci, Ajrouch, & Birditt, 2014). Persons with intellectual disabilities (ID) live increasingly longer lives (Factor, Heller, & Janicki, 2012). These individuals need ongoing support as they age but tend to have fewer friends than their nondisabled, aging counterparts (Bigby, 2002). The current study will 1) explore how the social relationships of older adults with ID develop and change across the lifecourse and 2) advance the limited knowledge base on the experiences of aging of this population. Method: A process of paired recruitment was employed to generate a purposeful sample of 10 adults with ID (age 50 and over) and one key support person as a proxy for each participant. Data collection involved two stages: 1) in-depth qualitative interviews with key supports persons that generated life histories and social network maps (Antonucci, 1986) of the persons with ID and 2) in-depth qualitative interviews directly with the persons with ID. A vertical timeline of key events in the life history of participants (Caldwell, 2010) served as a visual cue in the second stage of data collection. All interviews were transcribed and transcripts were coded for dominant themes through an iterative analytic process. Results and conclusions: The social relationships of older adults with ID were significantly impacted by their residential history. Other factors included educational history, the family's socio-economic status and health or functional status. Implications for future research and policy development and enhanced practice will be addressed.

## **HEALTH STATUS AND GEOGRAPHIC LOCATION: THE ROLE OF SOCIAL SUPPORT**

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Previous literature identifies the positive effect social support can have on health. However, social support is not typically addressed as it relates to health differences between urban and rural residents. This study advances the literature by examining the role of social support, as well as by distinguishing suburban residents from urban residents. The purpose of this study was to investigate whether self-reported health differences exist among older adults living in urban, suburban, and rural environments. We also examined the role of social support in the relationship between self-reported health and living environment. The data used in this study was obtained from the 2010 Leave Behind Questionnaire from the Health and Retirement Study (HRS), a nationally representative sample of older adults in the United States. Our sample consisted of 7995 older adults (50+) living within the community. Using a logistic regression, results indicate that prior to controlling for social support, urban and suburban older adults have significantly better health than rural residents. However, after including social support variables in the model, significant differences in self-reported health do not exist among older adults living in urban, suburban, and rural areas. These results highlight the importance of social support as a factor mediating the effects of geographic residence on the health status of older adults.

## **EFFECT OF INTERGENERATIONAL PROGRAMS BETWEEN PRIMARY SCHOOL CHILDREN AND SENIOR VOLUNTEERS ON THE SELF-EFFICACY OF CHILDREN**

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Objectives: This study examined the effects of an intergenerational program between 6th grade primary school students and senior volunteers on self-efficacy of children in Japan. Description of the intergenerational program: 29 senior volunteers (Mean [±SD] age, 70.0±5.5

years) were assigned to 85 students of a primary school in Kawasaki City in June 2012. The senior volunteers instructed the students how to read picture books to other students. On the final day of the program, the students read picture books to the 1st grade students. Methods of the program evaluation: Baseline survey was conducted for the 85 students who took the program. The students were asked to evaluate their self-efficacy using the Likert 4 point agree/disagree scale for 10 items. After the completion of 7 periods (days?) of the program, we conducted a follow-up survey asking the same questions. We used analysis of covariance (repeated-measures design) with 'class' and 'sex' as covariates. Results: First, we divided the total self-efficacy scores into lower and higher groups because we expected an effect of this program on children with lower self-efficacy. Comparison of the total scores of self-efficacy between baseline and follow-up surveys revealed that self-efficacy scores of the higher group did not significantly improve ( $F(1,41) = 1.16, p=.287$ ), but those of lower group significantly improved ( $F(1,34) = 6.23, p=.018$ ). Conclusion: The intergenerational program can be effective for improving self-efficacy of primary school students.

## **DO FOREIGN DOMESTIC WORKERS POSITIVELY IMPACT CAREGIVING OUTCOMES? THE CASE OF SINGAPORE**

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Foreign domestic workers [FDWs] play an intrinsic role in providing instrumental support to family caregivers in Singapore, who can afford such help. We aim to replicate another study, which found that the presence of FDWs was beneficial to family caregivers' well-being in Singapore. Using cross sectional data from a convenience sample of 500 caregivers, we examine the impact of the presence of and satisfaction with the work of FDW on caregiving outcomes, specifically caregivers' self-rated health, satisfaction with family harmony, and perceived caregiving gains. We regressed these outcome variables separately on whether or not caregivers hired an FDW and, if such help was present, how satisfied caregivers were with their FDW. In our multivariate models, we controlled for caregiving demands along with a set of caregiver and care recipient demographic variables. Twenty six percent ( $n=132$ ) of family caregiver had employed an FDW and 69% ( $n=91$ ) reported that the FDW's main responsibility was to help with the caregiving tasks. The presence of an FDW in itself was not significantly related to any caregiving outcomes of interest. However, caregivers who were more satisfied with their FDW reported significantly better health than those who were less satisfied. Satisfaction with an FDW was otherwise not related to other caregiving outcomes. Our findings highlight the importance of perceived instrumental social support from an FDW on caregivers' health. Considering their vital roles in supporting family caregivers, we need to also examine the caregiving experience from the perspective of the FDW.

## **BUILDING A WORKPLACE ELDERCARE PROGRAM RESPONSIVE TO CHALLENGES OF ADULT CHILDREN CAREGIVERS**

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Some forward-thinking businesses began programs 30 years ago to support employees caring for aging parents. The Duke Employee Elder Care Consultation Program was piloted in 1999 after an annual employee survey revealed increases in eldercare concerns in relation to childcare. Currently, 42% of the Duke workforce is > 50 years old, with an increasing proportion of employees confronting new challenges in balancing work with eldercare responsibilities. The Duke Elder Care Consultation Program offers employees (and their families) an immediate free confidential consultation with a social worker addressing their questions, setting family-centered priorities, and providing specific information and referrals. The consultation becomes an entry point for

overwhelmed adult children to access an ongoing range of caregiver consumer information and support as their needs change. Simple flexible worksite-based appointment scheduling accommodates employee/family members' work or shift schedules and addresses access barriers to expert consultation in a crisis. Frequent elder care concerns prompting employed adult children's consultations are a parent's impaired decision-making, selecting and paying for long-term care services, and family conflict. Consultations help employees both set priorities for next steps and make sense of overwhelming and/or contradictory information about appropriate treatment and service options. Success is measured by use of information offered and connections established with credible ongoing support. Responses to a satisfaction survey indicate both anticipated and unanticipated consultation outcomes. Design, implementation and outcomes for adult children caregivers of an employee elder care consultation program will highlight how the program changes over time

#### **END OF LIFE CARE: MEASUREMENT OF CAREGIVER WELL BEING SCALE IN ALLAHABAD, INDIA**

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The purpose of this study was to examine well being of caregivers providing care to elderly family member at the end stage of life. There are several studies on elderly mental well being at end of life, however there is paucity of research on well being of caregivers. While some kind of palliative care is provided to the elderly in India for a few weeks before being discharged from the medical facility, the responsibility for care of the elderly is still on caregivers. We examined the relevancy of 46 item Ryff Well being Scale on caregivers. The questionnaire was translated in Hindi and back translated in English to gauge measurement equivalence. This was a purposive convenience sample drawn from 30 caregiver who had an elderly relative seeking medical care from private clinics in Allahabad city. Two graduate students and two Professors from Allahabad University Psychology department assisted in reviewing the items and pilot testing them on ten caregivers. Some items were dropped as responses indicated great social desirability bias. About 22 items showed relevancy for caregivers. The t-test results indicate that there are significant gender differences in the ways the caregivers respond to items related to Autonomy in decision making. The final scale included 16 items in 3 subscales such as: a) Autonomy, b) Environmental mastery, c) Personal Growth were relevant for the study. Item analysis of the scale show that with modifications the Revised Well being Scale has face and construct validity. Reliability for the revised version was .78.

#### **STEPFAMILIES CONSTRUCTED IN OLD AGE: EMOTIONAL EXPERIENCES AND OPERATIONAL CONSEQUENCES**

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Second couple-hood in old age following widowhood or divorce is a phenomenon developing with the increase in life expectancy. Researching the phenomenon has focused mainly on perspectives of the re-partnered. The aim of this presentation is to explore re-partnering from the step-family's perspective. Nineteen step-families (38 multigenerational families) were recruited using criterion sampling, of men who re-partnered at age 65+ and women at 60+, with children and grandchildren from a lifelong marriage that ended in widowhood or divorce. We tape recorded and transcribed verbatim one hundred and seven semi-structured qualitative interviews with older partners, adult children, and grandchildren. Analysis was based on grounded theory and dyadic analysis principles adapted to families. It showed how re-partnering in old age caused changes in family structure, creating complex step-families, which have scarcely been studied. Emotional experiences refer to re-partnering being a replacement for couple-hood but not for parenthood or grandparenthood. Operational consequences

refer to various forms of family members "knowing their place" within the step-family. Findings are discussed regarding life course and family life cycle perspectives.

#### **UNADDRESSED GRIEF IN INDEPENDENT AND ASSISTED LIVING FACILITIES IN EAST CENTRAL METROPOLITAN AREA**

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The death of a spouse/life-partner is one of life's most stressful events leading to physical disease and injury such as hypertension, impaired immune function, increased mortality risk and a greater risk for falls as well as mental health concerns such as depression, anxiety, and sleep difficulties. Presently, over 10 million adults age 65 and older are widowed in the United States with approximately 900,000 thousand becoming widowed each year. Often, institutionalization occurs shortly after the loss of a spouse leaving the widowed older adult to grieve alone without support. The purpose of this study was to understand how independent and assisted living facilities address grief and loss concerns of their residents. This included understanding what services are presently offered, who provides these services, and what mechanisms are used to distribute these services. Data was collected by a social work graduate level research assistant who contacted independent and assisted living facilities located within a metropolitan area of the eastern central portion of the United States. Results suggest a lack of bereavement services within these facilities. In many cases, grief and loss remained undetected and unaddressed. Along with the presentation of results, opportunities for policy change are discussed.

#### **VISUAL ACUITY AND ITS ASSOCIATION WITH SOCIAL ISOLATION IN OLDER ADULTS**

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Both research and intuition suggest that vision impairment in late life is related to social isolation. The purpose of this study was to examine the association of clinically measured visual acuity and social isolation in persons 65 years and older. We used data from the National Health and Nutrition Examination Survey (NHANES IV; 1999-2012), a nationally (U.S.) representative sample. Participants were categorized as having blindness (20/200 or worse), low vision (20/40 to 20/100), or normal vision (better than 20/40). Social isolation was measured as the number of social ties across four domains: marriage, contacts with friends and relatives, religious attendance, and membership in social organizations. Each of these ties was a dichotomous variable indicating the presence or absence of ties and scores were summed (0-4). We used logistic regression of weighted data to assess the relative contribution of visual acuity in predicting social isolation, with statistical control over factors representing dimensions of the International Classification of Functioning (ICF) structure. Independent variables/covariates were added to models sequentially as follows: Model 1—vision acuity and (demographic) variables; Model 2—added diagnosed chronic diseases; Model 3—added physical functioning; Model 4—added activities of daily living; and Model 5—added environment variables. For older adults who are blind or visually impaired effects of poor visual acuity in predicting social isolation were substantially reduced when other health covariates were controlled. Results suggest the importance of considering multiple health factors when addressing or screening social isolation among older adults who have vision impairments.

## **UNDERSTANDING THE IMPORTANCE OF FINANCIAL LITERACY FOR GRANDPARENTS RAISING GRANDCHILDREN: ADDRESSING UNPLANNED ECONOMIC UNCERTAINTY IN LATER LIFE**

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Since 2000, there has been a dramatic increase in the number of older adults with custody of and responsibility for raising their grandchildren (custodial grandparents) in Canada. Research reveals that custodial grandparenting agreements usually arise from an adult child's substance abuse, divorce or separation, mental/physical health issues, teen pregnancy, child abuse, or death. Custodial grandparents face numerous challenges, particularly the additional financial constraints of raising grandchildren in retirement, compounded by inadequate support from social services. This study explores the experiences and financial literacy needs of custodial grandparents, and the development of new, evidence-based financial literacy tools tailored to their unique financial needs. A mixed-methods research design of interviews (n=25) and focus groups (n=30) captured the experiences of custodial grandparents; subsequent participants across Canada (n=150) completed a questionnaire regarding grandparents' care responsibilities and attendant financial impacts. Our findings indicate that custodial grandparents experienced high levels of financial stress due to the uncertain and unplanned nature of the circumstances that led them to their custodial arrangements, compounded by gendered impacts upon grandmother-caregivers. Custodial grandparents expressed the need for improved financial literacy, particularly with regard to support navigating the legal and social welfare systems. New financial literacy tools were developed to capture the legal implications, government benefits, money management and taxation needs of custodial grandparents. Our findings emphasize the diversity in the socio-demographic profile and varied levels of financial literacy of custodial grandparents, and the urgent need to address systematic policy gaps that fail to reflect the changing needs of custodial grandparents.

## **NURSING HOME RESPITE CARE (NHRC): A VOICE FOR THE FAMILY CAREGIVERS**

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Like many developing countries, Singapore's healthcare system is undertaking the challenges of managing an ageing population. Since 2012, the Ministry of Health (MOH) has recognized family caregivers as an integral social fabric to maintaining the care of their care recipients within the comfort of their homes. In implementing the various national initiatives to supporting caregivers, there is also a paradigm shift, such that community services become more inclusive towards caregivers' needs. Family caregivers were previously not subsidized when they utilized nursing homes as a respite option. However, on 15 May 2013, AIC, a subsidiary of MOH, implemented the Nursing Home Respite Care (NHRC), a pilot that runs for 2 years. AIC became the central source of enrolling the caregivers and supporting them with respite care services. This has enabled the more financially disadvantaged family caregivers and vulnerable caregivers to access this service. In this poster, participants will understand how NHRC has become a voice for the family caregivers and the positive impact it has made to the care system in Singapore. Participants will also understand how the respite team was formed to proactively engaged caregivers to accessing this service and the positive case studies on the benefits of this service. AIC will also document the various data and statistics that forms our

evaluation study and the journey we have taken to mainstreaming this service into a mainstream programme.

## **SESSION 660 (POSTER)**

### **INTERNATIONAL, CROSS-CULTURAL, AND RACIAL/ETHNIC ASPECTS OF AGING**

#### **LONG-TERM AGED-CARE FACILITIES IN MALAYSIA: UNDERSTANDING THE POTENTIAL OF INJURY RISKS PRESENTED BY THE CHARACTERISTICS OF THE PHYSICAL ENVIRONMENTAL SETTING AND ITS INFLUENCE UPON THE WELL-BEING AND QUALITY OF LIFE AMONG THE OLDER POPULATION**

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Introduction: The population of Malaysia is ageing, and the need to provide supported accommodation and health care, including occupational therapy, is increasing. There is a growing industry of aged care facilities, including registered and unregistered nursing homes and 'shelter' homes. These facilities provide care for their clients, however, little is known about the levels of care provided, experiences of the elderly, implications for risk of injury (particularly fall-related injuries) and quality of life, and institutional strategies to prevent fall-related injuries. These issues are relevant for occupational therapy practice in Malaysia. Objective: This study aimed to identify potential risk factors within long-term care facilities in Malaysia, understanding what the physical risk factors are, how they contribute to falls, and examining the relationships between activity, participation and social inclusion in everyday life. Methods Data was collected at 28 aged care facilities using the Residential Environment Impact Survey (REIS) (Fisher et al., 2008). The REIS is a non-standardised, semi-structured assessment instrument designed to examine the environmental impact of community residential facilities on residents. The data collection included four key components: semi-structured interviews with staff; semi-structured interviews with residents; observational assessment; and observation of daily activities. Results The paper will outline the findings from this study that have significant implications for care of the elderly in Malaysia. Important information on the level and type of care provided in long-term facilities, as well as information on falls risk and overall health and wellbeing of the elderly living in these aged care facilities and shelter homes will be described. Conclusion The paper will conclude by providing recommendations for occupational therapy practice, including the potential roles of occupational therapists in education, advocacy, environmental adaptation and direct client care, in reducing the prevalence and lack of awareness about falls and their long-term outcomes in Malaysian aged care facilities. Key words: physical environment, social influence, hazards, older residents, early identification, potential injury risk, falls, staff perception.

#### **PSYCHOLOGICAL WELL-BEING AMONG OLDER ADULTS IN CHINA: A COMPARISON OF URBAN AND RURAL DIFFERENCES**

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The secondary research is based on the WAVE I (2010) of the WHO Study on Global AGEing and Adult Health (SAGE). This study analyzed a nationally representative sample aged 60 and older from China (n = 4,817). Psychological well-being (measured by WHOQOL which included elders' perceptions on physical and psychological health, social relationships, and environment) and residency differences were examined (urban=2,962; rural=1,853). Results showed that urban elders

were older than their rural counterparts (mean age: 69.3 vs. 66.8). More women were in the rural setting than in the urban area (64.9% vs. 52.3%), and urban elders were more educated than rural elders (35% vs. 3% elders had high school or above schooling). Bivariate analysis on WHOQOL showed that rural elders perceived better psychological well-being than urban elders. Multiple regression analysis also indicated that living in an urban setting is associated with lower levels of psychological well-being score, other factors being equal. Besides residency differences, elders who reported lower level of psychological well-being tended to report poor self-rated health, less education, and less financial satisfaction. The cross-sectional analyses of the data show that elders' poorer sense of psychological well-being is associated with health and financial factors. Results support social intervention for elders in China that focus on health programs and financial support to enhance their psychological well-being. In addition, more research is warranted to examine life satisfaction including other stressors, family factors, belief systems, and coping skills that may be associated with rural and urban elders' varying levels of psychological well-being.

### PSYCHOLOGICAL WELL-BEING AMONG OLDER MEN AND OLDER WOMEN IN CHINA: FINDINGS FROM THE WHO STUDY ON GLOBAL AGEING AND ADULT HEALTH (SAGE)

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The secondary research is based on the WAVE I (2010) of the WHO Study on Global AGEing and Adult Health (SAGE). This study analyzed a nationally representative sample aged 60 and older from China ( $n = 4,817$ ). The primary question was to examine gender differences (female=2,750; male=2,065) in psychological well-being (as measured by WHOQOL which included elders' perceptions on physical health, psychological health, social relationships, and environment). Data showed that Chinese women in the sample were older than their male counterparts (mean age: 68.9 vs. 67.6), there were more women than men in urban areas (68.5% vs. 61.5%) older women were more likely than older men to have some college education (9.8% vs. 5.8%), and more women were satisfied with their financial situation than men (57.1% vs. 56.1%). In terms of psychological well-being, older men reported slightly lower levels of WHOQOL scores than older women. In terms of perceived health, elderly men reported poorer health conditions than elderly women (21% vs. 19%) and women reported fewer numbers of chronic illnesses than men (1.26 vs. 1.5). Multiple regression results indicate that, all factors being equal, elders' lower level of psychological well-being score is associated with poorer self-rated health, less education, less financial satisfaction, living in an urban setting, and having more chronic illnesses. Gender differences disappeared after controlling for other factors in the regression model. Data suggest that interventions to enhance psychological well-being should include a focus on health programs, financial support, and targeting elders living in urban settings.

### RACIAL/ETHNIC AND GENERATIONAL DIFFERENCES IN CAREGIVING: IMPLICATIONS FOR PRACTICE

C.E. Miyawaki, *University of Washington, Seattle, Washington*

This study examined the sociodemographic characteristics and health status of Asian, Hispanic and non-Hispanic White American family caregivers of older adults across three immigrant generations. Using the 2009 California Health Interview Survey dataset, 8,117 caregivers (591: Asian, 989: Hispanic and 6,537: White) were selected. It used descriptive and univariate analyses, and F and Chi-square tests as well as one-way analysis of variance were performed. Significant differences of sociodemographic characteristic and health were found across racial/ethnic groups and generations. Not surprisingly, Hispanic caregivers were the youngest and White counterparts the oldest. 2nd

generation Asian and Hispanic caregivers were the youngest while 2nd generation White caregivers were the oldest. Asian and White caregivers attained higher education than Hispanics; however, only Asian and Hispanic caregivers' educational attainment increased with later generations. The vast majority self-rated their health as good; however, the later the Asian and Hispanic caregivers' generations, the poorer their health status. Percentages of Asian and Hispanic caregivers with chronic health conditions increased the later the caregivers' generation whereas those of White caregivers were similar across generations. The vulnerability distinctive to each racial/ethnic group by generation points to the necessity of researchers and practitioners' understanding the historical background and recency of immigration of each group. Findings suggest that efforts to design linguistically, culturally and generationally appropriate assistance to diverse groups of family caregivers should take account of generational differences across racial/ethnic groups. Interviews with multiple generations of Asian caregivers were explored to further examine their caregiving experiences in this future research trajectory.

### RELATIONSHIP BETWEEN SUBJECTIVE SOCIAL EXCLUSION AND POWER AS A COMMUNITY RESIDENT IN MARGINAL COMMUNITIES

Y. Watanabe, *Musashino University, Nishitokyo, Tokyo, Japan*

Purpose: A marginal community is defined as a community in which over 50% of the population are over 65 years old and facing difficulty maintaining adequate function for their daily lives. Community residents need to support each other to maintain their lives. This occurs not only in Japan, but also worldwide, especially in developed countries. This research aims to reveal the relationship between subjective social exclusion and the power as a resident in the marginal community. Method: Research was conducted in 2012 through a questionnaire administered to people over 20 years old. Multivariate logistic regression was used for the analysis. Subjective social exclusion was measured by "Feeling difficulty participating in the community meeting (DP)" and "feeling difficulty accepting own opinion in the community (DA)". The power was measured by The Support Power for the Elderly Scale (SPES), which consists of 2 subscales: sense of power (SP) and sense of sharing community problems (SS). Other variables considered in the models were age and gender. Results: The results indicate that SPES/SS/SP are significant predictors ( $P < .05$ ) for DP/DA (SPES for DP odds ratio (OR)=1.056; 95% confidence intervals (95%CI)=1.000 to 1.114, SS for DP OR=1.150; 95%CI=1.015 to 1.304, SPES for DA OR=1.099; 95%CI=1.032 to 1.170, SS for DA OR=1.248; 95%CI=1.074 to 1.450, SP for DA OR=1.125; 95%CI=1.036 to 1.223). Conclusion: The study suggests that the community residents whose power is low cause subjective social exclusion. Powerless people might be uncomfortable in a marginal community and lose chances to find their power.

### THE ASIAN FAMILY, THE STATE AND CARE FOR URBAN OLDER ADULTS: A COMPARISON OF SINGAPORE, CHINA AND INDONESIA

T. Wu, *Tsao Foundation, Singapore, Singapore*

This empirical paper examines elder care received in urban Singapore, China and Indonesia in terms of the care recipient's family network, household income; and public benefits available. Using three comparable cross-sectional country datasets, OLS regressions are carried out to examine the role of the family and the state in care provision. Asian values of filial piety and intergenerational support are expected to form the underlying basis for the family as the main care provider. But there is much variation in how care is provided across the three Asian countries. Findings show that the Singaporean elder receives a substantial amount of informal care when there are both primary and secondary family caregivers. However in Singapore and China, there is a substitution effect between a hired live-in maid and a family member as caregiver. Only in Indonesia, informal care received increases with

the size of the family household. Established old-age benefits from the Chinese socialist welfare system and public health insurance in Indonesia reduce the amount of informal care needed by urban elders. After attending this activity, participants will be able to discuss the extent to which Asian filial piety is practiced in caregiving and the underdevelopment of old age policies in Asia.

#### **INDICATORS OF SUCCESSFUL AGING AND LIFE SATISFACTION: THE COHORT EFFECT IN CHINA**

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**Aim:** This study explores the association between indicators of successful aging (including mental health, economic security, and social engagement), intergenerational transmission of socioeconomic status (SES), and life satisfaction. The study also examined whether associations are moderated by different age cohorts (middle-aged and older adulthood). **Methods:** Data are from the first wave (2011) of the China Health and Retirement Longitudinal Study, a nationwide panel study comprised of a representative sample of Chinese residents over age 45. The study analyzed 2,554 middle-aged adults and 1,017 older adults. A multiple regression analysis model was conducted to examine the association between indicators of successful aging, intergenerational transmission of SES, and life satisfaction in two age cohorts. **Findings:** Results showed that age cohort does moderate the observed relationships. Higher levels of social engagement and economic security were positively associated with life satisfaction in the middle-aged group, while social engagement was insignificant among older adults. Mental health had the strongest relationship to life satisfaction among both age cohorts. In addition, in the middle-aged cohort, SES in adulthood totally mediated the effects of SES in childhood on life satisfaction. For the older cohort, neither childhood nor adulthood SES related to life satisfaction. **Implications:** These results suggest that the intergenerational transmission of SES differs between cohorts of older Chinese, which may reflect the differing sociohistorical times of their life courses. Improving economic security as well as mental health will improve the life satisfaction of both cohorts of Chinese older adults.

#### **THE RELATIONSHIP BETWEEN HAVING GENERATIONAL IDENTITY AS BOOMERS AND RETIREMENT READINESS IN KOREA**

Y. Bae, G. Han, S. Nah, J. Kang, *Seoul National University, Seoul, Republic of Korea*

Korea's Baby Boomers born between 1955 and 1963 take up 15% of current Korea's total population and this large demographic group has started to retire since 2010. Accordingly, academic and societal attention on Boomers' retirement and the quality of life after their retirement has been increasing. However, Baby Boomer concept has been introduced to general public only recently. Therefore, the main purpose of this study is to examine whether Boomers have the generational identity themselves and whether having Boomer identity is associated with the degree of retirement readiness. The first wave of "Korean Baby Boomers Panel Study" collected between May and August 2010 was used for analysis. The data is comprised of total 4,668 Korean Baby Boomers. Retirement readiness was evaluated in three dimensions; general, health and financial readiness. The major findings are as follows. First, only 49% of Korean Boomers were aware that they are Baby Boomers. Second, the proportion of people having Boomer identity was significantly greater among men and higher SES group. Lastly, the group with Boomer identity showed higher levels of general ( $\beta=.086$ ,  $p<.001$ ), health ( $\beta=.105$ ,  $p<.001$ ) and financial readiness ( $\beta=.065$ ,  $p<.001$ ) even after controlling gender, age, marital status, education level and monthly income. The result of this study suggest that having Boomer identity is important for Boomers to recognize and prepare for their life after retirement. More implications of these findings are discussed further.

#### **MEASURING INTERPERSONAL PROCESSES OF CARE IN THE MEDICAL SETTING: AN ETHNIC COMPARISON**

L. Bakk<sup>1</sup>, T. Cadet<sup>2</sup>, 1. *University at Buffalo School of Social Work, Buffalo, New York*, 2. *Simmons College School of Social Work, Boston, Massachusetts*

The Patient Protection and Affordable Health Care Act stresses a patient-centered approach to care that actively engages individuals in the health care process. Research indicates that patients' experiences in the health care setting can support positive health behaviors and outcomes. While empirical evidence suggests that ethnic differences in patient satisfaction exist, it is unclear whether interpersonal practices between physicians, nurses, and older Hispanics differ from older non-Hispanics. This cross-sectional study examined the association between ethnicity and four domains of interpersonal processes of care (IPC). Data from the 2011 wave of the Health Care Study, a subsample of the Health and Retirement Study, were used. The sample consisted of 7,239 respondents age 50 and older identifying as either Hispanic or non-Hispanic. The analysis was conducted using logistic regression models. Respondents indicating their doctors and nurses did not explain medical issues in a comprehensible manner were more likely to be Hispanic than non-Hispanic ( $p<.001$ ). Older Hispanics reported significantly poorer quality of IPC with physicians and nurses for respect ( $p<.01$ ), listening ( $p<.01$ ), and spending adequate time ( $p<.001$ ) than older non-Hispanics. Controlling for gender, age, number of morbidities, self-reported health, annual household income, and health insurance status had little impact on these findings. Educational attainment, however, appeared to mediate the association between explaining medical issues, demonstrating respect, and ethnicity. Results suggest that differences in IPC exist between older Hispanics and non-Hispanics, and highlight the need to develop interventions to improve interpersonal skills in the health care setting, particularly when serving ethnic minority populations.

#### **RACIAL/ETHNIC DISPARITIES IN NONADHERENCE AND MEDICARE PART D: HEALTH AND RETIREMENT STUDY 2004-2010**

L. Bakk, *University at Buffalo School of Social Work, Buffalo, New York*

Cost-related nonadherence (CRN) assumed a central position in the policy justification for Medicare Part D. Prior to Medicare Part D, older Blacks and Hispanics reported greater CRN compared to older non-Hispanic Whites. It remains unclear whether racial and ethnic disparities have changed since the benefit's implementation. Using cumulative advantage/disadvantage theory as a framework, this longitudinal study examined 1) whether racial and ethnic disparities in CRN have changed since Part D, and 2) whether socioeconomic status and health status mediate the relationship between race, ethnicity, and CRN over time. Four waves of data from the Health and Retirement Study (2004 – 2010) were used to evaluate CRN before and after Medicare Part D's implementation. The analytic sample consisted of 5,259 respondents age 65 and older that enrolled in Medicare Part D and were taking at least one prescribed medication. The outcome variable of interest was CRN, or not filling or taking a prescribed medication because of cost. The analysis was conducted using mixed-effects logistic regression models. Results indicated that older Blacks and Hispanics were significantly more likely to report CRN both before and after Medicare Part D compared to older non-Hispanic Whites. While socioeconomic status and health status did not affect racial disparities, annual household income mediated ethnic differences in CRN. Further, the rate of CRN for older Hispanics significantly decreased over time in comparison to non-Hispanic Whites. Results suggest that while older Hispanics had improvement in CRN over time, racial and ethnic disparities continue to persist despite Medicare Part D.

## I WANT TO SEE YOU BUT I DON'T WANT TO BE YOU

C. Clark, *Psychology, Queens University of Charlotte, Charlotte, North Carolina*

Many people fear or even dread getting old. Those with more negative views of aging in general also tend to have poor outlooks on their own aging and both groups have higher mortality than those with positive views. There is a need to identify what contributes to aging attitudes in order to improve views. The data reported here are part of a larger study on attitudes towards aging in which 1768 men and women aged 18-95 representing 7 different ethnic groups answered questions regarding attitudes toward and experiences with older people. We previously reported ethnic, gender, and demographic differences in negative attitudes. This paper presents an analysis of ethnic experiential differences (the quantity and quality of interactions with older persons) and how they contribute to attitudes toward self and other aging. Participants reported more contact with older persons in their families compared to older non relatives and almost half (46%) of the sample reported sharing their home with an older person with 71% reporting that sharing as positive. However, when you break these and other experiences down by ethnicity, an interesting pattern emerges. Asian, Latino, and Native Americans are more likely than all other groups to have more overall experience (i.e., visiting or spending time with older family and friends) and more positive experience interacting with older persons. However, they fear growing old more than others (all  $ps < .01$ ). Results will be discussed in terms of the role of experience in contributing to positive and negative views of aging.

## LATINO BABY BOOMERS: BARRIERS TO HEALTH

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Latinos will comprise 20% of the next generation of older adults, representing the largest minority population age 65+. Utilizing data from the California Health Interview Survey 2011, barriers to health experienced by Latinos and non-Hispanic whites ages 47 to 65 in 2011 who report having diabetes and/ or heart disease are examined. Logistic regression estimates the odds of experiencing barriers to care among U.S Born Latinos, non-U.S. Born Latinos, and non-Hispanic Whites. The Latino population is disadvantaged relative to non-Hispanic Whites for several health barriers including delays in medical care, lack of verbal and written care plans, difficulty understanding their health provider, and inability to contact their physician with questions about their disease/condition. The Latino disadvantage attenuates when controlling for socioeconomic status and demographics for some but not all health barriers. As access to health care improves for the Latino population under the Affordable Care Act, providers will need to be sensitive to the barriers to health and wellness experienced by the population. Strategies will need to be developed that are culturally competent and empower the population to overcome individual as well as structural barriers. Toward that end, programs and services focusing on prevention, chronic disease self-management, and health education will be paramount.

## AFRICAN AMERICAN BAPTIST CLERGY: "SHERPERDING THEIR FLOCK"

K.L. Stansbury<sup>1</sup>, G. Marshall<sup>2</sup>, *1. School of Social Work and Human Services, Eastern Washington University, Cheney, Washington, 2. Case Western University, Cleveland, Ohio*

Older adults exhibit a range of patterns in usage of mental health services, yet they typically underutilize formal mental health services. Older African Americans in particular report consulting informal sources such as family, friends, and clergy about mental health needs. Previous studies indicate African Americans elders use the church

and clergy to cope with mental health challenges. However, little is known about how African American clergy assist elders with mental health challenges Objective: The purpose of this study is to explore African American clergy's pastoral care to elder congregants experiencing mental health challenges. Methods: Using a grounded theory approach, this study employed theoretical purposive sampling to recruit 18 rural and urban clergy members who self-identify as members of the Baptist denomination. Per grounded theory methodology, constant comparative analysis was used for data analysis. Results: Analysis of the interviews identified a major theme holistic pastoral care: "shepherding their flock" and involves a process of pastoral care that consisted of pastoral awareness; pastoral screening; pastoral counseling; internal ministries; and follow-up. A model of pastoral of care is presented to explain the complexity of the helping process from the viewpoint of the participants. Discussion: This study provides evidence that African American clergy were active in assisting their mentally distressed elder congregants. This study contributes to the understanding of African American clergy's mental health activities with elder congregants. and the potential to increase practitioner understanding of how to support African American clergy in their pastoral care efforts for older adults with mental health challenges.

## HEALTHY COMMUNITIES FOR OLDER ADULTS: PLANNING FOR SOCIAL SUSTAINABILITY IN PORTLAND, COPENHAGEN, AND NAGOYA

J. Kohon, *Portland State University, Portland, Oregon*

Sustainability has become a dominant narrative in urban planning practice (Davidson, 2010). Planning for environmental sustainability offers co-benefits for older adults in urban communities, such as improved air quality, reduced energy costs, and reduced susceptibility to heat-related illness (Younger, Morrow-Almeida, Vindigni, and Dannenberg, 2008). However, many approaches to sustainability planning practice overemphasize environmental preservation and economic growth, while ignoring the social aspects of sustainability such as social inclusion, multi-generational interaction, and displacement prevention (Campbell, 1996). City and regional planners require examples of how to include the needs and perspectives of older persons in urban planning efforts. This research study takes a cross-cultural, cross-national perspective at understanding how older adults are considered in innovative sustainability-focused, neighborhood-scale planning projects that emphasize the social dimension of sustainability in Portland, Oregon; Copenhagen, Denmark; and Nagoya, Japan. Case studies, including 22 qualitative interviews with community stakeholders, participant observation, and social determinants of health template analysis of planning-related documents, provide a detailed picture of how socio-cultural context impacts planning for the needs of local older adult populations. Findings suggest that communities are developing innovative strategies to better understand and provide for the needs of their aging citizens, while continuing to grapple with many challenges associated with their aging societies.

## BUILDING COMMUNITY CAPACITY TO ENHANCE THE WELL-BEING OF OLDER ADULTS IN NICARAGUA: AN OVERVIEW OF EFFORTS FROM ONGOING INTERNATIONAL COLLABORATIONS

A. DeLaTorre<sup>3,1</sup>, K. Wilson<sup>3,1</sup>, M.B. Neal<sup>1</sup>, T. Boggis<sup>2</sup>, *1. Institute on Aging, Portland State University, Portland, Oregon, 2. Pacific University, Forest Grove, Oregon, 3. Jessie F. Richardson Foundation, Clackamas, Oregon*

In collaboration with the charitable non-profit Jessie F. Richardson Foundation (JFRF), Pacific University and Portland State University have taken students and faculty to Nicaragua in order to increase the capacity of homes for older adults and their wider communities in improving the health and well-being of older adults. This presentation describes the strategies and outcomes of two service-learning programs:



(1) an interprofessional program for health professional students led by Pacific University, and (2) a community health/community development program with interdisciplinary students led by Portland State University. Strategies that are deemed successful in producing positive outcomes are described including: education about healthy aging and management of age-related health conditions, intergenerational program development, asset mapping, documentation and record-keeping methods, among others. Both universities work closely with JFRF to conduct projects aligned with strategic outcomes developed by Foundation staff and the Nicaraguan Advisory Council on Aging through the year pertaining to community development, training and education, and clinical opportunities carried out by students and faculty. Outcomes from work during the 2013-14 programs will be detailed, including professional and caregiver trainings delivered, and home and community assessments completed. Additionally, an update will be provided on the development of the National Training Plan on Aging in Nicaragua; this Plan is the result of collaboration between JFRF, members of the Nicaraguan Advisory Council on Aging, and international gerontologists and geriatricians.

### **TRACKING THE LATINO BABY BOOMERS INTO OLD AGE: AN UPDATED SOCIODEMOGRAPHIC AND ECONOMIC PROFILE**

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The population of Latino baby boomers (born 1946-1964) in the United States embodies two crucial demographic shifts: a growing older adult population and increasingly many individuals of Latino or Hispanic origin in the U.S. This poster extends previous work laying out the sociodemographic and economic characteristics of the Latino boomers from the 2000 decennial Census by tracking their characteristics as they have neared and entered retirement. Decennial Census data from 2010 are used to present overall baby boom population numbers, broken up by race/ethnicity. This information is augmented by data from the American Community Survey, to track changes in demographic and socioeconomic characteristics between 2000 and present. Data are broken down by citizenship status, to inform how the variations among the Latino boomers previously identified in the 2000 Census have changed over time, during both the economic recession of 2007 and the attainment of retirement age by members of the boomer cohort. For example, between 2000 and 2008, the year in which the oldest boomers reached the age of early retirement under Social Security and the peak of the economic recession in the U.S., median individual income levels for naturalized Latino boomers dropped by only 3.25% (from \$20,000 to \$19,350), compared to a 5.0% drop for U.S.-born Latino boomers (\$22,000 to \$20,898) and a 5.6% drop for non-citizen Latino boomers (\$12,300 to \$11,610). Implications are presented for the Latino boomer population as it enters retirement, as well as for the U.S. as it ushers in a burgeoning Latino population.

### **AN INTERGENERATIONAL APPROACH TO UNDERSTANDING PERCEPTIONS OF HEALTHY AGING IN NICARAGUA**

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Nicaragua is the second poorest country in the Western Hemisphere and significantly lacking expertise in gerontology and geriatrics. Local universities, in partnership with the Jessie F. Richardson Foundation (JFR) - a non-profit organization in Oregon - have developed programs focused on the health and well-being of older adults in Nicaragua. A number of different terms are used to conceptualize the idea of "aging

well" (e.g., successful, optimal, productive aging), but most models reflect the view of academic researchers and not the perspective of older adults, particularly those in understudied populations. There are also limited cross-cultural studies on the unique perceptions of healthy aging. In this project, we aimed to: (a) provide a service-learning opportunity for undergraduate students, (b) promote intergenerational training and communication, (c) hear the voices of both Nicaraguan youth and elders regarding their perceptions and expectations of aging in their own country, and (d) evaluate the usefulness of this type of intergenerational project. Fluent/native speaker students, Nicaraguan youth, and Nicaraguan elders aged 60+ all participated in face-to-face informal interviews/focus groups to discuss their perceptions about aging in Nicaragua. Youth and elder participants were recruited from local, community-based organizations. Overall, we found there was a yearning to improve intergenerational contact in the community. This was a useful activity to promote intergenerational relationships and challenge common age stereotypes. We also discuss implications for implementing intergenerational projects in developing countries.

### **PERCEPTION OF RESILIENCE AND WELLBEING AMONG ELDERLY IN LTC FACILITIES (OLD-AGE HOMES) IN INDIA** S. Balaswamy, *College of Social Work, The Ohio State University, Columbus, Ohio*

There is an emerging interest in the area of resilience and associated factors that shapes the life experiences of the elderly. Several conceptual frameworks have been offered to understand how elders use their life experiences, personal strengths and social relationships to help cope with adversities like loss, physical and mental illnesses, physical impairments, being marginalized, and cognitive deficits. Although references exist on the potential cultural and social difference among elders in their coping and attribution to resilience, there is not much research in this area. Also cited, but not studied is the contribution of the 'social community' in enhancing resilience along with individual determinations. This study explores the extent to which elders who are marginalized (poor, institutionalized, chronically ill) attribute their 'resilience' or aging well to personal strengths over social community indicators. A mixed methodology was used to collect data from 154 residents of old-age homes in two major southern cities in India. In addition to structured in-person interviews, in-depth life stories were analyzed from 10 case studies. Findings from the structured interviews suggest that social relationships are important predictors of perception of well-being and level of acceptance on being in an institution than with family which is the norm. Most residents attributed their positive attitude towards aging to a 'sense of belonging' to the larger community of elders with whom they co-exist and the church community. More than three-fourth of the respondents identified 'having a meaningful life' and described activities such as caring for residents, performing tasks, helping the church, praying together. The importance of individual and community level interventions are discussed.

### **SESSION 665 (POSTER)**

#### **GERONTOLOGICAL EDUCATION AND CHALLENGES IN AGING RESEARCH**

#### **BRIDGING THE GAP BETWEEN HEALTH ADMINISTRATION AND NURSING: INTERPROFESSIONAL EDUCATION AGING**

A. Temple, M. Mast, *Health Sciences, James Madison University, Harrisonburg, Virginia*

As health care professionals are increasingly involved in interprofessional collaborations, it is important that students of allied health programs engage in interprofessional education (IPE). The purpose of this research was to explore the effect of IPE among health administration majors enrolled in a gerontology course and nursing majors

enrolled in a family caregiving course during Fall 2013. Students from each discipline were paired together to complete two, 2-hour service learning visits to provide in-home respite and companion care to frail older adults and their family caregivers coordinated through a local non-profit agency, Caregivers Community Network. Prior to the visits, students jointly participated in a "Life of a Caregiver" simulation and discussed their respective professions and anticipated roles. At the end of the semester, students met to debrief on the experience. Pre- and post-surveys were completed by 44 students (59% response rate) to explore their perception and evaluation of IPE. Results from Wilcoxon signed ranks test using pre- and post-values on the Interdisciplinary Education Perception Scale suggest the IPE intervention improved students' perception of their profession and the role of other professions ( $Z = -2.25, p = 0.02$ ). Furthermore, the overwhelming majority of students indicated that the shared learning experience helped them achieve IPE learning objectives. These findings suggest that service learning as an IPE activity may be useful in helping students across clinical and non-clinical disciplines be better prepared to work together as collaborative practice teams providing care to aging adults.

### THE VETERANS AFFAIRS (VA)—HEALTH AND RETIREMENT STUDY (HRS) DATA LINKAGE PROJECT

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**Background:** About 50% of US men aged 65+ have served in the military, and are potentially eligible to obtain health care from the Veterans Affairs (VA) health care system. Therefore, research on the health and health care of older US adults will miss a significant segment of the population if VA care is not considered. To better understand which older Veterans are using VA care, and how that care affects their long-term health outcomes, we are developing a unique data source linking longitudinal data from the Health and Retirement Study (HRS) with VA health care data. **Methods:** The HRS is an NIA-funded ongoing nationally-representative longitudinal cohort study that has been collecting data since 1992 on more than 30,000 US adults aged 51+. About 7,100 HRS respondents have reported prior military service. For Veterans that utilize the VA health care system detailed data are collected on diagnoses, utilization, medications, vital signs, lab values, and long-term care services. These VA data will be linked to longitudinal HRS data on health, work history, economic status, and family characteristics, as well as Medicare claims, and biomarker and genetic data. The linked data will be made available to eligible VA and non-VA researchers. **Conclusions:** The VA-HRS Data Linkage Project will provide unique data for researchers interested in the long-term outcomes of military service and VA health care for the health and well-being of older Veterans. This presentation will provide details on the sample, variables, timeline, and process for obtaining access to the VA-HRS dataset.

### THE THIRD ACT: CONTEMPLATING AGING - A UNIQUE ARTS/UNIVERSITY COLLABORATION

A.P. Glass, *University of Georgia Institute of Gerontology, Athens, Georgia*

My research has led me to develop a model of "aging better together intentionally," in which I have documented advantages of dealing with aging communally, through sharing information, humor, mutual support, and having meaningful discussions about aging. For this to happen, individuals first have to accept that they are aging. My research finds many of those who can embrace that fact would appreciate chances to talk about it. Unfortunately, few opportunities are offered in our age-denying society. A catalyst for the community to engage in a conversation about aging presented itself when the curator of a local association of contemporary art (ATHICA) approached me about a proposed art exhibit

focused on aging. Such collaboration between the arts community and the academic community is rare. Collaboration with an academic gerontology program is even more uncommon. This art exhibit and associated events, including a symposium on "Contemplating Aging," provided an innovative way to help engage the community in considering this topic. We were also able to involve our gerontology students in providing ideas and information, and we infused material about public health and aging issues, such as dementia, osteoporosis, and end-of-life care, into the content accompanying the artwork. All events were well attended, with a range of ages, including many young people. Through our collaboration, we made a stronger, more interesting exhibition that is an innovative way to promote conversations to help people have a better experience with aging. The response shows there is an interest in learning more about this topic.

### PREPARING STUDENTS IN PERSON CENTERED AND PARTICIPANT DIRECTED COMPETENCIES FOR THE AGING AND DISABILITY NETWORK OCCUPATIONS

N.R. Hooyman<sup>1</sup>, K.J. Mahoney<sup>2</sup>, M. Sciegaj<sup>3</sup>, 1. *University of Washington, Seattle, Washington*, 2. *Boston College, Chestnut Hill, Massachusetts*, 3. *Pennsylvania State University, University Park, Pennsylvania*

According to a recent national survey of social workers in area agencies on aging (AAA), there is a need for additional training in person-centered and participant-directed (PC/PD) competencies. While AAA directors stressed the importance of training, the survey found that AAAs often lack the resources for staff development and training in PC/PD competencies. The need for such preparation is shaped by a rapidly changing policy and practice context: the expectations of the Administration for Community Living (ACL) for a competency-based approach; the Affordable Care Act's (ACA) inclusion of PC care and the expansion of PD services; and requirements for these competencies by the Centers for Medicare and Medicaid Services. Given these changes, it is imperative that students acquire PC/PD competencies to work effectively with older adults and persons with disabilities in community-based health and LTSS. To address the need for workforce development in PC/PD, this paper will present findings from a national project funded by the New York Community Trust to prepare social work students with PC/PD competencies to work effectively within the Aging and Disability Network as well as community-based long-term services and supports funded by the ACA. The project partners nine schools of social work with nine aging and disability network agencies for the purposes of articulating and infusing PC/PD competencies into social work curriculum. Effective strategies to infuse such competencies into required curriculum will be discussed, and examples of teaching resources (e.g., lectures, case studies, modules) and measures of student competency attainment presented.

### PROMOTING FACULTY DEVELOPMENT IN A TIME OF SCARCE RESOURCES

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In an environment of limited funding for continuing education, travel, and paid time off, creative solutions are needed for professional development for faculty members. With funding from the Bureau of Health Professions, Health Resources and Services Administration, the California Geriatric Education Center (GEC) and Virginia GEC each developed 160 hour interprofessional faculty development leadership

programs. The Consortium of New York GECs, Central Plains GEC, Gateway GEC of Missouri and Illinois, and New Jersey GEC also teamed up to create a 160 hour Faculty Development Collaborative Program. Faculty members from a wide range of disciplines participate in online and in-person learning with experts in the health professions and aging. In addition to content in geriatrics and gerontology, the programs include components on mentorship, leadership, research, teaching and teambuilding. One approach is a Virtual Learning Community in which faculty participate in webinars, connect with other faculty members, access learning resources, and work on a mentored capstone project. Another model incorporates weekend retreats, monthly sessions, and geriatrics seminars which provide opportunities for faculty members and mentors to interact in person. The final model is a “train the trainer” program in which faculty members become champions for geriatrics and gerontology within their academic institutions. Challenges to implementing faculty development programs across all sites include: coordinating across institutions, keeping faculty members engaged, ensuring completion of faculty evaluations, dealing with transitions in leadership, and managing bureaucracy within institutions. Participant and program evaluation data is collected across all sites and will be presented.

### **EFFECTS OF SHARED DECISION-MAKING WITH NURSE AIDES ON NURSE JOB PERFORMANCE AND SATISFACTION IN NURSING HOMES**

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The movement away from a medical model to a person-centered model of care in nursing homes has often involved strategies to empower nurse aides, who provide much of the one-on-one, day-to-day care of residents. The benefits of such strategies for nurse aides, residents, and family members is well documented. However, little is known about the effects of nurse aide empowerment strategies on nurses. Thus, the current study used survey data collected from 178 nurses employed in 11 Texas nursing homes to examine the effects of nurse perceptions of the use of shared decision-making between nurses and nurse aides in the nursing home on nurse reports of job performance and satisfaction. About 25% of nurses surveyed agreed that shared decision-making between nurses and nurse aides was used in the nursing home. Estimates from three regression models revealed that, all else equal, shared decision-making had a significant positive effect on nurse job satisfaction both directly and indirectly through the concurrent increase in the nurse’s perception of personal job performance. The positive relationship between nurse job satisfaction/performance and perception of shared decision-making is a vital aspect of shared governance models. Given the resistance of some nurses to implementing shared governance models in nursing homes, incorporating a discussion of the potential benefits of shared decision-making to nurses is crucial in the implementation of new practices.

### **THE ROAD MAP FOR AGING RESEARCH IN ARAB COUNTRIES: WHERE IS THE EVIDENCE FOR PRIORITY SETTING?**

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In the wake of health transitions, shifting demographics and rapid increase in number and share of the older persons in Arab countries, the need to align investments in health research and development (R&D) with old-age opportunities and challenges cannot be underestimated. We aim in this paper to describe the landscape of aging research in Arab countries, assess trends in quantity, quality, methods of study, themes, and co-authorship profile, and map them against demographic, economic and development indicators. A literature review from five academic databases for a period of two decades (1993-2013) was conducted. Findings indicate that aging research has increased seven-fold across the two decades, with middle-income countries showing the

sharpest rise and highest impact of publishing. Literacy rates more strongly influenced research productivity than population aging indicators or government investment in R&D. Notably, collaboration with international co-authors (19.8%) was more frequent than with regional co-authors (3.9%) and had an enhanced bearing on the impact factor (IF) of the publishing journal (mean IFs 2.517 and 1.492, respectively). The majority of publications was disease-centered, descriptive in nature and relied mostly on cross-sectional study designs. In spite of the increasing regional instability, only a few focused on ‘seniors in emergencies,’ and there was a total lack of studies on ‘aging and economic growth’. While the broad determinants of population aging are better understood, the mechanisms through which health, well-being, and autonomy can be maintained and extended are less so, further underlining the need to improve monitoring and priority setting for health R&D.

### **INCREASING HEALTHY LIFE EXPECTANCY BY 2 YEARS BY THE YEAR 2020: A CHALLENGE FROM THE EUROPEAN RESEARCH AREA ON AGING**

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Healthy life expectancy is defined as the number of years an individual spends in “good” or “very good” health. At age 65, only half of an older adult’s remaining years are spent in good health. For the average 65 year old woman this means that 10 out of her remaining 20 years will be spent in ill health or with disability. The European Research Area on Aging is an international consortium that is currently funding 6 projects to narrow the gap between overall and healthy life expectancy in seniors. This paper’s presenter is leading one of these projects, the “Continence across Continents to Upend Stigma and Dependency trial” across Canada, the UK and France. The current paper will describe the challenges involved in conducting an international randomized trial testing an intervention to increase active healthy life expectancy in older women. Modifiable components that drive ratings of quality of life in older women will be presented and include physical functioning, lifestyle habits, mental health, and social participation. Immediate, intermediate and final outcomes will be discussed as a function of these components. Ways of measuring an improvement in healthy life expectancy among individual trial participants will be compared. The sample size requirements for such a trial and the economic endpoints desired by government stakeholders cannot be ignored. The imperative to augment clinical research expertise on healthy aging is eclipsed only by the need to deliver research results that are rigorous, credible and that risk influencing government to better invest in healthy aging.

### **THE GERONTOLOGICAL IMAGINATION: WE HAVE REACHED A CRITICAL MASS**

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Since 1993, 239 individuals have graduated with a PhD in gerontology. Yet the disciplinary status of gerontology remains a debate. Previous evaluations resolved that the field fell short because the demand for doctorates in gerontology and the integration of gerontological knowledge into occupational roles were not convincing. This presentation uses data collected from the Gerontology Education Longitudinal Study (GELS) to reassess these two factors. The data are based on a survey of the population of all alumni with gerontology PhDs in 2011. Our sample includes 34% (n=75) of the population of gerontology alumni. Results indicate that 99% are employed, with 66% working in academic institutions in various roles including tenured professor, tenure track professor, adjunct, research, and clinical faculty. Nearly 50% of these individuals had completed/were completing a post-doctoral fellowship. The remaining 33% were employed in non-academic positions within government agencies, health system administrations and other organization types. The majority of respondents indicated they were working in multi-disciplinary and interdisciplinary roles, applying their geron-

tological training. Less than 20% were not working in an organization or a role that focused on gerontology. Our findings suggest that the field of gerontology has reached a critical mass and now meets all key criteria needed to qualify as an academic discipline. This session will conclude with a discussion about the need to enhance the status of doctoral programs in gerontology by creating competencies, establishing accreditation criteria, and allocating institutional resources.

#### **MENTORING IN AGING PROCESS (MAP): MAPPING MEMORIES OF MENTORING THROUGH THE LIFECOURSE LENS**

C. Corley, *Human and Organizational Development, Fielding Graduate University, San Gabriel, California*

The aging of the field of aging has created a legacy that GSA and its members are increasingly documenting. A visual map of the social networks created through formal and informal mentoring can demonstrate the magnitude of the contributions of individual mentors and institutions/organizations that foster mentoring. This poster session presents a visual case study of the mentoring lifecourse of gerontological social work leaders (e.g. Rose Dobrof, Nancy Hooyma, Barbara Berkman and others) and their influence via social networks in social work and interdisciplinary contexts. Using social media and outreach to gerontological social work organizations (e.g. AGE Social Work), a map of the Mentoring in Aging Process (MAP) is presented via solicitation of “mentor moments” virtually. Using social media, brief incidents of mentor/mentee engagement are collected and mapped using mind-mapping and related tools. Since mentoring is a cross-generational process over time combining individual biography and history, “mentor moments” of mentors and mentees are illuminated through concepts of the life course perspective (e.g. cumulative advantages; agency). The adaptive resources of career and intellectual advances offered in mentoring relationships are highlighted. An additional component of the presentation is real-time interaction as conference participants contribute additional “mentor moments” viewing the MAP illustration. This process contributes to legacy-building and recruitment/retention of practitioners, educators and researchers in aging.

#### **GERIATRICIANS IN GERMANY**

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**Background:** The first geriatric clinics in Germany were founded in the 1970s. The first official certificate in geriatrics was inaugurated in 1992. Medicine in the elderly has become an obligatory subject at medical schools since 2003. **Objective:** The aim of the study was to evaluate the number of German geriatricians and the possibilities for qualification in the different German Bundesländer. **Methods:** Medical associations in the different Federal Lands (Bundesländer) were contacted and the number of geriatricians in their district was requested. **Results:** 11 of the 16 medical associations returned their data. There were 1206 doctors with a certificate of geriatrics registered. The mean percentage of geriatricians was 0.46% (0.09-1.56) of all registered doctors. The number of people 75 years or older per geriatrician also varied greatly between the Federal Lands with a proportion of 8000 to over 100.000 people per geriatrician. In recent years the interest seems to have risen slightly, however. In 2010 100, in 2011 107 and in 2012 124 doctors became registered geriatricians in the 11 Federal Lands. Most geriatricians first completed a formation in internal medicine, some also in general medicine and some in neurology. In the last years some medical associations opened the way to different forms of geriatric formation. **Conclusion:** Despite the more than 40 year of geriatric medicine in Germany the number of geriatricians is still low. Several reasons can be discussed. One reason may be that a certificate has only been available for a little more than 20 years and the teaching at medical schools has only been obligatory for 10 years. For a long time one requirement was an approval as medical specialist for example in

internal medicine as well as 24 months of work in a geriatric clinic. Furthermore the economic stimulus for general practitioners is practically nonexistent. Some resistance from other medical specialties may also have played an important role.

#### **CONNECTING THE PRESENT AND FUTURE: A CONTENT ANALYSIS OF INTRODUCTORY GERONTOLOGY COURSE SYLLABI**

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At the 2014 Association for Gerontology in Higher Education (AGHE) meeting in Denver, members of the Academic Program Development Committee (APDC) led a workshop on developing an introductory gerontology course syllabus. Twenty-eight participants from a variety of levels and types of gerontology programs discussed components of introductory gerontology courses, including course descriptions, objectives, readings, formative and summative assessments, and pedagogical strategies. Several common themes emerged, which were related to syllabus components and course competencies. Syllabi were collected from the workshop participants and APDC committee members. A content analysis specifically addressed course overviews, rationales, and learning objectives/outcomes. Common and divergent themes were observed across the syllabi and were categorized as either knowledge- or skill-based. Knowledge-based themes included diversity and stereotypes, demographics, current events, policy, the interdisciplinary nature of gerontology, and career awareness/preparedness. Skill-based themes included taking informed positions, identifying and evaluating scholarly literature, and comparing theoretical perspectives across ways of knowing. Suggestions for future directions include further study of more advanced gerontology course syllabi, with an eye to aligning with the competencies emerging from the AGHE Accreditation Task Force. The overarching goal of this project is to produce best practices course syllabi for GSA and AGHE educational members. By educating future gerontologists, and others who will work with older adults, in core competencies, we will positively impact quality of life and well-being of the population as we all age.

#### **UNDERGRADUATE GERONTOLOGY STUDENTS: WHO ARE THEY, WHAT DO THEY WANT, AND WHY SHOULD WE CARE?**

K. Humber, 1. *Gerontology and Behavioral Sciences, University of Maryland University College, Adelphi, Maryland*, 2. *UMBC, Baltimore, Maryland*

Information on the characteristics of undergraduate gerontology students is largely absent in the literature. Anecdotal evidence suggests that gerontology students are quite different from the typical college student and importantly, are different from the modal non-traditional learner as well. Understanding who these students are and how they can best be served by their institutions may be useful in terms of recruitment, curricular planning, and professional development. This work reports on a survey that provides a preliminary snapshot of undergraduate gerontology students at a large public university and confirms that these students collectively have a unique demographic profile that distinguishes them from other student populations. Strategies and recommendations for recruitment and for managing student expectations and needs are discussed.

## **ME & MY WISHES: PROTOTYPING LONG TERM CARE RESIDENT VIDEOS TO COMMUNICATE CARE PREFERENCES**

G.L. Towsley, L. Ellington, S.L. Beck, B. Wong, *University of Utah, Salt Lake City, Utah*

As part of a program of research to facilitate communication of care preferences for today and at end of life, we developed, Me & My Wishes© (MMW), a video recorded conversation with long term care residents. Using a participatory action research (PAR) approach we sought input from staff and residents to finalize the MMW interview guide and video recording approach. A non-staff member, trained in social work, conducted the interviews. Two residents created a prototype MMW video and completed a survey, debriefing interview, and viewing of an edited version of their video. We found that residents were willing, able, and not distressed by creating MMW. Each recording lasted about one hour and resulted in an edited MMW video lasting about 20 minutes. Positive responses (e.g. good for family or staff to hear feelings about preferences) about creating and viewing the video outweighed the concerns (room distracting, wait time for recording). Residents did not feel any topics or questions should be omitted and both planned to share their video with adult children or staff. An aide suggested MMW could be used to learn about residents and “to know what residents expect from us”; but expressed concern about time needed to watch a video. Staff members of the PAR team recommended viewing all or parts of MMW in care conference, staff training, and using MMW to assist with educating family members or advocating for resident wishes. This study demonstrated feasibility and potential usefulness of MMW to better align care with resident preferences.

## **GAIT SPEED AND FUNCTIONALITY OF THE OLDER PATIENTS DISCHARGED FROM THE EMERGENCY DEPARTMENT**

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Background. Loss of functionality at discharge represents a serious issue because of its consequences. Methods: Data were collected through a standardized questionnaire. Face-to-face interviews were made by nurses previously trained, during 7 days per week from March to July, 2013. Functionality was measured by Barthel scale. Gait speed was calculated for each participant using distance in meters and time in seconds. All participants were advised to walk at usual pace and from standing point. Patients were instructed to walk down a hallway trough 50 centimeters for acceleration. Gait speed was measured over a distance of 4 meters. Patients could use assistive devices if needed, and each participant was timed for two walks. Value higher than 7 seconds was considered positive. Data analyses were performed using STATA v10. Results: 66 patients were evaluated. The mean age was 74.4 years and 62.12% were female. 45 cases had hypertension diagnosed by a doctor and 5 cases had also chronic renal failure, depending on dialysis or hemodialysis. 65.15% reported falls in the past two years and 37.21% had more than two falls. 37 cases required more than 7 seconds to walk 4 meters, 36 cases were scored with low dependence, and 1 case had total dependence. Of the 29 cases that required less than 7 seconds, 26 had low dependence and no one had total dependence. Conclusions: Our findings demonstrate that Gait speed and functionality was not related at discharge of the emergency department. Further analysis has to be performed.

## **HOW TO CONSTRUCT AN ETHNODRAMA: CONNECTING GENERATIONS THROUGH ARTS BASED RESEARCH**

J. Eaton, *University of Utah, Salt Lake City, Utah*

Arts based approaches to research are growing in popularity however terminology and methodology differ vastly, reducing the impact of research based performance. The purpose of this study is to improve consistency of qualitative methodology through the description of the

process utilized to create an ethnodrama focusing on possible selves. Twelve older adult residents of an assisted living facility were paired with twelve baccalaureate nursing students to collect data on the topic of possible selves. A total of 24 semi structured interviews were collected from interviews conducted between student and older adult dyads. Interviews were digitally recorded, transcribed, and analyzed in an iterative process utilizing first cycle invivo coding and second cycle pattern coding. Themes relating to late life potential were identified, including hopes, fears, barriers, and aids to possibility. Composite characters were created in order to represent these themes. Ten final interviews were recorded with student adult dyads reading the script and providing feedback as member checks. The process of ethnodrama creation involved data collection, analysis in two cycles, annotation, outlining, editing, member checks, and revision. The final draft was work shopped with a theatre company, allowing professional interpretation as a second level of review in order to increase audience understanding. Ethnodrama has the potential of increasing innovation in research but, in order to be utilized and accepted in the research community, methodology must be clarified to improve consistency and rigor.

## **TAILORING EVALUATION METHODS FOR INTERGENERATIONAL HEALTH PROGRAMS WITH OLDER ADULTS AND CHILDREN**

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Providers of intergenerational programs often lack cost-effective methods for measuring health and other impacts among older adult and child program participants. To address this need, OASIS has adapted evaluation methods to be used by trained older adult volunteers and university students to reliably measure: 1) levels of older adult and child participant physical activity, 2) monetary return on investment of older adult volunteerism, and 3) goal attainment of older adult volunteers for OASIS' CATCH Healthy Habits program. Evaluation methods were adapted to measure the effectiveness of the OASIS CATCH Healthy Habits intergenerational, volunteer-led physical activity and nutrition program in 19 cities across 15 states. In addition to administering pre- and post-program surveys to child participants (grades 3-5) and older adult volunteers (age 50-plus), adult and child (grades K-5) physical activity intensity was observed during the program using the System for Observing Fitness Instruction Time (SOFIT). Volunteer return on investment was measured using the web-based Strategic Metrics and Results Tracking (SMART) tool and program impact on older adult goal setting was captured by incorporating the Goal Attainment Scaling (GAS) method. Results support that cost-effective evaluation methods can be adapted and used by trained, lay individuals, including older adult volunteers and university students, to reliably measure and effectively report the impact of intergenerational volunteer-based health programs while enhancing the skills of capacity-building older adult volunteers and students.

## **THE IMPACT OF STUDY DESIGN ON MEASURING CARE-RELATED BURDEN WITH THE CARERQOL INSTRUMENT**

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Pooled datasets are becoming increasingly frequent in healthcare research. Heterogeneity between study designs can result in differential measurement error. The objective of our analysis was to explore the measurement properties of the CarerQol instrument, which measures and evaluates care-related burden among informal caregivers, across two study design features, sampling framework (i.e. general population, primary care, hospital) and survey mode (i.e. questionnaire, interview). Data were extracted from The Older Persons and Informal Caregivers Minimum DataSet (TOPICS-MDS), a pooled dataset with information

on 3,610 informal caregivers throughout the Netherlands. Meta-correlations and linear mixed models between the CarerQol's seven dimensions (CarerQol-7D) and a valuation component measuring caregiver's level of happiness (CarerQol-VAS) were performed. Cronbach's  $\alpha$  were calculated for the CarerQol-7D. The CarerQol-7D dimensions were correlated to the CarerQol-VAS in the pooled dataset and predefined subgroups. However, the strength of these correlations was notably weaker among caregivers who were interviewed versus those who completed a questionnaire. Moreover, significant interaction terms in the linear mixed model were observed between survey mode and four of the seven dimensions of the CarerQol-7D, underscoring meaningful differences in the reporting of these dimensions in questionnaire versus interview-administered surveys. Internal consistency was reasonable in the pooled dataset ( $\alpha = 0.59$ ), though lower among caregivers sampled from the general population ( $\alpha = 0.53$ ) versus primary care ( $\alpha = 0.62$ ) or hospital settings ( $\alpha = 0.60$ ). In conclusion, survey mode impacts on CarerQol reporting. Pooling mixed mode data should be interpreted with caution or ideally avoided in the original study design.

### RURAL PENSIONS IN HIGH-GROWTH DEVELOPING COUNTRIES: MODELS FOR PROVIDING OLD AGE SECURITY TO THE RURAL POOR

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Our paper provides an assessment of alternative policies for providing old-age security in rural areas of high-growth developing countries with the goal of deciding which approaches seem to hold the most promise. Until quite recently it has been taken for granted among international pension policy analysts that it is all but impossible to provide publically supported old age security in rural areas of developing countries, but today these assumptions are being questioned as a number of countries are making impressive strides to provide such coverage for a substantial fraction of their rural populations. Our research focuses on a set of six high-growth developing countries (China, India, Russia, Brazil, South Africa, and Turkey) that are often viewed as regional policy leaders in a number of spheres. Our data is derived in part from interviews with experts and in part from various reports prepared by government agencies as well as reports available from various international financial institutions. We pay particular attention to approaches that emphasize unfunded noncontributory social pensions (based on more redistributive or social democratic approaches) and contrast them with funded contributory approaches (emphasizing more neoliberal approaches). We conclude that both approaches have their benefits and their limitations, but for the rural poor, old-age security programs that emphasize the social pensions seem to be the most effective, particularly when it comes to the very important issue of extending coverage.

### DEFINING AN AGE FRIENDLY COMMUNITY: VIEWS OF OLDER RESIDENTS IN A RURAL, RETIREMENT DESTINATION

P. Huffman-Oh, *University of Massachusetts, Boston, Boston, Massachusetts*

Creating age friendly communities is increasingly recognized as an important vehicle to support aging in place. Despite the number of people aging in rural areas, few studies have explored how life-long residents and in-migrants to small towns create age-friendly, liveable communities. This study used photo-voice to explore the perceptions of older residents in one rural coastal retirement destination. The study was publicized through the town's newsletter and at senior center activities. Twenty-eight older residents (N=11 long-term residents, N=17 residents who moved in retirement) participated. A variety of interpretive methods were used—participant observations, in-depth interviews, focus group discussions, and textual analyses. The researcher and participants co-constructed (1) a public photographic exhibition and; (2) a text containing participant narratives expressed through photographs,

reminisces, and personal reflections. The study findings suggested that life-long residents and retiree newcomers have different conceptualizations of what makes a community age-friendly. Life-long residents emphasized self-reliance while in-migrants stressed the importance of community supports to help residents remain independent. Themes that arose from the narratives of long-term residents included (1) family; (2) history in place; and (3) social networks. Themes that arose from the narratives of retiree newcomers were (1) civic engagement; (2) volunteerism; and (3) formal supports. Prominent themes in both groups were (1) transportation and (2) housing. This study adds to existing theory by exploring diverse narratives of aging in place that co-exist in a single community and illustrates how different constructions of aging in place can influence policies meant to create an age-friendly community.

### EFFECTS OF COMMUNITY AGE-FRIENDLINESS ON HEALTH STATUS OF OLDER ADULTS IN CHINA: A MULTILEVEL PERSPECTIVE

Y. Wang, *School of Social Work, Washington University in St. Louis, Saint Louis, Missouri*

**Introduction.** Although Age Friendly Communities (AFC) Initiatives have gained worldwide attention, the effects of AFC on well-being of older adults have yet to be empirically documented. This study explores the association between community age-friendly characteristics and health status of older adults in China. **Methods.** Data came from China Health and Retirement Longitudinal Study (CHARLS) baseline survey, including 17,780 individuals from 453 communities. Two-level hierarchical linear model (HLM) method was used. Community-level independent variables include transportation, housing, access to community facilities and amenities, and access to health care services. Individual-level dependent variables include self-rated health status, and depression score. Demographics factors at the individual level were controlled. **Results.** Results suggest that after controlling demographic factors (i.e. age, education, marital status) associated with overall well-being of older adults, the community age-friendly characteristics have significant effects on the physical and mental health of older adults. Older persons living in communities that have housing with better basic facilities such as sewer system ( $p=.048$ ) and waste management ( $p=.001$ ) report better health status. Older adults also rate their health status better when medical facilities are conveniently located ( $p=.035$ ). Older residents living in neighborhoods with accessible community services and facilities such as elderly association ( $p=.049$ ) and outside exercising facilities ( $p=.001$ ) are less likely to be depressed. **Conclusion.** Community age-friendliness is significantly associated with the overall well-being of older adults. In the face of population aging, increased efforts to make communities more age-friendly may lead to improved population health.

### TRENDS IN THE INFORMAL AND FORMAL HOME CARE USE OF OLDER ADULTS IN THE NETHERLANDS BETWEEN 1992 AND 2012

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**Abstract Purpose of the Study:** To investigate trends in the use of informal and formal care of community-dwelling older people over the last two decades in the context of the reform of long term care services and modernization of informal relationships. **Design and Methods:** Seven observations of the Longitudinal Aging Study Amsterdam covering the time span between 1992 and 2012 were analyzed using multilevel logistic regression analysis. The sample entailed 9,585 observations from 3,574 respondents, aged between 65 and 86 years old and living independently at each time of measurement. Measures included formal and informal care use, health, socio-demographics, partner status, social network, privately paid help and mastery. **Results:** Formal home care use increased slightly between 1992 and 2012 while the use of informal care decreased to a larger extent. Multivariate analyses

showed a negative association between formal and informal care use, which decreased over time. Analyses showed improved cognitive functioning, increased availability of partners and social network size, and increased use of privately paid care among this age-group over time, but these positive trends did not explain the decrease in informal care use. Implications: The results may reflect a societal trend of weakened informal solidarity, perhaps caused by increased individualization. Also, technological and medical developments may have reduced the amount of care needed for comparable levels of health. The decreased substitution effect suggests that complementary or supplementary forms of care use may be more common in the near future.

#### **UNDERSTANDING THE COSTS OF DISABILITY AMONG MEDICARE BENEFICIARIES**

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Background Disability is a significant driver of Medicare costs due to greater demand for medical services and increased likelihood of admission to long-term care facilities. We developed nationally-representative estimates of the relationship of Medicare spending to the severity of disability within the Medicare population. Methods Using data from the 2008-2009 Medicare Current Beneficiary Survey (n = 6,145), we defined disability as any limitation to Instrumental Activities of Daily Living (IADL) and according to number of limitations with Activities of Daily Living (ADL; 1-2 = mild;  $\geq 3$  moderate/severe). Costs were ascertained from Medicare Parts A and B claims. Beneficiaries reported sociodemographic and health characteristics at baseline. Results Average Medicare spending over the 2008-2009 period was \$11,471. Among beneficiaries who reported mild disability in 2008, 15.4% progressed to moderate/severe disability in 2009, while 12.3% reported IADL-only limitations and 23.5% reported that they no longer had any disability. Among beneficiaries with an IADL-only limitation in 2008, progressing to mild or moderate/severe disability in 2009 was associated with a 71% and 123% increase in spending, respectively. Full recovery from an IADL-only limitation was associated with a 5.7% spending decrease. Multivariable analyses indicated that increases in disability severity were associated with significant increases in Medicare spending between 2008 and 2009 ( $p < .05$ ), while improvements in functional status were generally associated with non-significant spending decreases. Conclusions As the number of Medicare beneficiaries continues to grow, targeted interventions aimed at preventing increases in disability severity could offer a significant opportunity for Medicare savings.

#### **SOCIAL NETWORK SIZE AND PERFORMANCE IN ADLS AND IADLS AMONG COMMUNITY-DWELLING OLDER ADULTS WITH PROBABLE DEMENTIA: IS THERE A RELATIONSHIP?**

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Previous research has shown older adults with larger social networks have reduced difficulty in performance of Activities of Daily Living (ADL). However, limited research exists on the relationship between social network size and performance in Instrumental Activities of Daily Living (IADL). The relationship between social network size and IADL performance is of particular interest as difficulty in IADL performance may be an indicator of the presence of dementia. The relationship between social network size and difficulty in ADL and IADL performance was examined in a cross-sectional, national sample of community-dwelling older adults within the National Health and Aging Trend Study (NHATS). Participants included in this study (N=1038) were classified as having probable dementia, indicated by a

clinical diagnosis and or cognitive impairment in two or more cognitive domains. Independent variables included socio-demographics and social network size. Outcomes examined for ADL difficulty were dressing, bathing with and without grab bars and meal preparation. Outcomes examined for IADL difficulty were shopping, banking, laundry, and medication organization and compliance. Logistic regression results indicate fewer social network members was associated with increased difficulty in meal preparation, banking, dressing, bathing without grab bars, medication organization and medication compliance. Results indicate a relationship between social network size and performance in ADLs and IADLs among community-dwelling older adults with probable dementia. The potential of social network size to influence functional performance could have widespread policy implications for aging in place. Further research should examine other characteristics of social networks that may mediate ADL and IADL performance. Further research should examine other characteristics of social networks (e.g., frequency and quality of relationship) that may mediate ADL and IADL performance.

#### **FINANCIAL LITERACY AND HOUSEHOLD WEALTH IN LATER LIFE**

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Extant research demonstrates an association between basic financial literacy and retirement-related economic outcomes. To date, however, these studies have only examined numeracy or basic skills and comfort with numbers. Other components of financial literacy—knowledge and use of basic economics and financial concepts—remains little examined. This study uses data from the 2010 Health and Retirement Study (HRS) and its new financial literacy module to examine the relationship between financial literacy and household wealth among older adults in the United States (N=1,596). Ordinary Least Squares regression analyses estimated the association between both the numeracy and non-numeracy components of financial literacy and total household wealth, controlling for other demographic and socioeconomic status variables. Results indicate that only non-numeracy components of financial literacy were associated with household wealth ( $p < .05$ ). In particular, a non-numeracy index incorporating knowledge of stock markets, interest rate changes, and investment risks was positively related to wealth in retirement. Years of education was positively related to household wealth as well. In contrast, African American and divorced respondents reported lower household wealth; so too did respondents with higher levels of pension income. Findings suggest that non-numeracy components of financial literacy may better explain household wealth than the numeracy components of financial literacy, perhaps due to the acquisition of the knowledge and skills necessary to attain higher returns on investments. Future studies should investigate the effects of non-numeracy financial literacy on other economic outcomes to inform the development of policies that help ensure older adults' financial security in retirement.

#### **WHY ARE SOME STATES' DEMENTIA REGULATIONS FOR ASSISTED LIVING MORE STRINGENT THAN OTHERS?**

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Background: Assisted living has become an attractive residential alternative to nursing facilities for persons with dementia. However, unlike federally regulated nursing facilities, assisted living facilities are state regulated. Little is known about the structure and function of assisted living regulations and if such policies influence dementia-care quality. Objective: To identify state regulations of dementia-care in assisted living, and develop a taxonomy reflecting distinct qualitative

differences among regulation types. Methods: Using LexisNexis, we identified state dementia-specific staffing and physical environment assisted living regulations through 2013. The quality of regulation types was determined by assessing their scope and stringency on a scale from 0-5, with more explicit standards for dementia-specific training, staffing levels, resident safety and comfort generating higher scores. Scale scores were used to create two constructs reflecting staffing and physical environment. Correlational analyses were performed to assess construct independence. Results: The stringency of dementia-specific staffing and physical environment regulations vary significantly across states. For example, 14 states have no dementia-specific staffing standards, while 48 states offered no regulations restricting access to sharp/toxic objects among persons with dementia. The constructs were modestly correlated (0.43  $p < 0.01$ ), suggesting two distinct state policy approaches to shaping dementia care in assisted living. Conclusions: Relative to the resident population size, the amount of state-level dementia-specific assisted living policy activity is modest. The existing policies appear to be multidimensional, focusing on different aspects of dementia-care quality. Further research will continue to document the policy structure shaping assisted living and determine why states take varied approaches to regulation.

### **DEPRESSION INCREASES THE RISK OF ELDER FINANCIAL EXPLOITATION: MEDIATING EFFECTS OF PHYSICAL HEALTH AND ISOLATION**

A. Pearce, C. Davis, P. Liu, S. Estevez-Cores, S. Wood, *Psychology, Scripps College, Claremont, California*

In recent years financial exploitation has become an increasingly relevant issue among the older adult population. It has been established in the literature that factors such as self-reported depression and loneliness can often lead to a subsequent decline in physical health. It has also been established that a decline in physical health can negatively impact decision making and lead to riskier and poorer choices. The current study aims to explore how depression, loneliness, and physical health increase the likelihood of financial exploitation in older adults and specifically if any of the above mentioned factors serve as mediators of financial exploitation. Participants ( $n=189$ ) filled out surveys that assessed topics including physical health, depression, social support, and financial exploitation in the past year. Structural equation modeling with AMOS was used to test whether physical health and isolation acted as mediating variables in the effect of depression on financial exploitation. Model fit provided by modification indices was good,  $\chi^2(2) = .819$ ,  $p = .664$ ,  $\chi^2/df = .410$ , CFI = 1.000, RMSEA < .001. All paths were significant, all  $p < .05$ . Depression predicted physical health and isolation respectively, and the two mediators also respectively predicted financial exploitation. Physical health and loneliness were found to be mediating variables in the effect of depression on financial exploitation. Prevention and intervention programs should focus on the two mediating variables, and future research should continue exploring mediating and moderating effects of predictors on elder financial exploitation.

## **SESSION 670 (SYMPOSIUM)**

### **EXERCISE IS REGENERATIVE MEDICINE: EFFECTS ON MITOCHONDRIAL FUNCTION**

**Chair:** M.M. Bamman, *University of Alabama at Birmingham and Birmingham VAMC, Birmingham, Alabama*

**Discussant:** M. Tarnopolsky, *McMaster University, Hamilton, Ontario, Canada* **Discussant:** K.E. Conley, *University of Washington, Seattle, Washington*

Marcas Bamman, University of Alabama, Birmingham, Exercise is regenerative medicine: Restoring myogenic and mitochondrial function in aging and Parkinson's Disease; Mark Tarnopolsky, McMaster University, Systemic benefits of exercise on mitochondrial function in aging; Kevin Conley, University of Washington, Exercise as the cure

for what AGES us. Exercise training in its various forms profoundly influences the physiology of every organ system, and accomplishes this by the induction of molecular processes and signaling events that have a marked impact on cellular function. Because of its multi-potency, exercise training has been used successfully to mitigate cellular dysfunction in aging and several chronic diseases. As such, exercise if dosed effectively can be a powerful tool in the burgeoning field of regenerative medicine. In this session, the three speakers will focus on the well-established links between mitochondrial dysfunction, aging, and the progression of age-related disease, and the mechanisms by which exercise training can restore functional capacity, in part by its regenerative effects on mitochondria with a particular focus on skeletal muscle.

### **EXERCISE AS THE CURE FOR WHAT AGES US**

K. Conley, *University of Washington, Seattle, Washington*

Here we present the first direct and non-invasive measurement of NAD/H redox states in elderly (65-80 yrs old) human muscle in vivo before and after exercise training. Magnetic resonance spectroscopic (MRS) measures in the vastus lateralis reveal mitochondrial NADH, which is a natural biomarker indicating mitochondrial function, and NAD<sup>+</sup>, which is a limiting co-factor in mitochondrial biogenesis. Six months of endurance training reversed the elevated mitochondrial NADH and the reduced NAD<sup>+</sup> in elderly muscle to restore the levels found in adults. Parallel improvements were found in mitochondrial function (coupling: P/O) and mitochondrial capacity (ATPmax) in vivo. Thus, NAD/H redox states reflecting mitochondrial function and capacity are sensitive to an intervention and reveal mitochondrial improvements with endurance training in the elderly. After attending this presentation, participants will understand how non-invasive MRS can be used to: 1) capture mitochondrial properties and 2) reveal exercise training responses in human tissues in vivo.

### **EXERCISE IS REGENERATIVE MEDICINE: RESTORING MYOGENIC AND MITOCHONDRIAL FUNCTION IN AGING AND PARKINSON'S DISEASE**

M.M. Bamman, *Birmingham VA Medical Center and University of Alabama at Birmingham, Birmingham, Alabama*

Parkinson's disease (PD) is a debilitating, neurodegenerative disease that manifests as disrupted motor behavior (bradykinesia, tremor, postural instability, rigidity), which dramatically impacts mobility function and life quality. Weakness, low muscle power, and fatigability are common findings in PD. Because risk increases with age (96% diagnosed >age 50), PD progresses concurrent with the obligatory losses of muscle mass and function consequent to aging that likely compound the deleterious effects of the primary disease which include mitochondrial dysfunction. In apparently healthy older adults, we have documented aging-related muscle atrophy, weakness, low muscle power, and fatigability, and have demonstrated robust improvements in muscle mass and function in response to high-intensity resistance exercise training (RT). In this session we will describe more recent results in aging PD patients, showing encouraging benefits of a novel exercise prescription combining high intensity RT with bodyweight interval training to improve both motor and mitochondrial function.



## SESSION 675 (SYMPOSIUM)

### WELL-BEING IN THE SECOND HALF OF LIFE: FROM DAY-TO-DAY FLUCTUATIONS TO YEAR-BY-YEAR CHANGES

**Chair:** S.C. Krupka, *Humboldt-University Berlin, Berlin, Germany*

**Co-Chair:** D. Gerstorf, *Humboldt-University Berlin, Berlin, Germany*

**Discussant:** F. Lang, *Friedrich-Alexander University, Erlangen-Nuremberg, Germany*

When asking people once a year, empirical reports indicate that general well-being is, on average, stable across adulthood and old age. However, evidence is accumulating to suggest that this positive picture is more complex when looking at particular phases of life or when zooming into people's everyday lives. This symposium brings together a collection of empirical papers to showcase contemporary endeavors towards better understanding the risk and protective factors for well-being at multiple levels of analysis and time scales. Krupka and colleagues use multi-year data from the Health and Retirement Study to investigate how the conditions preceding different causes of death shape end-of-life well-being decline. Lee and colleagues use data from the National Survey of Daily Experiences (NSDE) to examine how age-related changes over 10 years in well-being can be predicted by the diversity of activities people pursue in their daily lives. Urban and colleagues also use data from the NSDE to demonstrate that the nature and correlates of age differences in well-being depend upon whether the time frame used in these reports was daily, weekly, or monthly. Finally, Ryan and Queen make use of data obtained with the Daily Reconstruction Method to examine how reporting that a day's activities were meaningful moderate associations of daily positive and negative affect with general life satisfaction. The discussion by Frieder Lang integrates these papers, highlights their theoretical and methodological contributions, and considers challenges and opportunities for future research revolving around the nature and correlates of well-being in the second half of life.

### DOES CAUSE OF DEATH MODERATE LATE-LIFE CHANGE IN WELL-BEING?

S.C. Krupka<sup>1</sup>, F.J. Infurna<sup>2</sup>, I. Demuth<sup>3</sup>, I. Schöllgen<sup>1</sup>, N. Ram<sup>4</sup>, D. Gerstorf<sup>1,4</sup>, *1. Humboldt-University Berlin, Berlin, Germany, 2. Arizona State University, Tempe, Arizona, 3. Charité, Berlin, Germany, 4. Pennsylvania State University, University Park, Pennsylvania*

Well-being often shows major deteriorations with impending death. Yet, little is known about whether and how well-being declines are steeper for certain causes of death than for others. We use longitudinal data from 6,829 by now deceased participants of the Health and Retirement Study (*M* age at death = 78.61) to examine differences in late-life trajectories of depressive affect across six leading causes of death, after covarying for age at death, gender, education, comorbidity, and disability. Results revealed that dying of respiratory conditions was particularly detrimental for people's well-being, with highest overall levels and steepest increases in depressive affect. Participants dying from cancer also experienced stronger late-life increases in depressive affect than those dying from cardiovascular diseases. Our models suggest that diseases, functional limitations, and causes of death impact, but do not entirely determine late-life well-being. We discuss how symptoms, life circumstances, and treatment side effects contribute to our findings.

### DIVERSITY OF DAILY ACTIVITIES AND AGE-RELATED CHANGES IN SUBJECTIVE WELL-BEING

S. Lee, R. Koffler, B.N. Sprague, D. Almeida, *Human Development and Family Studies, Penn State University, State College, Pennsylvania*

Using two-waves' data ten years apart from the National Survey of Daily Experiences (N=793), this study examined whether diversity of daily activities predicted age-related changes in four domains of subjective well-being: psychological well-being, depression, and positive and negative mood. Activity diversity was defined as the breadth of daily participation in various activities, including paid work, time with children, volunteering, and physical activities. Results from multilevel models revealed that older adults (age=59–74) who engaged in more diverse activities reported higher psychological well-being and lower depression at both waves than those with less diverse activities; younger people (age=24–34) with more diverse activities decreased in depression and negative affect from wave-1 to wave-2, whereas those with less diverse activities increased in them. Our findings suggest that activity diversity is beneficial for older adults' concurrent eudemonic well-being and leads to positive changes ten years later for younger adults' eudemonic and hedonic well-being.

### THE ROLE OF TEMPORAL REPORTS IN AGE DIFFERENCES IN EMOTIONAL WELL-BEING

E.J. Urban<sup>1</sup>, S.T. Charles<sup>1</sup>, J. Mogle<sup>2</sup>, D. Almeida<sup>2</sup>, *1. University of California, Irvine, Irvine, California, 2. Pennsylvania State University, University Park, Pennsylvania*

Older adults often appraise stimuli and remember events less negatively compared to younger adults. These appraisals may play a role in age differences in emotional well-being, a phenomenon that may be more pronounced for reports of emotions that span longer periods of time and require a greater demand on memory processes. The current study examined people who completed the Midlife in the United States (MIDUS) and National Study of Daily Experiences (NSDE) and reported recollected negative affect across three temporal windows. Participants ranging from 25 to 74 years-old at the first wave of data collection reported their monthly, weekly, and daily negative affect at each time point. Older age was related to lower levels of negative affect for all measures, but the age difference varied across the three temporal windows. Age differences were smallest when people reported their daily negative affect and greatest when people reported their monthly negative affect.

### MEANING MATTERS: IMPLICATIONS FOR AFFECT AND LIFE SATISFACTION

L.H. Ryan<sup>1</sup>, T.L. Queen<sup>2</sup>, *1. Institute for Social Research, University of Michigan, Ann Arbor, Michigan, 2. University of Utah, Salt Lake City, Utah*

The current study investigates two research questions. First, is the meaning attributed to a day's activities positively associated with life satisfaction? Second, do the associations of positive and negative affect linked to a day's activities with life satisfaction differ based on how meaningful the day's activities were rated? With a sample of older adults (N=968; age range = 50 - 94), this study examines reports on up to 10 activities yesterday, feelings of well-being associated with each activity, and an assessment of the meaningfulness of yesterday's activities. After controlling for age, gender, education, health, and number of activities, results indicate that positive affect in a day is more strongly associated with life satisfaction among individuals who reported high meaning. In addition, differential patterns for the effect of meaning on life satisfaction are identified when looking within specific activities. Interpretation relative to the subjective well-being literature will be considered.

## SESSION 680 (SYMPOSIUM)

### IMMIGRATION, SOCIAL RELATIONS, AND HEALTH

**Chair:** I.O. Govia, *The University of the West Indies, Mona, Kingston 7, Jamaica*

In this symposium we examine the social and psychological well-being of native and immigrant aging persons in the USA and Germany. Hernandez, Smith, and Ingersoll-Dayton examine ambivalent relationships among older Latino/as in the US, noting that immigrant status contextualizes how perceived quality of familial support is associated with well-being, especially among Latina/os at older ages. Ajrouch and Webster explore social relations and forgiveness among Arab Americans. Arab American immigrants report higher levels of depressive symptoms than the US born. Similarly, for immigrants, age is negatively correlated with life satisfaction, while for the US born life satisfaction increases as age increases. Govia, Turkelson, and Ryan consider the ways in which immigration and gender are associated with the mental health of Caribbean Blacks in the US. While nativity matters for the depressive symptoms of men, immigration cohort is what predicts distress among foreign-born Caribbean women. Vogel, Simonson and Tesch-Roemer consider differences in volunteering between native and immigrant persons in Germany. Migrants are less likely to volunteer than non-migrants; however these differences are less pronounced among those in later adulthood than among these in middle adulthood. After this symposium, participants will be able to 1) discuss the associations between nativity and social and health outcomes across the lifespan, and particularly at older ages, for Latinos, Arab Americans, and Caribbean Blacks in the US, and for native versus immigrant persons in Germany; and 2) compare and contrast the US and Germany as contexts for the aging of foreign-born persons relative to native born persons.

### VOLUNTEERING ACTIVITIES AMONG ELDER IMMIGRANTS IN GERMANY

C. Tesch-Roemer, C. Vogel, J. Simonson, *German Centre of Gerontology, Berlin, Germany*

Conflicting hypotheses exist about volunteering patterns among immigrants and native populations. One hypothesis suggests that volunteering rates (and devoted hours) are lower among immigrants than native populations because of different language skills or disadvantaged socio-economic status. An opposing hypothesis suggests that among immigrants, rates and hours are higher than in native populations because of using volunteering to cope with challenges in the migration and integration processes. Using data on adults 40 years and older (N = 13152; migrants n = 1683 migrants) from the 2009 German Survey on Volunteering, we explore these hypotheses. Findings suggest that migrants are less likely to volunteer than non-migrants in Germany. Differences in volunteering activities are less pronounced among those aged 60+ than among those aged 40 to 59. Differences in rates can be partially attributed to duration of stay at the place of residence. Findings are discussed with respect to migration in the German context.

### IMMIGRATION AND THE MENTAL HEALTH OF CARIBBEAN BLACK MEN AND WOMEN IN THE USA

I.O. Govia<sup>1,2</sup>, A. Turkelson<sup>2</sup>, L. Ryan<sup>2</sup>, *1. The University of the West Indies, Mona, Kingston 7, Jamaica, 2. Institute for Social Research, Ann Arbor, Michigan*

Over the life course, immigration factors may be associated with mental health differently for immigrant Black men and women in the US. Using data from the National Survey of American Life, we explore interactions between immigration factors and gender on the mental health of adult Caribbean Blacks (N = 1400; foreign born n = 1045). Analyses suggest that US born men are more likely to have depressive symptoms than are foreign-born men, while nativity differences are not significant for women. On the other hand, women who migrated to the US between 1986-1989, 1990-1995, and 1996-2002 are all different

from those who migrated in 1915-1979, whereas immigration cohort differences were not significant in the distress levels of Caribbean men. Findings will be discussed with respect to gendered immigration experiences and differential consequences for the mental health of Black immigrant and immigrant-ancestry men and women in the USA.

### AMBIVALENT RELATIONSHIPS AND WELL-BEING IN LATER LIFE: COMPARING US-AND FOREIGN-BORN LATINA/OS

E. Hernandez<sup>1</sup>, J. Smith<sup>2</sup>, T.C. Antonucci<sup>2</sup>, B. Ingersoll-Dayton<sup>3</sup>, *1. Social Work and Psychology, University of Michigan, Ann Arbor, Michigan, 2. Institute for Social Research, University of Michigan, Ann Arbor, Michigan, 3. School of Social Work, University of Michigan, Ann Arbor, Michigan*

Familismo is a Latina/o cultural value system prioritizing strong familial ties where elders are granted special consideration. However, immigration status impacts whether older Latina/os feel fulfilled when it comes to being understood by and able to rely upon family members. Expectations that are only partially met lead to ambivalent relationships, which can in turn influence well-being. Using data from the Health and Retirement Study, we apply an intergenerational ambivalence framework to examine the characteristics of US-born (N=492) and foreign-born (N=554) Latina/os aged 50 and over reporting ambivalent relationships. After controlling for education, marital status, and health status, regression models revealed that being older, foreign-born, and having a smaller network size were associated with a greater likelihood of reporting ambivalent relationships. Additionally, we explore the relationship between the presence of ambivalent ties and well-being. Immigrant status contextualizes how perceived quality of familial support impacts well-being, especially among older cohorts of Latina/os.

### FORGIVENESS, SOCIAL RELATIONS AND WELL-BEING: A LIFE COURSE IMMIGRANT PERSPECTIVE

K.J. Ajrouch<sup>1,2</sup>, N.J. Webster<sup>2</sup>, *1. Sociology, Eastern Michigan University, Ypsilanti, Michigan, 2. University of Michigan, Ann Arbor, Michigan*

Forgiveness and social relations have documented importance for well-being across the life course, yet we understand little about the role of immigrant status in this process. Using a unique random sample of Arab Americans from metro-Detroit, home to the largest and most visible concentration of Middle-Eastern Americans in the U.S. (N=96), we examine main and moderating effects of immigrant status on forgiveness, social relations, and well-being. Participants range in age from 19-76 and two-thirds are immigrants. Findings show immigrants are older, report more co-ethnics in their networks, disagree that an apology is needed before granting forgiveness, and report more depressive symptoms compared to U.S.-born Arab Americans. Interaction analyses show that as age increases, life satisfaction is higher for the U.S. born, but lower for immigrants. Findings will address ways in which divergent experiences between immigrants and the U.S. born may reflect differences in integration as well as cultural coping strategies.

## SESSION 685 (SYMPOSIUM)

### HELP-SEEKING AND EARLY DETECTION OF COGNITIVE IMPAIRMENTS IN THE COMMUNITY

**Chair:** T.Y. Lum, *The University of Hong Kong, Hong Kong, Hong Kong*

**Co-Chair:** G. Wong, *The University of Hong Kong, Hong Kong, Hong Kong*

Detection of cognitive impairment is the necessary first step to allow effective treatment and support services, which help maintain or improve mental state and quality of life of people with dementia and their caregivers. Under-diagnosis and delays in help-seeking nevertheless remain common, possibly due to fear, lack of awareness, and

barriers in accessing diagnostic service. Based on an ongoing casenote review study (n=497) of an easily accessible, territory-wide assessment service for dementia in Hong Kong, this symposium includes three papers that examine help-seeking behaviours and early detection issues in community-dwelling people with suspected dementia. Ng and colleagues reviewed the pattern and extent of delays in seeking help, and the enabling factors of the caregiver/care receiver that have expedited help-seeking. Wong and colleagues discuss the role of comprehensive assessments performed by trained professionals (e.g., social workers, occupational therapists) in facilitating the clinical diagnosis of dementia, including the specificity of assessments and a piloted collaborative model with specialists and general practitioners for more efficient early detection. Ho and colleagues examined in detail subjective complaints and observed symptoms that, as reported by people with suspected dementia and their caregivers, have prompted them to seek professional help. Self-reported cognitive problems were compared with signs observed by caregivers for congruity. These findings will inform targeted strategies to promote earlier help-seeking, development of effective and cost-effective early detection services, and programming key messages for raising public awareness of dementia. Nancy Hodgson will discuss the pathway to care in promoting early intervention for dementia.

#### **SELF-REPORTED AND CAREGIVER-OBSERVED SIGNS OF COGNITIVE IMPAIRMENTS IN HELP-SEEKERS**

A. Ho<sup>1</sup>, C. Lou<sup>1</sup>, C. Ng<sup>1,2</sup>, T.Y. Lum<sup>1</sup>, G. Wong<sup>1,2</sup>, M. Lau<sup>1</sup>, D. Kwok<sup>1</sup>, 1. *The University of Hong Kong, Hong Kong, Hong Kong*, 2. *Hong Kong Alzheimer's Disease Association, Hong Kong, Hong Kong*

Incongruity between subjective complaints and informant observation of cognitive impairments poses barriers to help-seeking. Methods: Casenote review of 266 dyads seeking assessment for suspected dementia between 2006 and 2013. Chi-square and Kappa coefficient were calculated between self-reported and caregiver-observed warning signs. Findings: Caregivers on average reported 1.2 (S.D. 1.6) more signs than the person with suspected dementia. The most common complaints made by both parties were: memory loss (72.9%), misplacing things and losing the ability to retrace steps (10.2%), and confusion over time or place (3.4%). Agreement was in general very low in all types of complaints (all  $k < .02$ ). Disagreement was significant regarding complaints of confusion over time or place ( $\chi^2 = 6.5, p = .02$ ), withdrawal from work or social activities ( $\chi^2 = 27.8, p < .01$ ), and somatic complaints ( $\chi^2 = 7.0, p = .04$ ). Implications: People with suspected dementia and their caregivers tend not to agree on cognitive complaints, which may be due to decreased insight or fear.

#### **ASSESSING COGNITIVE IMPAIRMENTS IN HELP-SEEKERS: FINDINGS FROM AN EARLY DETECTION SERVICE**

G. Wong<sup>1,2</sup>, C. Ng<sup>1,2</sup>, T.Y. Lum<sup>1</sup>, 1. *The University of Hong Kong, Hong Kong, Hong Kong*, 2. *Hong Kong Alzheimer's Disease Association, Hong Kong, Hong Kong*

Identifying people showing early signs of dementia allows for timely intervention. Assessments provided by dementia care professionals may facilitate clinical diagnosis. Methods: Casenote review of an early detection service in Hong Kong provided by trained social workers and occupational therapists between 2006 and 2013, and clinical reports of referred cases for medical checkup. Findings: Among 497 help-seekers, 45.2%, 27.0%, 5.1%, and 0.5% showed questionable, mild, moderate, and severe impairment, respectively, on Clinical Dementia Rating. Mild cognitive impairment or dementia was suspected in 274 cases. Based on hospital reports available from 134 referred cases, majority received a diagnosis of dementia (68%) or MCI (20%); other underlying conditions (e.g., subdural haemorrhage) were detected in 5%. Implications: Cognitive impairments of varying degree are common among

help-seekers. Assessment service for help-seekers provided by trained professionals, with coordinated diagnostic and clinical follow-up, is a viable option for early intervention in dementia.

#### **CHARACTERISTICS OF EARLY HELP-SEEKERS FOR SUSPECTED DEMENTIA**

C. Ng<sup>1,2</sup>, T.Y. Lum<sup>1</sup>, G. Wong<sup>1,2</sup>, M. Lau<sup>1</sup>, D. Kwok<sup>1</sup>, 1. *The University of Hong Kong, Hong Kong, Hong Kong*, 2. *Hong Kong Alzheimer's Disease Association, Hong Kong, Hong Kong*

Delays in seeking professional help are common in people with dementia. Identifying characteristics of early help-seekers would inform public awareness strategies. Methods: Casenote review of people seeking help from a low-barrier, territory-wide professional assessment service available since 2006 in Hong Kong. Findings: A total of 497 casenote records were reviewed (67% female; age  $75.5 \pm 8.8$  years). People waited on average 18.4 months (median, 14 months; range, 1-84 months) since first notice of symptoms before seeking assessment. Among help-seekers who were assessed as having probable dementia, a multiple regression model ( $R^2 = .39, F(15,87) = 3.77, p < .01$ ) showed that earlier help-seekers had more symptoms observed by caregiver ( $p = .03$ ), higher MMSE score ( $p < .01$ ), were older ( $p < .01$ ), and had better IADL ( $p = .02$ ); subjective complaints of the person were unrelated ( $p = .56$ ); severity on different clinical domains predicted delays differentially. Implications: The number of symptoms observed by caregivers predicted earlier help-seeking, which is associated with milder disease.

#### **SESSION 690 (SYMPOSIUM)**

##### **HUMANISTIC GERONTOLOGY: THE IMPORTANCE OF A NEGLECTED FIELD**

**Chair:** J. Baars, *University of Humanistic Studies, Haarlem, Netherlands*

One of the main sources of the humanities are a shared interest in the (inter)human condition in its uniquely different manifestations. What does it mean to live a human life? For our concerns we may add: does aging still play a part in this? Or does this stop with the end of 'normal' or 'productive' adulthood? Can the most pressing questions about human aging be reduced to the main paradigms of contemporary gerontology: how to remain as healthy and functioning as a 'normal adult'? Even answering these questions affirmatively presupposes a normative evaluation and although there is no scientific proof to establish what the right answer might be this does, for the humanities, not imply the end but the beginning of further questioning. Taking a normative stance does not imply being prescriptive, but an invitation to leave the splendid isolation of modern subjectivism and to join the conversation as a person who is faced with shared concerns: we are always already aging and involved in experiences of its meaning or meaninglessness. Many of these concerns have been voiced in the humanities since millennia, also in relation to human aging. The symposium begins with Tom Cole's exploration of the history, rationale and prospect of humanistic gerontology as it emerged in the late 20th century to challenge and complement mainstream gerontology. It continues with discussing some themes that are basic to Humanistic Gerontology: practical wisdom and intrinsic virtues (Ricca Edmondson) and time and temporality (Jan Baars).

##### **AGING: HAVING THE TIME OF OUR LIVES**

J. Baars, *University of Humanistic Studies, Haarlem, Netherlands*

If we are fortunate, we are having the time of our lives as we are aging. However, there remains a nagging awareness that time is running out, in spite of efforts to prolong it. Even if our lives would become substantially longer, we would still need a reconciliation with its finitude. It may help to follow the traces of persons who searched for a deepening of finite life. For this we need to develop temporal perspectives that articulate human experiences of what it means to live in finite time.

Some intriguing traces tell us about ways to regain the time that seemed to be lost in the past, showing connections that may inspire present identities and hope for the future.

## **HISTORY AND RATIONALE OF HUMANISTIC GERONTOLOGY**

T.R. Cole, *The John P. McGovern, M.D. Center for Humanities and Ethics, University of Texas Health Science Center, Houston, Texas*

Tom Cole Humanistic gerontology arose in the late 20th century to challenge and complement mainstream gerontology, whose discourse in the 1990s was characterized by highly technical, instrumental, avowedly objective, and value-neutral methods but lacked an appropriate language for addressing basic moral and spiritual issues in an aging society. Its history has been summarized in three Handbooks of Humanities and Aging edited by Cole et. al. (1992, 2000, 2010). Humanistic gerontology focused the methods, subject matter and disciplines of the traditional humanities, which are inspired by the perennial question “What does it mean to be human?” on its core question: “What does it mean to grow old? This question, of course, breaks down into multiple culturally and historical specific questions and has no final answer. The overview will conclude with speculation about the prospects for humanistic gerontology and its academic siblings today.

## **WISE ACTIONS AND INTRINSIC VIRTUES: ANCIENT TRADITIONS AND EMPIRICAL DATA**

R. Edmondson, *School of Political Science and Sociology, National University of Ireland Galway, Galway, Ireland*

This paper examines empirical evidence on effects in practice of the relationship perennially alleged between wisdom and virtue. Amélie Rorty indicates that virtuous communicative processes operate throughout the life of Aristotle’s practically-wise person; Martha Nussbaum translates his ‘phronesis’ as ‘virtuous wisdom’. Contemporary views (Baltes and Staudinger, Sternberg) associate wisdom with ethical discernment and empathy. What exactly do such capacities contribute to wisdom? The work of writers like MacIntyre on the degradation of ethical language in the contemporary world suggests problems in explaining these links; Marcel contends that language about wisdom has suffered a similar fate. Linking this debate to Cole’s arguments on ideology, the paper explores what we can still say about how the social virtues contribute to wisdom. Analysing ethnographic traces collected over fifteen years among twelve main respondents, it argues that these social virtues have identifiable practical effects, though only if they are exercised for intrinsic reasons.

## **SESSION 695 (SYMPOSIUM)**

### **NIMH UPDATE ON PRIORITIES AND OPPORTUNITIES IN MENTAL HEALTH AND AGING RESEARCH**

**Chair:** G. Niederehe, *NIMH, Bethesda, Maryland*

**Co-Chair:** J. Evans, *NIMH, Bethesda, Maryland*

In this symposium, National Institute of Mental Health (NIMH) staff members will describe current priorities for the Institute, inform the audience of NIMH programs that support research efforts on aging and mental health, and outline particular areas of opportunity for new studies. The initial presentation will describe the current funding context at the Institute, provide an overview of how NIMH funding programs are organized, and discuss general trends and recent developments affecting the grant application process. Particular emphasis will be placed on a recent updating of the NIMH Strategic Plan as a central indicator of current priorities. The subsequent presentations will describe various programs through which the NIMH supports studies of mental health and aging, as well as highlight research questions of particular interest to the Geriatrics and Aging Processes Research Branch, and the Services Research and Clinical Epidemiology Branch. The final portion of the session will be devoted to a question and answer period during which

audience members will be encouraged to pose questions to the presenters and identify issues of particular interest for expanded discussion.

## **THE FUNDING CONTEXT: RECENT DEVELOPMENTS, STRATEGIC PRIORITIES AND NIMH FUNDING PROGRAMS**

J. Evans, *National Institute of Mental Health, Bethesda, Maryland*

This introductory presentation will describe the current research funding context at NIH and NIMH for proposing projects related to mental health and aging, both in terms of long-term trends and recent events. The information covered will include the status of the Congressional appropriations process for the coming year, and other special initiatives or situational elements that may bear upon aging-related research (such as recent NIH Funding Opportunity Announcements, noteworthy recent scientific advances, or organizational changes). A recent process of updating the NIMH Strategic Plan will be described, with emphasis on the centrality of this Plan as an articulation of current Institute research priorities. This presentation will also cover how funding programs are organized at NIMH, typical funding mechanisms, forms of support available for aspiring investigators in early stages of a research career, and the basic steps in preparing to apply for an NIH grant.

## **NEW DIRECTIONS IN THE BEHAVIORAL SCIENCE AND NEUROSCIENCE OF AGING AND MENTAL HEALTH**

G. Niederehe, *Geriatrics Research Branch, NIMH, Bethesda, Maryland*

This presentation will discuss the translational research programs of the NIMH Geriatrics and Aging Processes Research Branch, highlighting particular opportunities for advancing the behavioral science and neuroscience of late-life mental disorders. Under its Research Domains Criteria (RDoC) initiative, NIMH promotes research on aspects of mental disorder that cut across traditional diagnoses and are measurable both dimensionally and at multiple levels of analysis (e.g., functional, physiological, neurobiological). Research themes to be emphasized include: the importance of studying how theorized key factors in the aging process interact with the change trajectories shown by those with chronic mental disorders; the desirability of integrating genetic, brain imaging, cognitive and affective neuroscience, and other technologies to advance a mechanistic understanding of disorder pathophysiology; mapping the neural circuits associated with mental disorders in older adults; and identification of biomarkers indicative of either vulnerability to or resilience against developing mental disorder in later life.

## **NIMH, EXPERIMENTAL MEDICINE, AND CLINICAL TRIALS RESEARCH: NEW DIRECTIONS AND OPPORTUNITIES**

J. Evans, *National Institute of Mental Health, Bethesda, Maryland*

This presentation will review the Psychosocial Intervention and Aging, and the Pharmacologic and Somatic Intervention and Aging, research programs within the NIMH Geriatrics and Aging Processes Research Branch. NIMH has recently released several funding opportunity announcements signaling a new direction for the Institute’s clinical trials research and focusing on an experimental medicine approach to speeding development of new treatments and accelerating the movement of improved therapies to patients with mental disorders. This presentation will explain this methodological approach, which emphasizes establishing an intervention’s engagement of a clear mechanism of action (or “target”), and its application to late-life mental disorders and highlight opportunities for clinical research, including studies that examine various potential avenues for personalizing care for older adults with mental disorders. Aging-related issues, ranging from those pertinent to clinical neuroscience to those involved in community-based effectiveness research, will be discussed as opportunities for innovation and discovery.

## OPPORTUNITIES FOR INNOVATIVE MENTAL HEALTH SERVICES RESEARCH FOR AGING POPULATIONS

D.A. Chambers, *Services Research & Clinical Epidemiology Branch, NIMH, Bethesda, Maryland*

This presentation will discuss programs of the NIMH Services Research and Clinical Epidemiology Branch that support research on the organization, delivery and economics of mental health services for older adults. Relevant research areas may range from the clinical epidemiology of the mental disorders shown by older adults in various service settings to strategies for improving older adults' access and adherence to mental health care to systemic interventions designed to improve the quality and outcomes of care. Special emphasis will be placed on investigations of optimal ways to disseminate and implement evidence-based interventions and other research findings into typical geriatric service settings. Other services research priorities include investigations of helpseeking patterns, the active therapeutic ingredients in complex community-based services programs, innovative information technologies and organizational platforms to enhance services delivery effectiveness and reach, and methods of increasing the sustainable uptake of scientifically based mental health services in diverse community settings.

## SESSION 700 (SYMPOSIUM)

### IMPLICATIONS OF POSITIVE AND NEGATIVE MARITAL QUALITY: FROM BIOLOGICAL SYSTEMS TO DIVORCE

**Chair:** K. Birditt, *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*

**Co-Chair:** K. Fiori, *Adelphi University, Garden City, New York*

**Discussant:** J. Yorgason, *Brigham Young University, Provo, Utah*

The purpose of this symposium is to examine the implications of marital quality for multiple levels of individual functioning. In particular, we address how marital quality influences biological indicators, physical well-being, psychological well-being, and marital longevity. Birditt and colleagues examined links between negative marital quality and blood pressure among middle-aged and older couples in the Health and Retirement Study. They found that husbands had greater blood pressure when wives reported greater negative marital quality. In contrast, wives had lower blood pressure when husbands reported greater negative marital quality. Ryan and colleagues also assessed middle-aged and older couples in the Health and Retirement Study, finding that perceptions of marital support were significantly associated with higher self-rated health and fewer functional limitations. Interestingly, the health benefits of spousal relationship quality were greater if the spouse also perceived the relationship as high in quality. Examining the same sample of middle-aged and older couples over time, Fiori and Rauer found that individuals with better quality marital ties reported fewer depressive symptoms, and this association was mediated by loneliness. In particular, individuals with poorer quality marital ties may experience greater loneliness, which in turn leads to greater depressive symptoms. Brown and colleagues examined couples from the newlywed years to middle age, and found that couples who attended church together were less likely to divorce; these associations were even greater among couples with better quality marriages. Overall, these papers highlight the complexity of marital quality within and between couples and show how marital quality influences multiple levels of well-being.

### BENEFICIAL NEGATIVITY? NEGATIVE MARITAL QUALITY AND BLOOD PRESSURE AMONG MIDDLE-AGED AND OLDER COUPLES

K. Birditt<sup>1</sup>, N. Newton<sup>2</sup>, L. Ryan<sup>1</sup>, 1. *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*, 2. *Northwestern University, Evanston, Illinois*

Negative marital quality is highly relevant to well-being and health, especially for older couples. Emerging evidence suggests, however, that there may be some benefits to relationship negativity under stress-

ful circumstances. The present study examines links among chronic stress, negative spousal relationship quality, and blood pressure among middle-aged and older couples. Participants include married and cohabiting couples (N = 1356 couples) from waves 2006 and 2010 of the Health and Retirement Study, a nationally representative longitudinal study of approximately 22,000 persons born in 1953 or earlier. The link between husbands' reports of chronic stress and husbands' blood pressure appeared to be exacerbated by greater spousal negativity. In contrast, the link between wives' stress and wives' blood pressure appeared to be buffered by greater feelings of negativity among husbands. We also examine whether these associations vary between middle age and older adults. Implications for theory, practice, and future research will be discussed.

### SPOUSAL SOCIAL SUPPORT AND STRAIN: IMPACTS ON HEALTH IN OLDER COUPLES

L.H. Ryan, W.H. Wan, J. Smith, *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*

Using a nationally representative sample of couples aged 51+ in the United States (N = 1,923 couples), the current study investigated whether both partners' perceptions of relationship support and strain are associated with an individual's self-rated health and functional limitations. The sample had an average age of 67.17 years (SD=9.0; range=50-97). Actor-Partner Interdependence Models adjusting for couple interdependencies were applied. After accounting for age, education, gender, race, and couple differences in length of marriage, results indicate that individual perceptions of support were significantly associated with higher self-rated health and fewer functional limitations. These individual-level benefits increased if the spouse also perceived positive support and low strain. Finally, the negative association of an individual's perceived support on functional limitations was greater in those with a spouse reporting low levels of perceived strain. Findings are discussed relative to theory on behavioral and psychological pathways between partners' perceptions of support and health.

### TWO CAN BE AS BAD AS ONE: MARITAL QUALITY, LONELINESS, AND MENTAL HEALTH IN OLDER ADULTHOOD

K. Fiori<sup>1</sup>, A. Rauer<sup>2</sup>, 1. *Gordon F. Derner Institute of Advanced Psychological Studies, Adelphi University, Garden City, New York*, 2. *Auburn University, Auburn, Alabama*

The benefits of marriage for older adults' health appear to be largely contingent on the quality of the relationship, with evidence suggesting that the positive and negative aspects of the marriage differentially predict well-being. However, few studies have tested the mechanisms underlying these processes. Based on some limited evidence showing that loneliness may mediate between social network variables and health, we test whether loneliness, which results from a perceived discrepancy between desired and actual social relationships, mediates the association between positive and negative social exchanges with spouse and depressive symptoms. Using a sample of older married adults (N = 2,834) from the Health and Retirement Study, we found evidence for such mediation for current depressive symptoms, controlling for demographic variables and prior depressive symptoms. Our findings imply that loneliness is an important mechanism by which positive and negative social exchanges with spouse affect well-being.

### RELIGIOSITY AND MARITAL STABILITY OVER 16 YEARS AMONG BLACK AMERICAN AND WHITE AMERICAN COUPLES

E. Brown<sup>1</sup>, T.L. Orbuch<sup>2</sup>, Y. Yoo<sup>1</sup>, K.S. Birditt<sup>2</sup>, 1. *Human Development and Family Studies, University of Connecticut, Storrs, Connecticut*, 2. *University of Michigan-ISR, Ann Arbor, Michigan*

We examined the effects of religious homogamy (attendance of church together) on marital stability over 16 years for Black American

couples and White American couples. Our findings indicate that the role religiosity plays in the stability of marriage over time varies by gender, race and marital relationship quality. Black American couples reported greater religious homogamy than did White American couples. Husbands reported greater religious homogamy than did wives. Greater religious homogamy was predictive of a decreased risk of divorce. Interaction effects revealed that the link between religious homogamy and decreased divorce was greater among higher quality marriages (more positive and less negative). Results highlight the importance of examining multiple aspects of religiosity and the marital relationship from both husbands and wives.

## SESSION 705 (SYMPOSIUM)

### CUMULATIVE DIS/ADVANTAGE ACROSS TIME, PLACE AND SOCIAL LOCATION: COMPARATIVE APPROACHES TO LIFE-COURSE INEQUALITY

**Chair:** D. Dannefer, *Department of Sociology, Case Western Reserve University, Cleveland, Ohio*

**Co-Chair:** S. Crystal, *Rutgers University, New Brunswick, New Jersey*

As the general problem of inequality becomes more prominent as a national issue, so does its relevance for social gerontology. The growing scholarly interest in the intersection of age and inequality continues to be seen in the rapidly growing body of research on processes and patterns of cumulative dis/advantage, conceptualized as a cohort-based, life course process. Some of the most provocative and revealing findings of recent research in studies of cumulative dis/advantage (CDA) come from comparative studies that examine how patterns and processes of cumulative dis/advantage may be similar, or may vary across different conditions. Papers in this symposium respond to calls from leading gerontologists working in this area by presenting findings that examine trends and variations in the magnitude of cumulative dis/advantage between and within social contexts: (1) across time – focusing on the last several decades of the U.S. experience; (2) within social location – e.g., exploring gender differences in the U.S. using the National Health Interview Survey and (3) between nations - using HRS (Health and Retirement Study) and ELSA (English Longitudinal Study of Aging) data.

### IS EDUCATION DESTINY? UNPACKING THE CUMULATIVE DIS/ADVANTAGES OF EDUCATIONAL ATTAINMENT ON ADULT MORTALITY RISK

J.K. Montez, K. Barnes, *Case Western Reserve University, Cleveland, Ohio*

Educational attainment is a strong predictor of mortality and a “fundamental cause” of mortality inequalities. Higher-educated adults tend to accumulate advantages, such as lucrative employment and salubrious social ties, which lower mortality. Despite these population-level tendencies, there is considerable individual-level heterogeneity in whether post-education advantages are actually accumulated (e.g., many low-educated adults are gainfully employed). Understanding this heterogeneity may provide valuable insights into policies to reduce educational inequalities in mortality. This study examines how dis/advantages accumulated after formal education—economic circumstances, social ties, health behaviors—modify education’s effect on mortality. We use data from the 1997-2006 National Health Interview Survey Linked Mortality File on adults aged 30-84 and estimate discrete-time event history models by gender. Education is not destiny; its effect on mortality is significantly altered by post-education dis/advantages. For example, smoking erased the mortality benefits of a college degree. We conclude with strategies for reducing educational inequalities in mortality.

### EDUCATIONAL DIFFERENCES IN HEALTH INEQUALITY IN THE US AND ENGLAND: IS CUMULATIVE DIS/ADVANTAGE COUNTRY-CENTRIC?

J. Kelley-Moore<sup>1</sup>, B. Vanhoutte<sup>2</sup>, J. Nazroo<sup>2</sup>, D. Dannefer<sup>1</sup>, J. Lin<sup>1</sup>, *1. Sociology, Case Western Reserve University, Cleveland, Ohio, 2. University of Manchester, Manchester, United Kingdom*

It is widely acknowledged that socioeconomic position is a substantial driver of health disparities in later life and this relationship is relatively obdurate between countries. CDA posits that inequality increases with age while stratification frameworks emphasize gradients in health. We blend these two perspectives and test whether there are differences in average health status by education level and differences in patterns of variability by age within educational strata. We then compare the magnitude of health inequality by education between the US and England. Using HRS and ELSA, we calculate intra-cohort differentiation in trajectories of functional limitations and depressive symptoms. In both nations, we find a gradient in mental and physical health by education level. While health inequality increases with age overall, the pattern is most stark at the lowest levels of education in the US and England. We discuss implications of both SES attainment and societal context on health inequality.

### HOW UNEQUAL CAN WE GET? THE PAST, PRESENT AND FUTURE OF CUMULATIVE ADVANTAGE

S. Crystal<sup>1</sup>, D. Shea<sup>2</sup>, A.M. Reyes<sup>2</sup>, *1. Institute for Health, Rutgers University, New Brunswick, New Jersey, 2. Penn State University, University Park, Pennsylvania*

As overall inequality reaches historic highs, we re-examine the age distribution of inequality explored by Crystal and Shea 25 years ago and implications for cumulative advantage. Comparisons using 2010 and 1983-84 Survey of Income and Program Participation data show old-age inequality has grown to unprecedented levels. Excluding home equity, the Gini index for the elderly increases parallel to growth among younger ages. Including home equity still shows the elderly to have the highest level of inequality, but growth in inequality appears to be slower among older cohorts. Compared to the 1980s, the prosperous elderly are more likely to be married, less likely to be in poor health, and more likely to be well-educated. The penurious elderly are more likely to be the oldest-old divorced, and/or Hispanic. Relying predominantly on Social Security, the lower 40% would be disproportionately disadvantaged by reduced cost-of-living adjustments.

### DISPROPORTIONATE BURDEN OF OUT OF POCKET HEALTH CARE COSTS IN LATE LIFE

A. Akincigil, K.A. Zurlo, E. Kalay, S. Crystal, *Institute for Health, Rutgers University, New Brunswick, New Jersey*

Despite the near-universal health insurance coverage provided by Medicare, uncovered and under-covered medical service use results in large out-of-pocket (OOP) health care costs. Indeed, when OOP medical expenses are included in calculations, the revised poverty rate for seniors increases from 8.7% to 15.9%. We describe economic burden of OOP medical expenditures among community-dwelling elderly Medicare beneficiaries, using data from the Medicare Current Beneficiary Survey (MCBS) from 2007. The most vulnerable spent more than 20% of their income on OOP medical expenses. Certain segments of the population were disproportionately vulnerable to financial insecurity from OOP medical costs, including females, older old (age 75+), and those with lower income and living with chronic conditions, even after controlling for supplemental coverage from secondary sources. These subpopulations have been accumulating economic disadvantages over their life course. Our results provide clearer insight into the contribution of OOP health care costs to late life inequality, despite the addition of the pharmacy benefit to Medicare in 2006.

## SESSION 710 (SYMPOSIUM)

### HEALTH DISPARITIES RESEARCH AT THE NATIONAL INSTITUTE ON AGING

**Chair:** R. Thorpe, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

**Co-Chair:** C.V. Hill, *National Institute on Aging, Bethesda, Maryland*

**Discussant:** M. Bernard, *National Institute on Aging, Bethesda, Maryland*

Maintaining functional independence is a major public health concern that increases with age and varies by race and sex; yet, modest progress has been achieved as minority older adults consistently exhibit poorer functional status than white older adults. As the older segment of the population is growing larger and becoming more diverse and with the magnitude of the observed race-related differences, identifying and understanding factors that prevent or impede the functional decline is priority. The National Institute on Aging has taken special efforts to support research endeavors that explore ways to reduce or eliminate health disparities. The goal of this symposium is to highlight the different resources and research opportunities that NIA offers to support aging researchers, centers, and institutions for health disparities-related research or programs. Murthy will discuss the different health disparities research opportunities that are available from the NIA Extramural Division of Aging Biology. Silverberg will identify the different resources focused on health disparities related research within the Division of Neuroscience. Joseph will discuss the different health disparities research opportunities that are available from the Division of Geriatrics and Clinical Geriatrics. Haaga will highlight the different resources and research opportunities that are available to address health disparities within the Division of Behavior and Social Research. These presentations taken together provide important information that significantly bolsters our knowledge of resources and research opportunities that are critical in efforts to reduce/eliminated health disparities in late life.

### NIA'S DIVISION OF NEUROSCIENCE AND HEALTH DISPARITIES RESEARCH

N. Silverberg, *National Institute on Aging, Bethesda, Maryland*

Within the NIA, the Division of Neuroscience (DN) fosters and supports extramural and collaborative research and training to further the understanding of neural and behavioral processes associated with the aging brain. An area of special emphasis is brain-behavior relationships. An important component of this Division is the support of basic, clinical, and epidemiological studies of AD and related dementias of aging. Variant processes and brain-behavior relationships lead to disparities in Alzheimers disease and related dementias for specific racial/ethnic groups. This presentation seeks to discuss determinants of variation in brain-behavior relationships among U.S. priority health disparities populations, mapping these to the NIA Health Disparities Framework.

### THE NIA DIVISION OF GERIATRICS AND CLINICAL GERONTOLOGY'S APPROACHES FOR ADDRESSING HEALTH DISPARITIES

L. Joseph, *National Institute on Aging, Bethesda, Maryland*

The NIA Division of Geriatrics and Clinical Gerontology (DGCG) supports research on health and disease in the aged and research on aging over the human lifespan, including its relationships to health outcomes. DGCG comprises 3 major research areas, administered by its three Branches—Geriatrics, Clinical Gerontology, and Clinical Trials. Division-wide emphases include research training and career development for investigators across a wide range of specialties to expand their capabilities to address clinical aging issues, and the application of new technologies to expand opportunities for clinical aging research. The purpose of this presentation is to describe DGCG's approaches to

enhancing NIA's health disparities research portfolio and aligning with the NIA Health Disparities Research Framework.

### THE NIA DIVISION OF BEHAVIOR AND SOCIAL RESEARCH AND HEALTH DISPARITIES RESEARCH

J. Haaga, *National Institute on Aging, Bethesda, Maryland*

The Division of Behavioral and Social Research (DBSR) supports social, behavioral, and economic research and research training on the processes of aging at both the individual and societal level. DBSR fosters cross-disciplinary research, at multiple levels from genetics to cross-national comparative research, and at stages from basic through translational. Health Disparities research represents an important dimension of the funding opportunities developed and supported by DBSR. The purpose of this presentation to describe funding opportunities and future directions at DBSR.

### HEALTH DISPARITIES RESEARCH AT NIA'S DIVISION OF AGING BIOLOGY

M. Murthy, *National Institute on Aging, Bethesda, Maryland*

The objective of NIA's Division of Aging Biology (DAB)-funded research is to elucidate the basic cellular and molecular, genetic, and physiological mechanisms underlying the process of aging and age-related changes in animal models and human studies that are relevant to human aging. These studies include investigations of the biological aging or structure and function relationships that relate to age-related diseases. DAB's approach to funding health disparities will include assessing determinants of variation in the mechanisms that underlie aging and age-related changes using cellular and human studies in health disparities populations. The purpose of this presentation is to discuss strategic direction for DAB's focus on health disparities research, highlighting areas of emphasis and linkages to the NIA Health Disparities Research Framework.

## SESSION 715 (SYMPOSIUM)

### SLEEP HEALTH AND THE APPROPRIATE USE OF OTC SLEEP AIDS IN OLDER ADULTS: RESULTS FROM A GSA SUMMIT

**Chair:** S.M. Albert, *Behavioral & Community Health Sciences, University of Pittsburgh, Pittsburgh, Pennsylvania*

The prevalence of sleep problems increases with age, resulting in a large number of older adults who struggle with sleep, including chronic insomnia, occasional sleep disturbances, sleep apnea, periodic limb movements, and REM Behavior Disorder. Many older adults and their caregivers turn to over-the-counter (OTC) sleep aids to treat their disturbed sleep. However, these products should be used only for occasional difficulty with sleep, and their safety and efficacy in older adults is unclear. To engage national stakeholders in a discussion on OTC sleep aid use by older adults and explore strategies for improving safe use of these products, the Gerontological Society of America organized a National Summit on OTC Sleep Aids and Sleep Health in Older Adults. The Summit included presentations from national experts on sleep health and use of OTC sleep aids. Summit participants examined sleep health and aging, use of OTC sleep aids, opportunities to improve safe and effective use, and ways to make sleep health more central in the care of older adults. Key findings from the Summit include the high prevalence of sleep disturbances and recourse to OTC sleep aids, the long half-life of these medications and possible next-day effects, frequent anticholinergic side effects, and the need for concerted efforts by pharmacists and other providers to address sleep health in old age.

## SLEEP HEALTH IN OLDER ADULTS

P. Zee<sup>1</sup>, M.V. Vitiello<sup>2</sup>, S.M. Albert<sup>3</sup>, *1. Northwestern University, Chicago, Illinois, 2. University of Washington, Seattle, Washington, 3. University of Pittsburgh, Pittsburgh, Pennsylvania*

Sleep disorders have many deleterious health consequences. In one survey 4.7% of adults reported falling asleep while driving in the past 30 days. The prevalence of disturbed sleep increases with age due to age-related changes in circadian rhythms, apart from the effects of declining health. Approximately 44% of older individuals experience disturbed sleep at least a few nights each week, and rates of disturbed sleep are even higher among individuals with dementia and their caregivers. In healthy older adults, sleep quality remains roughly the same, but poor sleep quality is prevalent among those with co-morbid medical and psychiatric disorders. While aging does change some sleep parameters, it is not primarily responsible for the increased prevalence of insomnia and other sleep disorders in older adults, suggesting that sleep health in old age is an important goal for clinical and public health interventions.

## NONPRESCRIPTION SLEEP AID USE BY OLDER ADULTS

T. Roth, *Henry Ford Health System, Detroit, Michigan*

Nonprescription strategies are often used in the treatment of insomnia and occasional sleeplessness. Available OTC sleep aids include the first-generation antihistamines diphenhydramine and doxylamine, which are approved by the Food and Drug Administration (FDA). Diphenhydramine is found in Nytol, Somnexam, Tylenol PM, Excedrin PM, Advil PM, Unisom SleepGels, and Zzzquil; and doxylamine in Unisom SleepTabs, Equaline Sleep Aid, and Good Sense Sleep Aid. Although these agents are indicated for treatment of occasional sleeplessness (but are not indicated for chronic insomnia), many people use them on a regular basis. Among older adults with sleep problems, about one in five reported using an OTC sleep aid, either alone or in combination with herbals or prescription sleep aids. Because older adults have slower metabolisms than younger adults, half-lives of these agents tend to be prolonged in older adults, suggesting next-day and anticholinergic adverse events (falls, drowsiness), may be a substantial problem.

## OPPORTUNITIES TO IMPROVE SAFE AND EFFECTIVE USE OF OTC SLEEP AIDS

M. Toscani, *Rutgers University, New Brunswick, New Jersey*

Pharmacists are readily accessible health care providers in the community and frequently interact with older adults. Pharmacists can help educate individuals on the selection and proper use of products and tell them when they should seek medical attention. Medication Therapy Management (MTM) services include medication therapy reviews, medication reconciliation services during care transitions, and pharmacotherapy consultations, and could be very useful for safe and effective use of sleep aids. Pharmacists and other health care providers need to work with patients (and care partners) to determine why patients are taking sleep aids (e.g., occasional sleeplessness, etc.) and determine other conditions and other products they may be taking that could potentially cause problems with their regimen. Opportunities for dialogue and educating patients and families, and for reaching consumers at the point of sale, are central for improving appropriate use of OTC sleep aids.

## DISCUSSANT: OTC SLEEP AIDES: THE VIEW FROM CHRONOBIOLOGY

D. Bliwise, *Emory University, Atlanta, Georgia*

Donald L. Bliwise, Ph.D., Professor of Neurology, Psychiatry and Behavioral Sciences, and Nursing, and Director, Program in Sleep, Aging and Chronobiology, at the Emory University School of Medicine, and Wesley Woods Center will provide a perspective on OTC sleep aids from the perspective of chronobiology.

## DISCUSSANT: OTC SLEEP AIDES: A SLEEP HEALTH PERSPECTIVE

S. Ancoli-Israel, *University of California at San Diego, San Diego, California*

Dr. Sonia Ancoli-Israel, Professor Emeritus of Psychiatry and Medicine, Director, Gillin Sleep and Chronomedicine Research Center, Deputy Director, Stein Institute for Research on Aging, and Director of Education, UCSD Sleep Medicine Center will provide a perspective on OTC sleep aids from the perspective of sleep health.

## SESSION 720 (SYMPOSIUM)

### GETTING GRANDMA ONLINE: PROCESS, OUTCOMES, AND CHALLENGES ASSOCIATED WITH CONDUCTING A 5 YEAR ICT AND QUALITY OF LIFE RANDOMIZED CONTROLLED TRIAL IN ASSISTED AND INDEPENDENT LIVING COMMUNITIES

**Chair:** S. Cotten, *Michigan State University, East Lansing, Michigan*

In this symposium we detail an NIA funded 5 year randomized controlled trial (2009 – 2014), designed to train older adults in assisted and independent living communities to use computers and the Internet. We begin by discussing how the project idea came to be, the rationale, goals, and theory for the project. The processes for starting a technology-focused project such as this one, as well as unexpected challenges in the early phases are also noted. Next, we detail the design elements, setting, sampling design, and other methodological components involved in conducting this randomized controlled trial. A variety of types of data were collected during the course of the study. We provide both qualitative and quantitative results showing the effects of the intervention on a range of quality of life outcomes. We also note areas where we failed to find results that were originally expected when the proposal was developed. Finally, we discuss the challenges associated with this project, limitations, lessons learned, and various ways to extend this work.

### ICTS AND QUALITY OF LIFE: OLDER ADULTS, SOCIAL CONNECTIONS, AND THE INTERNET

W.A. Anderson<sup>1</sup>, E. Yost<sup>2</sup>, V. Winstead<sup>1</sup>, R.W. Berkowsky<sup>1</sup>, S. Cotten<sup>3</sup>, *1. University of Alabama at Birmingham, Birmingham, Alabama, 2. College of William and Mary, Williamsburg, Virginia, 3. Michigan State University, East Lansing, Michigan*

This session covers the background, rationale, and theory behind the ICTs and Quality of Life study. As people age and move into independent and assisted living, they often experience declines in social connections and quality of life. Recognizing that ICTs can help people maintain or increase social connections and social capital, we designed and conducted a five-year, three-arm, randomized, controlled intervention study to find out whether ICT use could help older adults in independent and assisted living maintain or increase social capital and whether any change in social capital was related to maintenance or improvement in quality of life. We addressed limitations of previous studies by 1) collecting data at five separate time points over the course of fourteen months, allowing us to trace the trajectories of social capital and quality of life over time; and 2) employing a three-arm design, with both attention and true control groups.

### DESIGN AND SETTING

V. Winstead<sup>1</sup>, E.A. Yost<sup>2</sup>, R.W. Berkowsky<sup>1</sup>, W.A. Anderson<sup>1</sup>, S. Cotten<sup>3</sup>, *1. Sociology, University of Alabama at Birmingham, Birmingham, Alabama, 2. College of William and Mary, Williamsburg, Virginia, 3. Michigan State University, East Lansing, Michigan*

The design for this study is a randomized, controlled trial intervention with older adults in 19 assisted and independent living communities (AICs) conducted in a mid-size city in the southeastern US. Participants



from each of the communities were randomly assigned into one of three arms: 1) an ICT (Information and Communication Technology) arm that participated in 8 weeks of customized computer/Internet training, 2) an Activities Control arm that participated in 8 weeks of non-computer related activities such as trivia, sing-a-longs/musical events, or games, or 3) a True Control (survey only) arm. Residents were then recruited from each of the AICs. Participants from all three arms were surveyed five times over the course of a year- at baseline, at the conclusion of the ICT or Attention Control intervention, or for the True Control group, approximately 8 weeks after baseline), and at 3-, 6-, and 12-month intervals for follow-up.

### KEY RESULTS FROM THE UAB ICTS AND QUALITY OF LIFE STUDY

R.W. Berkowsky<sup>1</sup>, S. Cotten<sup>2</sup>, V. Winstead<sup>1</sup>, E.A. Yost<sup>3</sup>, W.A. Anderson<sup>1</sup>, 1. *Sociology, University of Alabama at Birmingham, Birmingham, Alabama*, 2. *Michigan State University, East Lansing, Michigan*, 3. *The College of William and Mary, Williamsburg, Virginia*

The purpose of the UAB ICTs and Quality of Life Study was to explore how ICTs can increase the social capital and enhance the quality of life of older adults in assisted and independent living communities. This presentation will focus on discussing the results garnered thus far based on the quantitative analysis of survey data as well as the qualitative analysis of instructor notes, field notes, focus groups, and miscellaneous notes from study personnel. Discussion will focus on how ICT interventions were found to improve attitudes towards ICTs and decrease perceived limitations to using technologies, contribute to decreased feelings of loneliness, decrease social and spatial barriers associated with assisted and independent living, and help decrease the digital divide for assisted and independent living residents, among others. Discussion of the results will also focus on how general assisted and independent living activities, technology-centered or otherwise, can enhance quality of life.

### UAB ICT QOL STUDY: LIMITATIONS, LESSONS LEARNED, AND FUTURE GOALS

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The UAB ICT QoL Study evaluated the impact of technology on quality of life outcomes in older adults in ALFs. After evaluating experiences from a five year randomized control technology study of nineteen assisted and independent living communities (ALFs) in the Deep South, we examine limitations, lessons learned, and future goals of study. The researchers discuss lessons learned, including best practices for recruitment, and retention. Recruitment in ALFs pose challenges dealing with bureaucracy and overcoming social and spatial barriers. Retention has challenges helping participants continue to utilize technology and ensure ALF staff continues to work with team members. Retention post intervention dealt with resident relocation and health declines. We will evaluate the limitations of our study due to the population and historical perspective of technology for this cohort. Lastly, we will also discuss our current plans for extending technology interventions within this population, including ongoing research on tablet computers.

## SESSION 725 (SYMPOSIUM)

### NEIGHBORHOOD EFFECTS ON WELL-BEING AND BEHAVIOR

**Chair:** S.M. Moorman, *Boston College, Chestnut Hill, Massachusetts*

**Discussant:** J.A. Ailshire, *University of Southern California, Los Angeles, California*

The papers in this symposium inquire about older adults' perceptions of their neighborhoods, and how these perceptions shape well-being and behavior. The first three papers research the experiences that influence perceptions of one's neighborhood. Stokes and Moorman study the age composition of neighborhoods, and show that neighborhoods comprised primarily of families (i.e., adults in midlife and their minor children) are associated with a relatively low sense of social integration and poor psychological well-being among older adult residents. Older adults fare better in age-representative neighborhoods, as well as in neighborhoods that contain an overrepresentation of older adults or young adults. Moorman and Stokes indicate that daily age discrimination and opportunities for generativity mediate the effect of age composition on well-being. Iveniuk further documents neighborhood experiences, finding that both objective factors (e.g., crime rate) and subjective factors (e.g., neighborhood cohesion) influence the level of danger older adults perceive in their neighborhoods. The final two papers examine how older adults act on their perceptions of a neighborhood. In longitudinal data, Riley, Hawkey, and Cagney find that neighborhood disorder makes local moves more likely, while neighborhood cohesion reduces the probability of long-distance moves. Latham and Clarke's investigation of participation in valued activities reveals that neighborhood disorder is associated with less frequent enjoyable trips out and less frequent attendance at religious services and other organization meetings, while neighborhood cohesion is associated with more frequent visits to friends and family. Ailshire's discussion focuses on how the information gained from these projects can advance policy and practice.

### NEIGHBORHOOD AGE COMPOSITION AND ADULTS' WELL-BEING

J.E. Stokes, S.M. Moorman, *Sociology, Boston College, Chestnut Hill, Massachusetts*

Neighborhood contextual factors such as disadvantage and segregation are known influences on individuals' health and well-being. This study examined the influence of neighborhood age composition on middle-age and older adults' social integration and psychological well-being. Data were merged from the 2010 US Census and the second wave of the National Survey of Midlife Development in the United States (MIDUS II). The sample included 4,017 individuals from 3,714 census tracts. Using random intercept models and 9 categories of neighborhood age composition, we assessed the influence of neighborhood age composition on adults' social integration and psychological well-being over and above individual- and neighborhood-level factors. Results indicate that neighborhoods that overrepresent families are significantly worse for middle-age and older adults' social integration and psychological well-being than age-representative neighborhoods, neighborhoods that overrepresent older adults, and neighborhoods that overrepresent young adults. We discuss the implications of these findings for policy and future research.

### MECHANISMS LINKING NEIGHBORHOOD AGE COMPOSITION TO OLDER ADULTS' SUBJECTIVE EXPERIENCE

S.M. Moorman, J.E. Stokes, *Boston College, Chestnut Hill, Massachusetts*

For older adults, the costs or benefits of peripheral ties to younger persons may depend on the nature of the contact between them. This study examined whether opportunities for generativity and instances

of daily age discrimination mediate the effects of neighborhood age composition on older adults' social integration and psychological well-being. Data from the 2010 US Census and the 2006 wave of the National Survey of Midlife Development in the US were matched, and structural equation models were used to examine individuals nested within neighborhoods (i.e., census tracts). Findings show that generativity is associated with a stronger sense of social integration and higher psychological well-being, while age discrimination is associated with a weaker sense of social integration and lower psychological well-being. These experiences account for most associations between neighborhood age composition and older adults' social integration and psychological well-being. These results reveal mechanisms by which neighborhood factors have their effects.

#### **PARTNERS AND CRIME: PERCEPTIONS OF NEIGHBORHOOD DANGER IN OLDER COUPLES**

J. Iveniuk, *University of Chicago, Chicago, Illinois*

In this paper, I examine older adults' perceptions of their neighborhood environment, specifically differences in perceived danger, which may have implications for overall quality of life at older ages. My analyses use the reports of matched partners in cohabiting and marital dyads, where both partners in the dyad rated same neighborhood environment. These reports come from a nationally representative survey of older adults, linked to geocoded crime data, census data, and interviewer ratings of neighborhood disorder (N=3377). Controlling for crime rate, neighborhood ethnic composition and neighborhood social characteristics (e.g. social cohesion) substantially impacted perceptions of danger. Husbands, but not wives, were also more likely to feel as if their neighborhood was dangerous if they resided in this neighborhood for less than five years. Additionally, the higher the crime rate, the more husbands and wives agreed with one another's assessments of neighborhood danger.

#### **LINKS BETWEEN NEIGHBORHOOD CHARACTERISTICS AND RESIDENTIAL MOBILITY AMONG COMMUNITY-DWELLING OLDER ADULTS**

A. Riley<sup>1,2</sup>, L. Hawkey<sup>2</sup>, K. Cagney<sup>1,2</sup>, *1. University of Chicago, Chicago, Illinois, 2. National Opinion Research Center, Chicago, Illinois*

We measured the impact of neighborhood disorder on residential mobility of older adults between Waves 1 and 2 of the National Social Life Health and Aging Project. After controlling for other variables known to influence residential mobility, the relative risk of a local move is 1.3 times higher (95% CI: 1.02, 1.73) for each unit increase in neighborhood disorder, while the relative risk of a distance move is 2.2 times lower (CI: 0.28, 0.74) for each unit increase in neighborhood disorder. Although neighborhood embeddedness is not significantly associated with risk of a local move, it is negatively associated with risk of a distance move (RRR=0.64, CI: 0.44, 0.93). Neighborhood embeddedness slightly attenuated the positive association between neighborhood disorder and local moves. We detected no significant associations between neighborly exchange and residential mobility. These results raise questions about how neighborhood characteristics may promote residential stability and vary opportunities for residential moves.

#### **NEIGHBORHOOD DISORDER, PERCEIVED SOCIAL COHESION, AND PARTICIPATION IN VALUED ACTIVITIES: FINDINGS FROM THE NATIONAL HEALTH & AGING TRENDS STUDY (NHATS)**

K. Latham<sup>1</sup>, P. Clarke<sup>2</sup>, *1. Department of Sociology, Indiana University-Purdue University Indianapolis, Indianapolis, Indiana, 2. University of Michigan, Ann Arbor, Michigan*

Previous research has observed a link between neighborhood characteristics and functional health outcomes among older adults; however, much of this research has focused on disability and mobility,

yet social participation is another important aspect of functional health that may be sensitive to neighborhood characteristics. This research, using data from the first wave of the National Health & Aging Trends Study (NHATS), explores whether neighborhood disorder (e.g., graffiti, trash/litter, or vacant homes) or perceived neighborhood social cohesion predicts participation in valued activities such as visiting friends/family or attending religious services among older Americans. Controlling for numerous sociodemographic characteristics, activity importance (value), and health risk factors, greater social cohesion was associated with increased odds of visiting friends/family (OR=1.19, p=0.011); however, more neighborhood disorder was associated with decreased odds of attending religious services (OR=0.76, p=0.023), participating in clubs/organizations (OR=0.57, p=0.001), and going out for enjoyment (OR=0.73, p=0.008).

#### **SESSION 730 (SYMPOSIUM)**

##### **NEW PERSPECTIVES ON HOME, BELONGING AND AGING IN THE COMMUNITY**

**Chair:** T. Scharf, *Irish Centre for Social Gerontology, NUI Galway, Galway, Ireland*

**Discussant:** H. Chaudhury, *Simon Fraser University, Vancouver, British Columbia, Canada*

Despite a burgeoning scientific literature on aging in place, significant ambiguity around notions of home and belonging persists. Abiding questions relate to the subjective and evolving meanings associated with such constructs, their relationship with place-based individual and cultural identity, and their connections to wellbeing outcomes for aging adults. Diversity of individual life-course experiences, residential and relocation trajectories, and processes of community change compound these questions, adding further complexity to feelings of home and belonging in contemporary aging communities. As a result, there is a need for greater coherence of empirical and conceptual perspectives on home, belonging and aging. Drawing on research conducted in diverse socio-spatial settings and focused on different groups of aging adults, this symposium aims to provide empirical and conceptual insight into evolving constructions of a sense of home and belonging in aging communities, highlighting implications for older residents. In the first paper, Buffel uses narrative interviews with Turkish older migrants in an inner-city district in Brussels (Belgium) to examine constructions of home, and implications for identity and belonging, in terms of transnational relocation. In the second paper, Walsh, Rowles and Scharf use a qualitative case-study from rural South West Ireland, to introduce a life-course model of home as a sense of 'at-oneness' with the residential environmental context. In the third paper, Oswald and Kaspar present data from three urban districts of Frankfurt (Germany) concerning community belonging and aging in place, unpacking connections between urban identity and wellbeing for older people aged 80 years and over.

##### **CONSTRUCTIONS OF HOME, PLACE AND BELONGING AMONG OLDER MIGRANTS LIVING IN INNER-CITY NEIGHBOURHOODS**

T. Buffel, *1. The University of Manchester, Manchester, United Kingdom, 2. Adult Educational Sciences, Vrije Universiteit Brussel, Brussels, Belgium*

This paper combines two strands of literature that hitherto have been kept largely separate: research in environmental gerontology on the one hand and work dealing with transnational migration on the other. In doing so, it aims to contribute to the understanding of the ways in which older migrants experience and negotiate the notion of 'home', both as a location and a set of relationships that contribute to feelings of belonging and identity. Drawing on semi-structured interviews with older Turkish migrants living in Brussels, the paper addresses experiences of home in relation to distant and remote places, as well as to proximate and immediate locales. The discussion focuses on the

interconnections between these, suggesting that such an approach may offer a way forward in terms of understanding how older migrants' transnational ties shape their local sense of belonging and vice versa.

### **CONSTRUCTING HOME OVER THE LIFE COURSE: TOWARD A MODEL OF AT-ONENESS**

K. Walsh<sup>1</sup>, G.D. Rowles<sup>2</sup>, T. Scharf<sup>1</sup>, *1. Irish Centre for Social Gerontology, National University of Ireland Galway, Galway, Ireland, 2. Graduate Center for Gerontology, University of Kentucky, Lexington, Kentucky*

This paper contributes to the spatio-temporal understanding of home from a life-course perspective. We explore (1) how older adults construct the experience of being at home; (2) the role of personal history in evolving constructions of home over the life course; and (3) the role of a changing community in shaping and modifying constructions of home as people age. Empirical data derive from in-depth interviews with ten older residents of a dispersed rural community in South West Ireland. Home was manifest in a taken-for-granted and implicit sense of at-oneness with the local environmental context, involving the interwoven dimensions of: place of origin; inherited meaning; relational harmony; rhythm and routine; aesthetic functional landscape; and invested effort. The findings provide the basis for a dynamic life-course model of home as a sense of at-oneness. The relevance of this model to other contexts and to aging in place and age-friendly policies is discussed.

### **COMMUNITY BELONGING AND AGING IN PLACE – THE ROLE OF URBAN IDENTITY FOR WELL-BEING IN VERY OLD AGE**

F. Oswald, R. Kaspar, *Interdisciplinary Ageing Research, Goethe University Frankfurt, Frankfurt, Germany*

The aim of this presentation is to test the impact of person-environment (P-E) exchange processes of “Agency” (e.g., out-of-home activity, housing related control beliefs) and “Belonging” (e.g., urban related identity, social cohesion) on well-being (valuation of life) in addition to health effects. Data are drawn from a survey with 595 community-dwelling elders from three urban districts (Frankfurt, Germany) stratified by age (70-79 vs. 80-89) and household composition (living alone vs. with partner). Findings indicate substantial effects for Agency and Belonging indicators on well being and differentiated effects for both age groups. Multi-Group-SEM shows that particularly in very old age out-of-home activities (beta = .25\*), social cohesion (beta = .24\*), and urban related identity (beta = .23\*\*) considerably buffer negative impact of health on well-being. The findings underpin the need for an age-differentiated understanding of development in very old age and to particularly address various P-E exchange processes in this regard.

## **SESSION 735 (SYMPOSIUM)**

### **A 25-YEAR PERSPECTIVE ON WHAT WE KNOW ABOUT GRANDPARENTS RAISING GRANDCHILDREN: WHERE WE HAVE BEEN AND WHERE WE ARE GOING**

**Chair:** C.A. Fruhauf, *Human Development & Family Studies, Colorado State University, Fort Collins, Colorado*

**Co-Chair:** B. Hayslip, *University of North Texas, Denton, Texas*

**Discussant:** G.C. Smith, *Kent State University, Kent, Ohio*

For nearly three decades, researchers have been interested in understanding the experiences of grandparents raising grandchildren. The interest in custodial grandparents has resulted in perhaps over hundreds of studies from scholars in the disciplines of human development and family studies, nursing, psychology, and social work. As scholars it is important to reflect on our previous work as we contemplate current endeavors and plan the future of gerontological research and discovery. In this symposium, investigators with extensive experience researching grandparents raising grandchildren will present theoretical, methodological, and practical lessons learned from their disciplines. The first

paper, by Hayslip and Maiden, will address contributions made from psychology with particular attention towards remaining challenges for psychologists researching grandparent caregivers. Fruhauf, Dolbin-MacNab, and Yancura's paper will focus on how human development and family studies scholars have advanced the understanding of the family system as it relates to grandparents, parents, and grandchildren while taking into account the impact of culture on grandfamilies. Our third paper, by Whitley and Fuller-Thomson, will address aspects related to multiculturalism, environmental, psycho-social, developmental, and social justice from the standpoint of social work research and practice. The final paper, presented by Musil and colleagues, will focus on the contributions from the field of nursing, including healthy aspects of aging, among grandparent caregiver research. Smith, the discussant, will integrate the key points from these papers while addressing considerations for future research as scholars embark on the next 25 years of research related to grandparents raising grandchildren.

### **PSYCHOLOGY'S CONTRIBUTIONS TO CUSTODIAL GRANDPARENTING: PAST AND FUTURE**

B. Hayslip<sup>1</sup>, R. Maiden<sup>2</sup>, *1. Psychology, University of North Texas, Denton, Texas, 2. Alfred University, Alfred, New York*

Psychologists have studied grandparents raising their grandchildren for 25 years. Their research has highlighted individual differences among them along such parameters as gender, age, and race/ethnicity as they relate to grandparents' personal and social resources in coping with caregiving. The differential impact of the difficulties their grandchildren experience on them has been emphasized, as has examining grandparent caregivers in terms of not only the challenges they face but also the strengths they bring to bear in this respect. An additional research focus has been the intersection of their needs for social, medical, and health-related services and their adjustment to this new role. Numerous challenges remain however: 1) the implementation of theory that promotes an understanding of their adjustment over time, wherein role identity theory, convoy theory, and life span theory hold much promise to inform longitudinal research, targeting both grandparents and grandchildren over an extended period of time, 2) gaining a better understanding of the interpersonal, community, and societal context in which custodial grandparenting occurs, emphasizing relationships with both custodial and noncustodial grandchildren, spouses, adult children, grandparent peers, as well as service providers, consistent with ecological theory, and 3) greater emphasis on the mental health consequences of interventions that are both preventative and remedial in nature that target interactions among members of the grandfamilial system, recognizing the uniqueness of each grandfamily and the ecological context in which they are embedded. In meeting these goals, a more comprehensive and enduring understanding of grandparents raising grandchildren can be achieved.

### **PERSPECTIVES FROM HUMAN DEVELOPMENT AND FAMILY STUDIES ON GRANDFAMILIES**

C.A. Fruhauf<sup>1</sup>, M.L. Dolbin-MacNab<sup>2</sup>, L. Yancura<sup>3</sup>, *1. Human Development & Family Studies, Colorado State University, Fort Collins, Colorado, 2. Virginia Tech, Blacksburg, Virginia, 3. University of Hawaii at Manoa, Honolulu, Hawaii*

For nearly three decades, Human Development and Family Studies (HDFS) scholars have made significant theoretical, empirical, and practical contributions to the understanding of grandfamilies. Theoretically and empirically, using the life course perspective, family systems, and human ecological theories, these scholars have extended the understanding of grandfamilies by exploring the intersections between individual, family, community, and sociocultural contexts. Applying these research findings to direct practice, HDFS scholars have also made substantive contributions to psychotherapy, support groups, respite programs, and community educational efforts benefiting custodial grandparents and their grandchildren. Despite these contributions, there remains a dearth

of knowledge related to (a) family relationships, including relations with the middle generation; (b) the effectiveness of formal support services; and (c) the influence of cultural diversity. This presentation proposes a more inclusive and in-depth understanding of custodial grandparents and their grandchildren, using these ideas as guides to advance the research and practice agendas in HDFS.

### **SOCIAL WORK PERSPECTIVES ON CUSTODIAL GRANDPARENTS: WHAT HAVE WE LEARNED IN THE PAST QUARTER CENTURY?**

D. Whitley<sup>1</sup>, E. Fuller-Thomson<sup>2</sup>, 1. *Georgia State University, Atlanta, Georgia*, 2. *University of Toronto, Ontario, Ontario, Canada*

Social workers use multiple theoretical perspectives to interpret social phenomena, and use that knowledge to inform research and practice. The phenomenon of grandparents raising grandchildren is a case in point. Social workers have contributed extensively to understanding this family group. Their efforts helped to identify individual, family and community-based needs, strengths, and practice interventions based on direct observations, qualitative studies, participant surveys, policy analysis, as well as secondary data analysis. As we move toward 25 years of research and service delivery involving grandparent-headed families, five domains frame the context for illustrating social work's continuous efforts to building new knowledge: multicultural, environmental, psycho-social, human development, and social justice. These domains set the stage for comprehending past efforts, and frame the discussion for defining future interests toward theory-building, research inquiry, and practice interventions. Defining necessary resources to accommodate future knowledge-building efforts is also an essential component to complete the discussion.

### **A 25-YEAR PERSPECTIVE ON GRANDPARENT RESEARCH: PERSPECTIVES AND CONTRIBUTIONS FROM THE NURSING DISCIPLINE**

C. Musil<sup>1</sup>, J. Zauszniewski<sup>1</sup>, S.J. Kelley<sup>2</sup>, 1. *Case Western Reserve University, Cleveland, Ohio*, 2. *Georgia State University, Atlanta, Georgia*

Nursing is a discipline with a practice mandate. Nursing's concern with the physical and mental health of individuals, families and communities guides how nurses view the theory-research-practice cycle focused on the well-being of grandparents raising grandchildren. Several theoretical perspectives – most not unique to nursing - have guided nursing research with grandparent caregivers, including Stress and Coping, Family Adaptation and Family Systems, Social Support, and Resourcefulness theories. Future studies may incorporate self-management, biological and genetic models. Research methods primarily have included cross-sectional designs, although longitudinal, mixed methods, qualitative and intervention studies conducted by nurses have made significant contributions to knowledge about grandparent caregivers. Nurses' practice in geriatric, mental health, community or pediatric settings modifies how they apply this knowledge to the care of grandparents raising grandchildren and their families. The interdisciplinary nature of nursing has provided a platform for nurses to make unique and collaborative contributions to grandparent caregiver research.

## **SESSION 740 (PAPER)**

### **INTERGENERATIONAL RELATIONSHIPS**

#### **CHANGING PATTERNS IN LIVING ARRANGEMENTS AND THEIR IMPACTS ON INTERGENERATIONAL TRANSFERS OF OLDER CHINESE**

T. Chen, *Renmin University of China, Beijing, China*

Objectives. Sociodemographic transitions are altering the traditional family-based support mechanism prevalent within developing countries.

This study investigated the determinants of living arrangements as well as their influence on intergenerational transfers in China to assist with predicting and planning for future needs. Methods. Data derived from a 2006 survey of 19,947 respondents aged 60 and randomly selected from 20 provinces in China. Multinomial logistic regressions were estimated to address determinants of living arrangements. I then adopted logistic and OLS regressions to estimate the effects of multiple living arrangements on the incidence and amount of transfers received. Results. The decision to coreside appeared to be determined more by older parents' instrumental needs, rather than their financial needs. Although living far from their offspring had no significant effect, proximity increased the likelihood of receiving transfers from children for urban elderly. I also failed to find significant effects of living arrangements on the incidence of transfers for rural elderly, possibly because of data limitations. Where upward intergenerational transfers had taken place, rural older people living close to or living far from children were predicted to receive more than those coresiding with them. Discussion. Living close to children, rather than coresiding with them, does not necessarily weaken intergenerational transfers, and is set to become the primary living arrangement for older Chinese people in the foreseeable future.

#### **EXPLORING INTERGENERATIONAL RELATIONSHIPS – USING DIGITAL STORYTELLING AS A FORM OF PUBLIC SOCIOLOGY TO EXAMINE THE MEANING OF KINSHIP, HOME AND COMMUNITY ACROSS THE LIFE COURSE**

S. Bodnar-Deren, *Sociology, Virginia Commonwealth University, Richmond, Virginia*

Digital storytelling (DST) has emerged over the past few years as a powerful approach to community engaged learning and a tool to make sociology public. It has been successful in facilitating connections and understanding between people from different sociodemographic, cultural and cohort groups. Expanding upon Loe's (2013) Intergenerational Collaborative Research Project, students from two Virginia Commonwealth University classes: Senior Seminar in Public Sociology and Aging/Life Course Sociology, engaged in an intergenerational DST project, in which students were matched with community-based elders. Eight storytelling pairs (student/senior) created three-minute digital stories focused on the themes of kinship, home or community. Over the course of six weekly sessions dyads worked together to create a single story for their dyad that illustrated how these themes united them, cognoscente of age, period and cohort affects. At the project's end, the pairs presented their work at a school-based research symposium. Students participated in pre-post testing, using the Facts on Aging Quiz (FAQ1) and structured interviews/focus group were held with seniors and students to evaluate the project. Qualitative data analysis revealed that participants were pleased with the project and surprised to find out how central the themes were to their individual stories, especially in terms of the similarities they found. Participants reported increased feelings of connectedness to their communities and each other; and for home-bound participants and students, decreases feelings of isolation. Both older/younger participants reported reductions in ageist perceptions. Students reported increased understanding of Sociology of the Life Course concepts, the process of aging, and community engagement.

#### **CHILDREN'S DIVORCE AND INTERGENERATIONAL RELATIONSHIPS IN RURAL CHINA**

Z. Cong<sup>1</sup>, M. Silverstein<sup>2</sup>, 1. *Human Development and Family Studies, Texas Tech Univ, Lubbock, Texas*, 2. *Syracuse University, Syracuse, New York*

Intergenerational support has been shown to be an important factor affecting elder parents' health and well-being, particularly for Chinese rural elders who have limited access to other sources of support. This study examined the influence of children's change of marital status on their financial and emotional support to parents, as well as their parents' financial help to them. We also examined whether the influences

were contingent to children's gender. The sample derived from a five wave longitudinal study (2001-2012) of older adults in rural Anhui Province. Our working sample included 11898 observations from 4 stacked intervals (2001-2003, 2003-2006, 2006-2009, 2009-2012), representing 4927 unique children with 1170 elder parents. The random effects model shows that children's divorce significantly reduced their emotional closeness with parents and their financial support to parents but not necessarily their contact with parents. In addition, sons' divorce increased financial support from their parents. This paper discusses these findings in the context of changing rural Chinese families where patrilineal tradition was combatting with the process of modernization.

#### **FAMILIES AND TRANSMISSION ACROSS GENERATIONS: AN EXAMINATION OF THE MODERATING EFFECT OF GENDER**

V.L. Bengtson, R. Cobb, *University of Southern California, Los Angeles, California*

We examine continuity across generations by assessing if the influence of grandparents on the spirituality and religious behaviors of young adult grandchildren varies over time and across gender. Guided by the life course perspective and a theoretical model of intergenerational values transmission, we use a mixed method approach with panel data from a longitudinal study of families to explore whether grandparental influences across gender and SES. It was hypothesized that grandparental influence would be evident in both institutional and subjective dimensions of religion; that there would be significant gender effects, with a strong tilt in influence; and that class effects would be evident, with grandparent influence more evident in lower SES families. To explore these associations, we use data from a long-term study of 3,500 individuals from more than 400 four-generation Southern California families who have been surveyed eight times between 1971 and 2006. Results only partially supported these hypotheses. Grandparent influence was less marked in formal than in subjective aspects of religion, and gender differences were insignificant.

#### **COMMUNICATION DYNAMICS AND CHALLENGES IN GRANDFAMILIES: AN EXPLORATORY INVESTIGATION**

J.D. Bertapelle, J.D. Tiernan, *Elliott School of Communication, Wichita State University, Wichita, Kansas*

This study investigates the communication dynamics of grandfamilies. Grandfamilies are also called "skipped generation families." They are loosely defined as grandparents taking on parental responsibilities for their grandchildren, and are a growing population in the United States, with 2.4 million households headed by a grandparent and 7.8 million children sharing households with grandparents, according to the 2009 Census. This growing population has been largely underresearched, with minimal scholarship regarding communication in these families. These families face challenges not seen as often or to the same degree as in traditional family structures. These include, but are not limited to, depression, anxiety, feelings of loss, anger and divided loyalties, all of which can influence communication patterns. Communication dynamics in these families will be assessed through key informant interviews and surveys of grandparents and grandchildren. Specifically, this exploratory investigation will focus on communication practices within grandfamilies, frequency of communication, and attitudes and challenges toward open communication. Further, the study will look at how grandfamilies function as a community of practice, sharing common experiences, goals and knowledge. Grandparents and grandchildren of all ages will be recruited using snowball sampling, stemming from announcements about the study at a mid-size Midwestern university, as well as online sources and social media sites pertaining to grandfamilies. Findings will highlight the diverse issues faced by grandfamilies as they negotiate dynamics within their family structure, shedding light on trials they face, and potentially offering insight into

how grandfamilies and the larger grandfamily community may more effectively function as communities of practice.

## **SESSION 745 (PAPER)**

### **INFORMAL CAREGIVING: METHODOLOGICAL ISSUES**

#### **SELECTION BIAS AND PSYCHOSOCIAL MEDIATORS DO NOT FULLY EXPLAIN CAREGIVERS' DECREASED MORTALITY RISK**

B.D. Capistrant, *Division of Epidemiology & Community Health, University of Minnesota, Minneapolis, Minnesota*

In contrast to previous literature, a few recent studies have shown informal, family caregiving to be associated with a decreased mortality risk. However, the main hypothesized mechanisms to explain this association (healthy worker selection bias into caregiving roles and psychosocial benefits of altruism) have not been well tested empirically. We assessed the association between spousal caregiving and all-cause mortality using data from 11,476 Health and Retirement Study cohort members between 2000-2010. Spousal caregiving was defined as  $\geq 14$  care hours/week, self-reported by care recipient at each wave (2000-2008). Mortality was self-reported by next of kin at each biennial HRS survey between 2002 and 2010. We used a stabilized inverse-probability-weighted marginal structural model, specifically a logistic model, to estimate the odds of caregiving on mortality. Specifically, we estimated the controlled direct effect of caregiving on mortality after controlling for the altruism indirect mechanism; this estimate was also weighted by the inverse of the probability of being a caregiver given health characteristics to account for healthy worker selection bias. After accounting for both healthy worker selection bias and mediation by altruism, the controlled direct effect of spousal caregiving was a 38% reduced odds of mortality (odds ratio (OR): 0.62, 95% Confidence Interval (CI): 0.47, 0.80). Longer caregiving duration (2 consecutive survey waves) was associated with a statistically significant reduced odds of mortality (OR: 0.80, 95% CI: 0.69, 0.91), though smaller in magnitude. Neither health worker selection bias nor altruism mediation can fully account for spousal caregiving being associated with lower odds of mortality.

#### **PROTECTING THE HEALTH OF "SANDWICHED" CAREGIVERS: ASSOCIATIONS BETWEEN CAREGIVING INTENSITY AND FOUR DOMAINS OF CAREGIVER BURDEN AMONG SANDWICH GENERATION CAREGIVERS FROM THE NEW NATIONAL STUDY OF CAREGIVERS**

S.A. Cohen, A.E. Phillips, M.J. Brown, Y.A. Sherif, *Department of Family Medicine and Population Health, Virginia Commonwealth University, Richmond, Virginia*

Over 50 million informal caregivers provide care to older adults, saving the US economy hundreds of billions of dollars annually, despite the impacts on caregiver quality-of-life. Increased longevity and intergenerational age have expanded the number of caregivers in the "sandwich generation", those who provide care both to an aging relative and children. How the established associations between caregiver intensity and burden differ among sandwiched caregivers remains largely unknown, however. We used a new, comprehensive database (National Study of Caregiving-NSOC) of 1,014 informal caregivers to assess associations between caregiving intensity and four domains of caregiver burden identified and validated through exploratory factor analyses: social, financial, positive emotional, and negative emotional. Generalized linear models were used to model the associations between caregiver intensity and burden, stratified by presence of children at home to assess effect measure modification by being a sandwiched caregiver. Overall, social burden was significantly associated with an increasing number of ADLs (OR 1.20,  $p=0.004$ ) and IADLs (OR 1.28,

$p < 0.001$ ), and hours spent caregiving per month (OR 1.02 per 10-hour increase,  $p = 0.001$ ). When stratified by sandwiched caregiver status, similar results were found for non-sandwiched caregivers, but for sandwiched caregivers, only hours per month remained significant (OR 1.08,  $p = 0.010$ ). There were also notable differences by sandwiched caregiver status for the other burden domains. Therefore, programs designed to protect caregiver health should consider these important sociodemographic distinctions, and address the potentially modifiable aspects of caregiving intensity associated with specific types of burden to support this vital component of the US healthcare system.

### ONLINE HEALTH EDUCATION FOR MEDICATION MANAGEMENT BY “SANDWICH GENERATION” INFORMAL CAREGIVERS

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This presentation features pilot data from a randomized clinical trial of an online health education intervention for informal caregivers. In this “Sandwich Generation Diner” project that uses a nationwide sample, we aim to (1) increase reported knowledge and use of effective medication management strategies by women caring for an older relative or friend and (2) decrease medication-related caregiving hassles. Women ( $N = 200$ ) who assist an older relative or friend with medication management are randomly assigned to one of two formats of health education materials on the internet: (1) Multimedia vignettes depicting actors encountering and responding to common medication-related challenges, or (2) Traditional written and short video clips of information and suggestions from medical experts. Caregivers have access to these materials over two months and receive weekly email invitations to review the material. Monthly online assessments track reported medication adherence and refill patterns, strategies used for medication management, perceptions of medication hassles, and adverse events for the care recipient. In the Narrative Vignette Condition ( $n = 100$ ), an innovative branching (nonlinear) format provides scripted storyboard scenarios of caregiving situations that involve medication issues. Participants select brief video narratives that correspond with one of the four modules on medication-related caregiving challenges. In the Comparison Didactic Group ( $n = 100$ ), similar medication management information and suggestions are provided in a more traditional format using written text and short video clips of experts providing suggestions (“talking heads”). Pilot data from the first seven months of data collection will be presented, along with a description of key features of the intervention.

### DEVELOPMENT OF A FAMILY CAREGIVER DELIRIUM KNOWLEDGE QUESTIONNAIRE

M. Bull, L. Boaz, J.M. Sjostedt, *Nursing, Marquette University, Milwaukee, Wisconsin*

Delirium is a medical emergency in older adults that is often under-recognized by family caregivers and health care providers. Family caregivers, who are familiar with the older adults’ usual behaviors, can play a key role in early recognition of delirium symptoms. However these family caregivers might have limited knowledge of delirium. Previous studies focus on health care providers’ knowledge of delirium; few studies focus on family caregivers’ knowledge of delirium or describe a valid, reliable instrument to measure family caregiver knowledge of delirium. The purpose of this study was to: 1) develop a family caregiver delirium knowledge questionnaire (CDKQ) and 2) establish validity and reliability of the measure. A 19 item CDKQ was developed based on the symptom interpretation model and review of the literature. The items address delirium risk factors, symptoms, and appropriate actions. A panel of experts was used to establish content validity. A cross sectional design was used and the CDKQ was distributed to three

samples of family caregivers for older adults (Mailed, Internet, In-person). A total of 164 family caregivers completed the CDKQ. Family caregivers’ ages ranged from 21 to 94, and they were predominately female (82.3%) and White (99.4%). The findings provide evidence for construct validity and internal consistency reliability. The CDKQ can be a useful outcome measure for educational interventions on delirium with family caregivers of older adults. Results also provide insights for refining the CDKQ.

### HOW DO CAREGIVER FACTORS AFFECT TIME TO CLINICAL MILESTONES IN DEMENTIA?

G.B. Rattinger<sup>1</sup>, S. Behrens<sup>2</sup>, E.B. Fauth<sup>2</sup>, M. Norton<sup>2</sup>, C. Lyketso<sup>3</sup>, J. Tschanz<sup>2</sup>, *1. School of Pharmacy, Fairleigh Dickinson University, Florham Park, New Jersey, 2. Utah State University, Logan, Utah, 3. Johns Hopkins University, Baltimore, Maryland*

Projected rising dementia prevalence heightens the need to identify factors affecting costs. Higher costs have been associated with severe dementia while caregiver factors have been associated with slower dementia progression. We examined which caregiver factors predicted time to key clinical milestones of severe dementia, institutionalization and mortality in a population-based sample of persons with dementia. We used data from the population-based Cache County Dementia Progression Study. Measures for dementia progression and the care environment were collected semi-annually. Caregiver relationship-closeness was assessed with the Whitlach Scale and problem-focused coping with the Ways of Coping Checklist-Revised. Other factors included co-residence with the dementia participant (or participant living alone), kin-relationship, age and dementia duration. Cox proportional hazard models estimated the association between caregiver factors and hazard of severe dementia, institutionalization and mortality, controlling for covariates. There were 306 DPS subject caregiver-dyads available for analyses: 43% spouses; 49% adult children; 50% co-resided at baseline. Most dementia participants were female (56%) with mean(sd) baseline age of 86.0 (5.73) years. Of spousal-caregivers, 73% were female and 95% co-resided with person with dementia. Non-coresiding dyads at baseline were associated with a hazard of 3.5 ( $p = 0.049$ ) for severe dementia; 2.4 ( $p = 0.005$ ) for institutionalization with inclusion of covariates. Participants living alone were associated with higher hazard for both outcomes. Caregiver relationship closeness and problem-focused coping were not associated with hazard of severe dementia or institutionalization, and no caregiver factors predicted hazard of death. Co-residence confers a protective effect from reaching severe dementia and institutionalization; investigation of mechanisms is warranted.

### SESSION 750 (PAPER)

#### WORK AND OCCUPATIONS

#### WHERE ARE EMPLOYED OLDER PEOPLE WORKING?: AN ANALYSIS OF OCCUPATION TRENDS ACROSS THE AGE SPECTRUM

S. Sterns-Cole, *U.S. Census Bureau, Washington, District of Columbia*

Although occupations of people over the age of 55 have been studied in the past, research on the subject did not break the older population into multiple age groups. This research will characterize the occupations of employed United States residents age 16 and over by age group, exploring how the proportion of people in major occupation groups: differ between older and younger employees; change after the age of 55; and differ for part-time and full-time employees. This analysis will use American Community Survey (ACS) data, examining employed people age 16 and over. We will identify 17 major occupation groups with similar rates of employment across the age spectrum and groups that are more sensitive to age. While occupation patterns are influenced by shifts in the global economy, variations in the rate of employment

can also be affected by age requirements for partial and full retirement benefits. A lower percentage of older workers than younger workers in a given occupation, among subjects eligible for retirement benefits, may mean that more people took an early retirement in that field; while a higher percentage of older workers than younger workers may indicate that more people retired later or changed careers. For instance, based on logic and prior research, we may expect that people in more physically demanding fields would retire earlier, and that the percentage of older workers in these fields may fall, as people get progressively older.

#### **UNCERTAIN FUTURES: BOOMERS WORKING IN A TURBULENT IT ENVIRONMENT**

P. Moen, E. Kojola, *University of Minnesota, Minneapolis, Minnesota*

Career and retirement paths are in flux, in light of uncertainties brought about by a turbulent global economy and a dismantling of the social contract between employers and employees. Resulting insecurities are a key risk factor for subjective and economic well-being as well as health. Unfortunately, most existing research on older workers and retirement planning investigated earlier cohorts and may well be out of date. How do these macro-level forces play out in proximal work environments to shape micro-level experiences of the large cohort of boomers (b. 1946-64)? This longitudinal study of Boomers and a comparison group of younger (GenX) workers in an information technology division of a Fortune 500 company investigates the impact of job conditions (including the recent announcement of a merger), subjective well-being (including job satisfaction and burnout), health, and family circumstances on both leading-edge and trailing-edge Boomers' expectations about leaving the firm along with their plans for retirement. Drawing on two waves of survey data as well as in-depth interviews, we find identifiable differences both by gender and by cohort in the factors related to expectations of leaving the firm and planning for retirement. Boomer men have lower intentions to leave their current jobs than do Boomer women or GenX men. However, some factors, including job satisfaction and job insecurity, predict exit expectations (in opposite directions) across gender and cohort. This study offers policy as well as theoretical implications, in terms of promoting understanding of factors shaping the ongoing voluntary connectedness of Boomers to the workforce.

#### **ASSESSING GERONTOLOGICAL NEEDS FOR CONTINUING AND GRADUATE EDUCATION IN URBAN AND RURAL AREAS OF OHIO**

D.J. Van Dussen, S.M. Leson, E.S. Emerick, J.A. Voytek, *Sociology, Anthropology, and Gerontology, Youngstown State University, Youngstown, Ohio*

The current project surveyed 766 health care professionals from both urban and rural care settings in Ohio and examined differences in professional's needs and interests in continuing gerontological education in Ohio. A series of crosstabs were utilized to investigate the surveys returned from the 729 health care professionals working in Ohio. The maximum time willing to travel one way to attend classes/workshops to earn gerontology certificate for classes held once a week for both urban and rural drivers was 1 hour (4,N=514)=11.65,  $p=.020$ . Of the 462 urban respondents and 72 rural respondents whose 'first choice training schedule was most preferred' was distance-learning at 39% and 49% respectively. The rate of urban participants who were 'very interested' or 'somewhat interested' in obtaining a master's degree was 17% and 24% of rural participants responded. Urban participants 'very interested' or 'somewhat interested' in earning a graduate gerontology certificate was 25% and of rural participants, 28% respectively. Implications of these findings include improving methods that Youngstown State University can apply to increase gerontological education access in both urban and rural areas. Discussion will consider possible strategies that Ohio can do to increase opportunities for further education.

This can be a great service to the urban and rural areas of the aging population in the state of Ohio.

#### **OPTIMIZING OLDER WORKERS' LABOR MARKET EXPERIENCES BY UNDERSTANDING EMPLOYER ATTITUDES**

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Among The Developed Economies, Against A Background Of Population Aging And Concerns About The Sustainability Of Social Welfare Systems, Policymakers Are Enacting Measures To Prolong Working Lives. Walker (2005) Has Argued That 'Future Competitiveness In The Private Sector And Efficiency In The Public Sector Will Rest Increasingly On The Performance And Productivity Of Aging Workforces'. Yet Several Decades Of Research Points To Employers' Stereotypical Attitudes As Presenting Significant Barriers To Older Workers' Labor Force Participation. This Paper Reports On A Survey Of 595 Medium And Large Employers' Attitudes Towards Older Workers That For The First Time Describes The Absolute And Comparative Value Of These Evaluations. This Study Used An Innovative Approach To Assessing Employer Attitudes By Obtaining Evaluations Of Older Workers, Younger Workers And Those Described As Being In Their Prime Working Years Across 12 Work-Related Individual Characteristics. This Approach Afforded The Direct Comparison Of Older Workers To Early Career Workers And Prime Age Workers. Employers' Stereotypical Attitudes Favored Older Workers On Qualities That Were Less Valued. Organization Characteristics And Employer Demographics Were Associated With Substantive Differences In Stereotypical Attitudes. Organizational Practices Were Also Associated With Employer Attitudes. It Is Argued That The Findings Support The Application Of Social Role Theory To The Understanding Of Workplace Age Discrimination.

#### **MULTIPLE CHRONIC CONDITIONS AND WORKING IN LATER LIFE: IS RESILIENCE A POTENTIAL MEDIATOR?**

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The risk of late life chronic disease and its impact on work engagement is a growing public health concern. Little research has examined the association between multiple chronic conditions (MCC; i.e., co-occurrence of two or more chronic diseases) and the work behaviors of older adults. This study combines the risk and resilience framework with Bronfenbrenner's ecological model of human development to examine three research questions: (1) What is the relationship between MCC (an individual risk factor) and workforce behavior (i.e., stopping work, working more, working less, or working the same) in older workers?; (2) How do other contextual risk factors (e.g., poverty) and stressful life events (i.e., perceived lifetime discrimination) influence workforce behaviors?; and (3) What role does resilience play in these relationships? We use a pooled sample of working adults age  $\geq 51$  with two consecutive waves of data from the Health and Retirement Study ( $n=3,912$ ). Findings indicate that having MCC at baseline increases the risk of decreasing work participation; onset of MCC decreases risk of maintaining or increasing work hours; and history of perceived lifetime discrimination decreases risk of working fewer hours. As resilience increases, so does the risk of working more hours. Resilience potentially mediates the relationship between MCC at baseline on working fewer hours, and partially mediates the effect of lifetime discrimination. Findings suggest that MCC is a barrier to working in later life. However, resilient individuals are less impacted by MCC.

**DISCOVERY EXCHANGE: MENTAL HEALTH AND MINORITY POPULATIONS****RACIAL/ETHNIC DIFFERENCES IN WITHIN-DAY LINKAGES OF PAIN, FATIGUE AND MOOD STATES IN OSTEOARTHRITIS**

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Previous research on osteoarthritis (OA) documents that pain is correlated with fatigue, and that both variables are linked to depression and anxiety. Limited evidence further suggests that these dynamics may differ across racial/ethnic groups. This research explores possible mechanisms underlying these effects, using experience sampling methodology to examine within-day covariation of pain, fatigue and positive (PA) and negative affect (NA) among older AAs (N=18) and NHWs (N=33) with diagnosed knee OA. Participants were contacted by cellphone four times daily for 7 days, with time of the call randomized within 3-hour blocks, for ratings of current pain, fatigue, and positive and negative affect (PGC PANAS); all ratings were made on 5-point scales. Initial analyses yielded no racial/ethnic differences in within-person means or variability (SDs) in fatigue, pain or affect across the 28 data points. For the sample as a whole, PA was negatively correlated, and NA positively correlated, with fatigue and pain. However, AAs showed much stronger associations of fatigue with both PA ( $r = -.534$ ) and NA (.797) than did NHWs (PA  $r = -.135$ ; NA  $r = 0.375$ ). This was not true for the association of pain with PA (AAs =  $-.376$ ; NHWs =  $-.288$ ) or NA (AAs =  $.614$ ; NHWs =  $.615$ ). Thus, although AAs and NHWs displayed similar overall levels and variability of fatigue, pain and moods, the associations among those variables difference markedly for the two groups, reflecting a closer linkage of fatigue (but not pain) with short-term mood states. (Supported by R01 AG041655)

**SOCIAL NETWORK, FAMILY RELATIONSHIP AND WORRIES AMONG CHINESE OLDER ADULTS—A COMPARISON BETWEEN IMMIGRANT, NON-IMMIGRANT, AND YO-YO FAMILIES**

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Background and purpose: Population aging and immigration are reshaping the demographic profile and support needs of older persons. In the recent decades, many Chinese older adults migrated to the US to reunion with their children (immigrant family), or go back and forth between China and abroad (yo-yo family). For older adults, they have different kinds of worries in their later life. This study addressed two questions: (1) whether worries differed for older adults in those immigrant, non-immigrant and yo-yo families; (2) how social network and family relationship influence the worries differently for older adults in these three types of households. Method: A cross-sectional survey was conducted in Los Angeles and Beijing between 2010 and 2012. The immigrant family sample consisted of 236 immigrant Chinese elders, 293 yo-yo elders, and 257 non-immigrant older adults. The dependent variable was worry which was measured by a scale. The independent variable was social network, and family relationships. ANOVA, Chi-square test, and regression were conducted using SPSS 17.0. Results: The results showed that there were significant differences on social network and family relationships as well as worries among older adults in these three types of families. The regression results showed that emo-

tional closeness with children was the most important beneficial factor for worries among these three groups. While for immigrant elders, local friends also played important roles. Conclusion and implications: The findings confirm the importance of family relationships on the psychological well-being of older adults, and have important implications for policy and practice.

**RACIAL DIFFERENCES IN SELF-REGULATORY STRESS COPING BEHAVIORS IN OLDER ADULTS: EVIDENCE FROM THE HEALTH AND RETIREMENT STUDY (HRS)**

B. Mezuk<sup>1,2</sup>, I.O. Govia<sup>2</sup>, J. Rafferty<sup>2</sup>, K. Kershaw<sup>3</sup>, H. Lee<sup>4</sup>, J. Jackson<sup>2</sup>, *1. Family Medicine & Population Health, Virginia Commonwealth University School of Medicine, Richmond, Virginia, 2. Institute for Social Research, University of Michigan, Ann Arbor, Michigan, 3. Northwestern University, Evanston, Illinois, 4. University of Washington, Seattle, Washington*

Emerging research suggests that coping with stress using self-regulatory health behaviors may contribute to racial/ethnic disparities in mental and physical health. The goal of this study was to characterize stress-coping behaviors and examine variation in these behaviors by race. Data come from the 2008 HRS, and analysis is limited to participants who completed an experimental module on coping behaviors (NWhite=1072, NBlack=204). Participants reported the frequency with which they engage in eight behaviors (smoke tobacco, drink alcohol, use drugs, exercise, eat, pray, social support, counselor) and the perceived effectiveness of these behaviors on relieving stress. Blacks were more likely than Whites use prayer (73.6% vs. 56.7%,  $p < 0.001$ ), social support (32.3% vs. 19.3%,  $p < 0.001$ ), and talking to a counselor (12.9% vs. 4.6%,  $p < 0.001$ ) to cope with stress. Blacks were less likely use eating to cope (6.5% vs. 11.1%,  $p < 0.05$ ), but there were no differences in exercise, smoking, drug use, or alcohol as stress-coping behaviors. The perceived effectiveness of coping behaviors was similar for both Blacks and Whites who employed these strategies. For example, 30.7% of Whites and 26.7% of Blacks said eating reduces their feelings of stress a great deal; 85.6% of Whites and 89.5% of Blacks reported prayer reduces their stress a great deal. In conclusion, although there are differences in the frequency of stress-coping behaviors, among those who use any particular strategy the perceived effect on stress reduction does not vary by race. Additional analyses will examine whether these coping behaviors modify the relationship between race and mental health.

**SUICIDAL IDEATION AMONG COMMUNITY-DWELLING U.S. CHINESE OLDER ADULTS**

R. Chen<sup>1</sup>, E. Chang<sup>1</sup>, M. Zhang<sup>1</sup>, Y. Zhen<sup>1</sup>, J. Ruan<sup>1</sup>, M.A. Simon<sup>2</sup>, X. Dong<sup>1</sup>, *1. Rush Institute for Healthy Aging, Chicago, Illinois, 2. Northwestern University, Chicago, Illinois*

Background: Suicide ideation is one of the most prevalent predictors for completed suicide. Despite its severity, suicidal ideation among U.S. Chinese older adults has received very little research attention. This study examined the prevalence and correlates of suicidal ideation among U.S. Chinese older adults. Methods: Guided by the community-participatory research approach (CBPR), 3,159 community-dwelling Chinese adults aged 60 years and above in the greater Chicago area were interviewed in person. 2-week suicidal ideation was measured by the ninth item of the Patient Health Questionnaire (PHQ-9). 12-month suicidal ideation and lifetime suicidal ideation were measured by the Geriatric Mental State Examination-Version A (GMS-A). Results: Of the 3,159 participants, 58.9% were female and the mean age was 72.8 (SD = 8.3). The 2-week prevalence of suicidal ideation, 12-month prevalence of suicidal ideation and lifetime suicidal ideation was 3.5%, 4.8% and 9.4%, respectively. Age, sex, marital status, education, income, living arrangement, country of origin, years in the U.S., overall health status, quality of life, and health changes over the last year were significantly correlated with suicidal ideation. Discussion: Suicidal ideation was common among U.S. Chinese older adults in the greater Chicago area.



The prevalence of suicidal ideation differed by socio-demographic and health related characteristics. Future longitudinal studies should be conducted to explore the risk and protective factors associated with suicidal ideation at different time periods. Health care providers should promote screening for suicidal ideation among U.S. Chinese older populations. Special attention should be given to women, widowed, low income, and those having poor health conditions.

#### **THE PREVALENCE OF LONELINESS AMONG CHINESE OLDER ADULTS IN THE GREATER CHICAGO AREA**

M. Zhang<sup>1</sup>, E. Chang<sup>1</sup>, R. Chen<sup>1</sup>, Y. Li<sup>1</sup>, J. Huang<sup>1</sup>, M.A. Simon<sup>2</sup>, X. Dong<sup>1</sup>, 1. *Rush Institute of Healthy Aging, Chciago, Illinois*, 2. *Northwestern University, chicago, Illinois*

**Objectives:** Loneliness is an important health indicator of psychological and social well-being. However, we have limited understanding of loneliness among Chinese older adults in the U.S. This study aimed to describe the overall prevalence of loneliness, identify the prevalence of specific symptoms, and examine loneliness by socio-demographics in a community-dwelling Chinese population. **Methods:** Data were drawn from the PINE study, a population-based study of 3,159 U.S. Chinese older adults in the greater Chicago area. Loneliness was assessed using a validated three-question R-UCLA Scale through face-to-face interviews. **Results:** Of the 3,159 participants, 58.9% were female and the mean age was 72.8 (SD = 8.3). The overall prevalence of any loneliness symptom was 26%. Lack of companionship was the most common symptom of loneliness (20.5 %). Women (28.4%) were more likely to report loneliness symptoms compared to men. Older adults who live alone (40.2 %), aged 80+ (31.5 %), with poor health status (43.8 %), poor quality of life (45.8 %), and negative health changes over the past year (33.1 %) were more likely to experience loneliness. Loneliness symptoms were less likely to be reported by married participants (20.2 %). **Conclusions:** Loneliness is common among U.S. Chinese older adults in the greater Chicago area. Our findings call for further investigations on several subgroups of Chinese older with higher prevalence of loneliness. Future longitudinal studies are needed to improve the understanding of risk factors and outcomes associated with loneliness among Chinese older adults.

#### **LONELINESS AND MORTALITY: RESULTS FROM THE SINGAPORE SOCIAL ISOLATION, HEALTH, AND LIFESTYLE SURVEY**

A. Chan<sup>1,2</sup>, P. Raman<sup>1</sup>, R. Malhotra<sup>1</sup>, 1. *Health Services and Systems Research, Duke-National University of Singapore Graduate Medical School, Singapore, Singapore*, 2. *National University of Singapore, Singapore, Singapore*

Studies on the effects of social support and loneliness on mortality in older people generally agree that healthy social networks and emotional fulfillment are keys to successful ageing. Loneliness has been established as a predictor of mortality and advancement of disability. We used data from the Social Isolation, Health, and Lifestyles Survey commissioned by the Ministry for Community Development, Youth, and Sports in 2009 to develop evidence-based policies targeting the enhancement of social participation in the Singaporean elderly. In this study, we explored three different dimensions of loneliness and their effects on all-cause mortality after a three-year follow-up period. We looked at how perceived loneliness at the individual level, social contact and ties, and living arrangements affected the risk of mortality. Cox proportional hazard analyses showed that after adjusting for socio-demographic and health risk factors, only perceived loneliness remained significantly associated with mortality (HR=1.07). The protective effects of living arrangements and social contact disappeared with the addition of health variables. Our results were comparable to other international studies in which perceived loneliness was significantly associated with the risk of mortality but social networks and living arrangements were not. We discussed policy implications of our results

and proposed interventions: perceived usefulness of public multi-generational housing, expansion of Senior Activity Center resources, and better training of general practitioners to understand loneliness in the elderly. In future research, we hope to define and frame loneliness in the local context to better elucidate the meaning of loneliness and its effects in the Singaporean elderly.

#### **SESSION 760 (SYMPOSIUM)**

#### **AN ONLINE BOOSTER PROGRAM USED IN AN ONLINE BONE HEALTH TRIAL: LESSONS LEARNED**

**Chair:** E. Nahm, *University of Maryland School of Nursing, Baltimore, Maryland*

The aim of this presentation is to report lessons learned about implementing an online booster intervention used in a large scale online bone health study that examined the long-term effects of two theory-based online bone health programs (N = 866). The two interventions were: (1) Bone Power program, an 8-week intensive online program, and (2) Bone Power Plus program, including the Bone Power Program followed biweekly theory-based eHealth newsletters. The newsletters were delivered via e-mail and consisted of the content that highlighted major health topics in the learning modules, recent research findings on a selected topic, calcium-rich recipes, an interactive goal attainment form (in every other newsletter), and members' success stories. All outcome measures showed significantly greater improvement in both intervention groups at 8 weeks; however, a few measures regressed at 12 months. No significant booster effects were observed. Further research is needed in the area of online booster interventions.

#### **LONG TERM ADHERENCE ACROSS MULTIPLE BEHAVIORS: WHOEVER SAID IT WOULD BE EASY!**

B. Resnick<sup>1</sup>, M. Hammersla<sup>1</sup>, M.G. Ory<sup>2</sup>, 1. *University of Maryland, Baltimore, Maryland*, 2. *Texas A & M, College Station, Texas*

Health behaviors consistent with decreasing risk of disease such as cardiovascular disease and osteoporosis include regular physical activity and adhering to dietary recommendations and prescribed medications. Long-term adherence is defined as remaining engaged in these behaviors for greater than 6 months. Much of the research in this area focused on qualitative methods and was informative. When quantitative approaches were used, individuals were often excluded if they "dropped out" of the study related intervention. Thus adherence was considered only among those highly motivated to participate. Rates of long-term adherence across all behaviors generally range from 40 – 70%. Numerous factors have been identified as influencing both short and long term adherence. Most commonly these included acute illness or disease exacerbation associated with the behavior (e.g. pain associated with exercise), caregiving responsibilities, beliefs about the benefits, or simply having no motivation. Some interventions have been noted to positively impact adherence such as identification of individualized goals (both short and long term), a sense of group cohesion, use of structured programs and feedback (either direct or remote) from experts. The purpose of this symposium is to address the use of several interventions that incorporated theoretically based approaches and a variety of techniques to improve long term adherence to diet, exercise and recommended medications. Specifically, we will describe the PRAISED and Bone Health interventions and techniques incorporated to increase long-term adherence, their theoretical and empirical support, evidence of efficacy and recommendations for future research.

## PEOPLE REDUCING RISK AND IMPROVING STRENGTH THROUGH EXERCISE, DIET, AND DRUG ADHERENCE (PRAISEDD): LONG TERM BEHAVIOR CHANGE ACROSS MULTIPLE BEHAVIORS

B. Resnick, M. Hammersla, K. Michael, *University of Maryland, Baltimore, Maryland*

The PRAISEDD project aimed to disseminate a successful adaptive physical activity exercise program in a community of underserved and vulnerable older adults and to promote long-term integration and adoption of lifestyle behaviors (diet, exercise and medication adherence) focused on prevention and management of cardiovascular disease. The PRAISEDD Program uses the social ecological model and self-efficacy theory and includes three Phases: Phase I-The Education Initiation Phase (1 week/2 sessions); Phase II- The Practice Phase (11 weeks/22 sessions); and Phase III-The Inoculation Phase (9 months). A total of 59 residents attended a Meet and Greet Session to learn about PRAISEDD, 42 were approached and 32 consented. Interventions to optimize adherence included flyers about classes, goal identification, facilitation of group cohesion, focusing on benefits and ongoing support by experts. Adherence rates at 12 months ranged from approximately 50% for exercise to 90% for diet and medication use.

## NEXT STEPS IN LONG TERM ADHERENCE: WHAT TO FOCUS ON AND WHAT NOT TO BOTHER WITH

B. Resnick, *University of Maryland, Baltimore, Maryland*

Findings from these studies support and expand on prior work identifying factors that influence long-term adherence to health behaviors. There is evidence to support the value of a social ecological model and self-efficacy theory. Successful approaches include the identification of goals that the individual believes will be beneficial to his or her health; ongoing exposure to experts; a group approach; building confidence; making the activities fun; and providing ongoing cues and reminders. Future work should consider incorporating concepts from the Selection Optimization and Compensation model and focus on how the individual might strive to achieve their goal(s) (e.g., make plans for how to allocate resources, use the environment); how he or she might compensate for an inability to achieve the stated goal by revising goals following challenging life events (e.g. changes in physical status). Future work needs to directly address and focus on coping planning and ways to overcome nonadherence.

## TESTING ADAPTIVE PHYSICAL ACTIVITY IN STROKE (TAPAS): WHAT WORKS AND WHAT IS NEEDED FOR LONG TERM ADHERENCE

K. Michael, *University of Maryland, Baltimore, Maryland*

The intervention, Testing Adaptive Physical Activity in Stroke” (TAPAS), was a progressive program of music-accompanied walking, weight-shifting, leg lifts, foot placement routines, partial squats, marching, chair exercises, and obstacle course navigation in a supervised gym. Exercise sessions were held for an hour 3 days/week for six months. Individual homework routines were prescribed. TAPAS produced dramatic improvements in balance, dynamic gait, and 6-minute walks, and small but significant increases in peak VO<sub>2</sub> and no change in fatigue, falls efficacy, or daily step activity and individuals became more sedentary overtime. This study revealed a disconnection between the physical improvements in the lab and the behavioral performance at home. Focus groups indicated that important determinants of long term adherence to physical activity included social support and self-efficacy or beliefs about the benefits and risks and that it is essential to bring the exercise programs out of the gym and into the community.

## SESSION 765 (SYMPOSIUM)

### TRANSLATIONAL SCIENCE IN AGING ACROSS SETTINGS

**Chair:** K. Rose, *School of Nursing, Univ of VA, Charlottesville, Virginia*

**Co-Chair:** K.A. Gretebeck, *University of Michigan, Ann Arbor, Michigan*

**Discussant:** H.M. Young, *University of California Davis, Davis, California*

Translating scientific findings into practice is paramount to insure best care for older adults across all health care settings. The purpose of this presentation is to provide examples of translational science by nurse scientists undertaken across multiple healthcare environments to improve care for older adults. Specifically, these presentations will discuss: 1) fall prevention strategies implemented in nursing homes; 2) diabetes prevention and management program implemented in a cross cultural community-based setting; 3) function-focused care applications in assisted living environments; and 4) feeding tube placement patterns in older adults with dementia in nursing homes. The challenges and opportunities in translational science work will also be explored. Lastly, Dr. Heather Young, an expert in gerontological nursing, will be the discussant for this symposium

### TRANSLATING SCIENCE TO PRACTICE IN NURSING HOMES

R.A. Anderson, *Duke University, Durham, North Carolina*

Efficacy trials have shown that care to reduce fall risk factors delivered by specially-hired external study-staff lowers fall rates, recurrent falls, and injurious falls in nursing home (NH) residents. However, prior attempts to move fall reduction strategies into everyday practice by in-house staff have not been successful. We propose that a particular barrier to implementing evidence-based programs has been that they do not fully address staff interdependencies inherent in care for falls or other geriatric syndromes. We hypothesized that an intervention that helps NH staff establish relationship networks and communication channels to support learning and behavior changes, would improve uptake of a traditional falls reduction program. In this presentation we will describe the rationale for a system level intervention, the translation approach using complexity science, and provide an overview of results of a randomized pilot-study trial in a sample of 4 community and 4 VA NHs.

### CULTURALLY-INFORMED COMMUNITY CAPACITY PROGRAMS FOR HEALTHY AGING: CROSS-NATIONAL EXEMPLARS

L. Skemp, *Our Lady of the Lake College, Baton Rouge, Louisiana*

Community Based Participatory Research aims to partner with communities in chronic illness program design and implementation; however, adherence and community uptake remains problematic. The Culturally-Informed Healthy Aging model (CIHA) was used in the development of chronic illness programs for older adults in St. Lucia, West Indies and south India. The CIHA systematically partners with community members to identify health needs and use “cultural capital” and translational science to tailor best practices for culturally-informed assessment, programming and evaluation. Cross nationally diabetes prevention and management programming was undertaken. In 2013 the program expanded in both communities, including to all 36 St. Lucian Health Centres with no amputations for program participants. Variables influencing program development and sustainability include trust, shared purpose, time in the field, community engagement, student participation, and measurable outcomes that make sense to all partners. Comparison of CIHA programming informs the design of community capacity building programs for aging.

## TRANSFORM TUBE FEEDING TO INTENSIVE INDIVIDUALIZED COMFORT CARE

R.P. Lopez, *MGH Institute of Health Professions, Boston, Massachusetts*

There is general agreement that feeding tubes do not benefit older adults with advanced dementia, yet the practice continues. The purpose of this presentation is to explore the complexity of making feeding decisions for people with dementia and to put forth a new paradigm of care to help translate feeding guidelines into practice. It will begin with a review and synthesis of a series of qualitative studies conducted in regions of the country with both high and low tube feeding rates. The deep emotional connection with food and feeding and the complexity of organizational and cultural factors will be explored. The findings of these studies suggest that rather than limiting care, patients and families should be provided the option of “intensive individualized comfort care,” a model of care that seeks to attain comfort and family centered care. Implications for clinical practice and future research will be addressed.

## DISSEMINATION AND IMPLEMENTATION OF FUNCTION FOCUSED CARE INTO ASSISTED LIVING SETTINGS

B. Resnick, *University of Maryland, Baltimore, Maryland*

Residents in assisted living settings engage in limited amounts of physical activity and decline functionally more rapidly than peers in nursing homes. Function Focused Care for Assisted Living (FFC-AL) was developed to prevent decline and improve function and physical activity. Building off previous work we disseminated and implemented FFC-AL into 20 assisted living facilities housing over 1,000 residents. The dissemination process involved teaching champions from each setting our four step approach: (Step I) Environment and Policy/Procedure Assessments; (Step II) Education of Staff; ( Step III) Developing Function Focused Goals for Residents; and (Step IV) Mentoring and Motivating. Outcomes were evaluated using the Reach, Efficacy/Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) model. Over a 12 month period policies and environments were altered to facilitate function and physical activity and there were decreases in falls and hospital transfers. Subsequently, we developed a website and training videos and are disseminating FFC-AL to 100 settings.

## SESSION 770 (SYMPOSIUM)

### HOSPITALIZATION-ASSOCIATED DISABILITY: NEW EVIDENCE AND FUTURE RESEARCH AGENDA

**Chair:** B.M. Buurman, *Yale School of Medicine, New Haven, Connecticut, University of Amsterdam, Amsterdam, Netherlands*

**Co-Chair:** K. Covinsky, *UCSF, San Francisco, California*

**Discussant:** T.M. Gill, *Yale School of Medicine, New Haven, Connecticut*

New or worsening disability is a common adverse outcome of hospitalization. Depending on the patient population studied, the incidence of hospitalization-associated disability ranges from 10% to 50%. In 2011, a conceptual model for hospitalization-associated disability during acute illness was presented in JAMA, including pre-existent risk factors, severity of the acute illness, hospitalization factors and post-discharge care. This conceptual model still has many open questions, such as what is the optimal time-frame of disability measurement, how should recovery be defined and what factors contribute to successful recovery from hospitalization-associated disability. In this symposium, these topics will be covered, and new data will be presented. An agenda for future research will be formulated. This symposium is intended for geriatricians, general practitioners, nurses and other investigators in geriatrics and gerontology. Lectures : 1) Lecture 1: hospitalization-associated disability: where do we stand? (Kenneth Covinsky, UCSF) 2) Lecture 2: course of disability before and after ICU admission in older persons (Lauren Ferrante, Yale) 3) Lecture 3: Factors affecting the recovery

from hospitalization-associated disability in skilled nursing facilities (SNFs) (Bianca Buurman, Yale) 4) Lecture 4: Statistical Challenges Of Time-Varying Hospitalization On Recurrent Disability (Heather Allore, Yale) 5) Discussion: what are the black boxes in research; setting a future research agenda (Thomas Gill, Kenneth Covinsky)

### FACTORS AFFECTING THE RECOVERY FROM HOSPITALIZATION-ASSOCIATED DISABILITY IN SKILLED NURSING FACILITIES

B.M. Buurman<sup>2,1</sup>, L. Han<sup>2</sup>, E.A. Gahbauer<sup>2</sup>, L. Leo-Summers<sup>2</sup>, H. Allore<sup>2</sup>, T.M. Gill<sup>2</sup>, 1. *University of Amsterdam, Amsterdam, Netherlands*, 2. *Yale School of Medicine, New Haven, Connecticut*

In this talk, we will present factors affecting recovery from hospitalization-associated disability in older people who were subsequently admitted to a SNF. We combined monthly disability data from the Precipitating Event Project (PEP), a longitudinal cohort study of 754 community-dwelling older people, with data from the Minimal Data Set (MDS) that is administered at the time of admission into a SNF, and subsequently at fixed time points during the SNF stay. The analytical sample includes 394 participants who were hospitalized and subsequently discharged to an SNF. For all patients, disability data 12-months before and after the hospitalization were analyzed, as well as data on geriatric conditions, intensity of rehabilitation, readmissions and discharge disposition from the SNF. We used mixed model regression analysis to identify factors associated with successful recovery from disability.

### STATISTICAL CHALLENGES OF TIME-VARYING HOSPITALIZATION ON RECURRENT DISABILITY

H. Allore, B.M. Buurman, *Yale School of Medicine, New Haven, Connecticut*

The design and analysis of observational studies of disability face several analytic challenges, including the frequency of observations to capture time-varying exposures, such as hospitalization, and recurrent outcomes, such as disability. Given the high risk of mortality or severe disability during or post-hospitalization among older adults, timing of measurement is critical to establish temporal precedents and to capture outcomes given the competing risk of death. Gerontologic biostatistics consists of the study and development of statistical methodology used in the design, analysis, and interpretation of biomedical research regarding the older populations. Examples of administrative data, triggered and fixed interval designs will be contrasted. Ways in which death can affect a longitudinal analysis include informative censoring and selection effects. Longitudinal methods highlighting the relationship between hospitalization and disability include generalize linear, multistate, latent class trajectory, and joint models. Reflections on the effect estimates from each given non-trivial proportions of decedents are discussed.

### THE COURSE OF DISABILITY IN THE YEAR IMMEDIATELY BEFORE AND AFTER AN ICU ADMISSION IN OLDER PERSONS

L.E. Ferrante<sup>1</sup>, M.A. Pisani<sup>1</sup>, T.E. Murphy<sup>2</sup>, E.A. Gahbauer<sup>2</sup>, L. Leo-Summers<sup>2</sup>, T.M. Gill<sup>2</sup>, 1. *Yale University, New Haven, Connecticut*, 2. *Yale School of Medicine, New Haven, Connecticut*

We identified distinct sets of functional trajectories in the year before and after an ICU admission and calculated the probability of transitioning from a specific pre-ICU trajectory to a specific post-ICU trajectory. The analytic sample included 291 persons aged 70+ years who had at least one ICU admission (1998–2011). In the year before ICU admission, 3 functional trajectories were identified: minimal disability (30%), mild-to-moderate disability (44%), and severe disability (26%). 70 (24%) participants died in the ICU or within 1-month post-hospital discharge. Post-hospitalization, 3 functional trajectories were identified: minimal disability (20%), mild-to-moderate disability (30%), and severe disability (50%). Of the survivors, 69 (32%) transitioned to a worse functional trajectory in the year after ICU admission.

Conclusion: Nearly a third of older ICU survivors transition to a worse functional trajectory after ICU admission. Additional research is needed to identify modifiable risk factors for worsening functional trajectories after critical illness.

## SESSION 775 (SYMPOSIUM)

### HEARING IMPAIRMENT, COGNITION, AND BRAIN FUNCTION –INSIGHTS FROM EPIDEMIOLOGIC AND CLINICAL STUDIES

**Chair:** F.R. Lin, *Johns Hopkins University, Baltimore, Maryland*

**Discussant:** M. Carlson, *Johns Hopkins University, Baltimore, Maryland*

The potential functional consequences of age-related hearing impairment for older adults are beginning to surface in epidemiologic studies demonstrating independent associations of hearing loss with cognitive functioning and dementia. Multiple mechanisms may mediate these associations including the effects of hearing impairment on cognitive load, brain function/structure, and social isolation. Alternatively, a common pathologic cause could also underlie associations of hearing and cognitive functioning in older adults. These options are not mutually exclusive, and multiple pathways could likely co-exist and contribute to cognitive impairment. Importantly, the hypothesized mechanistic pathways are intriguing because they suggest that hearing rehabilitative treatments could potentially help mitigate cognitive declines in older adults. The public health impact of investigating these associations is substantial given that hearing loss is prevalent in nearly two-thirds of all adults over 70 years and fewer than 20% receive any form of intervention. In this symposium, we will present recent epidemiologic and experimental studies from the United States and United Kingdom that have investigated the association of hearing impairment with patterns of gray matter density, cortical density, memory systems, and cognitive functioning, and we will discuss the practical and research implications of these findings for geriatrics and gerontology.

### HEARING LOSS AND THE BRAIN: INSIGHTS FROM NEUROIMAGING

J.E. Peelle, *Department of Otolaryngology, Washington University in St. Louis, Saint Louis, Missouri*

How does long-term auditory deprivation affect the way our brains process speech? At the population level, age-related hearing loss is associated with changes in cognitive ability. One possible mechanism underlying these changes is neural plasticity induced by sensory decline. I will review data from behavioral and fMRI studies that speak to the added cognitive demands associated with acoustic challenge, exploring these issues in the context of a brain-based model of speech comprehension. Evidence from multiple sources is consistent with a shared resource framework of speech comprehension in which domain-general cognitive processes supported by discrete regions of frontal cortex are required for both auditory and linguistic processing. The specific patterns of neural activity depend on the difficulty of the speech being heard, as well as the hearing and cognitive ability of the listeners. These findings have implications not only for everyday speech comprehension, but may potentially affect cognitive function more broadly.

### THE NEGATIVE EFFECT OF HEARING LOSS ON VISUOSPATIAL MEMORY FUNCTIONS

J. Ronnberg<sup>1</sup>, M. Rudner<sup>1</sup>, S. Hygge<sup>2</sup>, G. Keidser<sup>3</sup>, *1. Linnaeus Centre HEAD, Swedish Institute for Disability Research, Department of Behavioural Sciences and Learning, Linköping University, Linköping, Sweden, 2. Environmental Psychology, Faculty of Engineering and Sustainable Development, University of Gävle, Gävle, Sweden, 3. National Acoustic Laboratories, Sydney, New South Wales, Australia*

The UK Biobank offers cross-sectional epidemiological data collected on 500,000 individuals in the UK between 40 and 69 years of age. Using the UK Biobank data, the aim of this study was to investigate the effects of hearing loss and hearing aid usage on visuospatial memory function in a sample of 138 098 participants. The triple-digit speech-in-noise test was used to divide the participants into three groups: poor, insufficient and normal hearers. We found clear negative effects of hearing loss on both working memory and long-term memory, with the strongest effect for visuospatial long-term memory. These effects are independent of age but mitigated by the use of hearing aids. Age also showed strong main effects for the memory tasks and interacted with hearing loss for the working memory tasks. Broader theoretical implications based on a memory systems approach will be discussed.

### HEARING IMPAIRMENT AND COGNITIVE DECLINE: ATHEROSCLEROSIS RISK IN COMMUNITIES NEUROCOGNITIVE STUDY

J.A. Deal<sup>2</sup>, A. Sharrett<sup>2</sup>, M. Albert<sup>3</sup>, A.R. Sharrett<sup>2</sup>, T.H. Mosley<sup>4</sup>, D.S. Knopman<sup>5</sup>, L. Wruck<sup>6</sup>, F.R. Lin<sup>1</sup>, *1. Epidemiology, JHU/APL, Baltimore, Maryland, 2. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 3. Johns Hopkins School of Medicine, Baltimore, Maryland, 4. University of Mississippi Medical Center, Jackson, Mississippi, 5. Mayo Clinic, Rochester, Minnesota, 6. University of North Carolina Gillings School of Global Public Health, Chapel Hill, North Carolina*

**Objective:** To test the hypothesis that hearing impairment in older age is associated with a faster rate of 20-year longitudinal change in cognitive function measured from midlife into older age. **Study population:** 253 men and women from Washington County, Maryland (mean age 76.9+5.4 years). Three cognitive tests were repeatedly administered from 1990-2013. **Audiometric testing** was performed in 2013. **Methods:** Trajectories of 20-year change in standardized test scores were modeled using generalized estimating equations. A pure-tone average was calculated in the better-hearing ear using thresholds from 0.5-4 kHz. **Results:** The multivariable-adjusted difference in 20-year rates of memory decline comparing persons with moderate/severe HI to participants without HI was -0.47 standard deviations (95% CI:-0.87,-0.08). **Conclusions:** Moderate/severe HI was associated with faster memory decline (on a word list learning task) but not with tests in other domains. These findings add specificity to the limited literature available on the impairments associated with HI.

### HEARING IMPAIRMENT AND 7-YEAR COGNITIVE CHANGE IN OLDER ADULTS: THE HEALTH ABC STUDY

J.A. Deal<sup>2</sup>, J. Betz<sup>1</sup>, K. Yaffe<sup>3</sup>, E.M. Simonsick<sup>4</sup>, T. Harris<sup>4</sup>, E. Helzner<sup>5</sup>, S. Satterfield<sup>6</sup>, F.R. Lin<sup>1</sup>, *1. Epidemiology, JHU/APL, Baltimore, Maryland, 2. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 3. University of California, San Francisco, San Francisco, California, 4. National Institute on Aging, Bethesda, Maryland, 5. SUNY Downstate Medical Center, New York City, New York, 6. University of Tennessee Health Science Center, Memphis, Tennessee*

We investigated whether hearing impairment (HI) is associated with faster rates of 7-year cognitive decline in 808 men and women with audiometric testing (2000-01) and neurocognitive testing at 4 visits (1999-2006) (mean age 73.6±2.7 years, 47% black). HI was defined

by the average of speech frequencies (0.5-4 kHz) in the better-hearing ear (normal: <25 dB, mild: 25-40 dB, moderate/greater: 40+ dB). We estimated trajectories of change in memory, psychomotor speed and perceptual attention with linear mixed models. After adjustment for demographics and vascular risk factors, HI was associated with poorer baseline performance on the Buschke Selective Reminding Test ( $\beta = -2.3$  words [95% CI: -4.3, -0.29]; moderate/greater HI vs. normal hearing). No differences in rates of decline were observed by HI status, although trends were observed by severity of HI in memory and psychomotor speed. In this biracial cohort of older adults, HI was associated with poorer baseline memory performance.

## SESSION 780 (SYMPOSIUM)

### RESULTS FROM THE 2013 SENIOR CORPS STUDY AND ANALYSIS OF THE NATIONAL RSVP COMPETITION

**Chair:** E.J. Tan, *Senior Corps, Corporation for National and Community Service, Washington DC, District of Columbia*

**Discussant:** J. Haaga, *National Institute on Aging, Bethesda, Maryland*

The Corporation for National and Community Service, the federal agency that administers Senior Corps and AmeriCorps, is seeking to partner with researchers to develop National Service into a platform for public health interventions. Senior Corps is comprised of the Foster Grandparent Program (FGP), RSVP and the Senior Companion Program (SCP), and is one of the nation's largest organizations for volunteers age 55 and over, with over 1100 grants across the US. FGP began as a federal program in 1965, with Foster Grandparents serving children, and SCP beginning in 1974 with Senior Companions primarily serving older adults. All FGP and SCP volunteers were required to be within 200% of the poverty level. Both FGP and SCP national service participants serve from 15 to 40 hours a week, for which they receive a small stipend of \$2.65 per hour of service. RSVP is one of the largest volunteer programs with 274,500 volunteers in Fiscal Year 2013 who served in more than 38,000 community organizations nationwide to deliver essential services. We present the initial results of the Senior Corps National Evaluation that occurred in 2013 and the results of an analysis of the 2013 RSVP competition. This was the 1st ever competitive renewal for RSVP grants that were awarded as far back as 1971. After attending this activity, participants will be able to 1) define National Service 2) discuss how grant competitions can make their selection processes more objective and transparent 3) discuss the potential health benefits of national service participation.

### RELIABILITY AND VALIDITY OF THE 2013 RSVP GRANT APPLICATION REVIEW PROCESS

R. Ghertner, P. Stengel, V. Garibaldi, M. Coles, E.J. Tan, *Senior Corps, Corporation for National and Community Service, Washington DC, District of Columbia*

We describe a four-step framework that was used to validate the RSVP 2013 grant application review process: assess inter-rater reliability between application reviewers, assess factorial validity of instrument, and assess the measurement reliability of the final scores. Inter-rater reliability was above 0.90, a common threshold for high-stakes measurement. After conducting confirmatory factor analysis, the final model merged two of the original five domains of selection criteria, resulting in four domains. The final model was found to have strict measurement invariance, high convergent validity and measurement reliability between 0.88 and 0.93 for all domains. These results validate the 2013 RSVP measurement model, indicating the grant review process was an objective and defensible method to determine funding decisions. After attending this activity, participants will be able to explain how the RSVP, a federal program, conducts grant selection, and discuss how grant competitions can make their selection process more objective and transparent.

### ACCESS TO VOLUNTEER OPPORTUNITIES AND THE POTENTIAL HEALTH BENEFITS OF NATIONAL SERVICE: FGP AND SCP

E.J. Tan<sup>1</sup>, A. Georges<sup>2</sup>, S. Gabbard<sup>2</sup>, D. Pratt<sup>2</sup>, S. Wrightsman<sup>1</sup>, A. Roberts<sup>1</sup>, A. Nerino<sup>1</sup>, M. Hyde<sup>1</sup>, *1. Senior Corps, Corporation for National and Community Service, Washington DC, District of Columbia, 2. JBS International Inc, Burlingame, California*

After attending this activity, participants will be able to discuss the evidence of better self-reported health among National Service Participants. FGP/SCP respondents were compared to respondents from the Health and Retirement Study (HRS). Foster Grandparents and Senior Companions were 90 percent female, with 55 to 99 years of age, and a mean age of 72. FGP/SCP respondents were 40% African American. FGP/SCP respondents reported a higher rate of difficult walking 1-block as compared to volunteers in the matched HRS comparison group. However, they were less likely to report poor health than volunteers and non-volunteers in the matched HRS comparison group. These findings suggest that national service increases access to volunteer opportunities and may have a positive impact on self-reported health. This is preliminary evidence of a potential health benefits to participation in national service as compared to participation in community volunteering.

### PSYCHOSOCIAL OUTCOMES ASSOCIATED WITH NATIONAL SERVICE PARTICIPATION IN SENIOR CORPS

E.J. Tan<sup>1</sup>, A. Georges<sup>2</sup>, S. Gabbard<sup>2</sup>, D.J. Pratt<sup>2</sup>, S. Wrightsman<sup>1</sup>, A. Roberts<sup>1</sup>, A. Nerino<sup>1</sup>, M. Hyde<sup>1</sup>, *1. Senior Corps, Corporation for National and Community Service, Washington DC, District of Columbia, 2. JBS International Inc, Burlingame, California*

After attending this activity, participants will be able to discuss if there is evidence of better self-reported psychosocial outcomes in National Service Participants. The responses from representative sample of FGP/SCP participants were compared to respondents from the Health and Retirement Study (HRS) and Consumption and Activities Mail Survey (CAMS). The preliminary analysis comparing SCP/FGP national service participants vs. similar "volunteers" who are not national service participants, show that FGP and SCP national service participants may have higher self-efficacy, social ties, life satisfaction and less loneliness, as compared to similar HRS/CAMS respondents who were self-identified as volunteers. This is still preliminary but does indicate a possible line of analysis. Additional preliminary data from a descriptive analysis of RSVP volunteers will also be presented.

## SESSION 785 (SYMPOSIUM)

### AGE-FRIENDLY BANKING: CONNECTION TO FINANCIAL CAREGIVING AND PREVENTING ELDER FINANCIAL EXPLOITATION

**Chair:** E.R. Costle, *AARP Public Policy Institute, Washington, District of Columbia*

**Co-Chair:** S. Lock, *AARP Policy, Strategy and International Affairs, Washington, District of Columbia*

**Discussant:** D. Whitman, *AARP Policy, Strategy and International Affairs, Washington, District of Columbia*

AARP and other groups have studied the connections between family caregiving and its importance not only to the people who receive such care but to the society as a whole. However, little research has been done on one of the more complicated nonmedical areas of family caregiving—helping an older relative and friend manage his or her finances. This can include paying bills, carrying out banking transactions, choosing among insurance policies and even avoiding foreclosure. Like many other caregiving tasks, such financial caregiving is essential to the life and wellbeing of older people. AARP also focuses on the role of banking institutions in facilitating financial caregiving and at the same time protecting older people from financial exploitation. Obtaining reliable

statistics on the prevalence of elder financial exploitation, whether by strangers or friends or family members is difficult. However, such fraud is generally considered to be increasing because of the growing number of older susceptible individuals and new technology used in frauds. This research documents the prevalence of fraud and scams among the older people receiving financial management assistance, and suggests banking services that may enable the financial caregiver to spot problems and intervene at an early stage or even before the money is lost. This symposium highlights AARP's new research on financial caregiving, places it in the context of caregiving research generally, and details the use and potential use of banking services for financial caregiving and the detection and prevention of elder exploitation.

#### **FINANCIAL CAREGIVING: MANAGING MOM'S MONEY**

E.R. Costle, J. Gunther, R. Wilson, *Public Policy Institute, AARP, Washington, District of Columbia*

Although many research projects have focused on family caregiving, this paper is the first to focus on financial caregiving. AARP conducted a telephone survey with 2200 financial caregivers including an oversample of African Americans, Hispanic and Asian respondents and followed by 40 in-depth interviews. Among other findings, the participants will hear detail about the caregivers and the recipients of care including age, ethnicity, living arrangements, the specific tasks performed and reasons why the recipients need help. The findings also include the perspective of the caregivers including the ease or difficulty in providing various financial management tasks, the time devoted to the assistance, and difficulties encountered. The surveyed revealed that 10% of financial caregivers were aware of fraud perpetrated against the person they are caring for. Differences in the responses among ethnic groups are noted. Participants will also learn how caregivers handled bank accounts and legal permissions for those they cared for.

#### **IT'S TIME FOR AGE-FRIENDLY BANKING: AN IN-DEPTH LOOK AT HOW BANKS CAN BECOME MORE ACCESSIBLE, PREVENT EXPLOITATION, AND PROVIDE NEEDED SERVICES AND PRODUCTS FOR SENIORS AND CAREGIVERS**

J. Gunther, S. Lock, *AARP, Washington DC, District of Columbia*

As the populations ages and grows age-friendly banking is becoming ever more important. There are three main principles of age-friendly banking: preventing financial exploitation of seniors, tailoring products and services to seniors and caregiving, and improving accessibility of banks. New groundbreaking AARP research shows seniors' banking trends, banking needs-products and services, accessibility needs so banks can provide a positive user experience. In addition, this research shows how banks play a central role as the aging population grows as banks will experience a rise in their bank deposits as well as deposit rise in deposit fraud. Banks are in the special role to provide damage control on the cost of fraud both in training employees but also by providing products and services that empower seniors and their caregivers to prevent exploitation. The program will present research on why and how banks may play a role in becoming age-friendly.

### **SESSION 790 (SYMPOSIUM)**

#### **PROVIDING NURSING HOME CARE TO VETERANS: LESSONS FOR POLICY & PRACTICE IN THE VA AND OTHER SETTINGS**

**Chair:** E.A. Miller, *Providence VA Medical Center, Providence, Rhode Island, University of Massachusetts Boston, Boston, Massachusetts, Brown University, Providence, Rhode Island*

**Co-Chair:** O. Intrator, *Brown University, Providence, Rhode Island*

Veterans may receive nursing home (NH) care in Veterans Health Administration (VHA) operated Community Living Centers, State Veterans Homes, or community NHs paid under VHA contracts or

other sources (Medicare, Medicaid, self-pay). Veteran Affairs Medical Centers (VAMCs) are required to pay for NH care for Veterans whose need for care resulted from their service-related disability. VAMCs, at their discretion, may also provide VHA-paid care to other Veterans. Understanding the characteristics and determinants of NH utilization by Veterans is important for long term VHA planning to meet the needs of an older, increasingly frail Veteran population. Moreover, the demand for long-term care within the VHA stemming from the large number of elderly World War II and Korean War Veterans and the aging of Vietnam-era Veterans foreshadows considerable growth in demand for long-term care that the rest of the country will experience. This symposium draws on analyses of the VHA's experience to inform long-term care policy and practice in the VHA and other settings. Stefanie Gidmark (Providence VA) provides an overview of VHA's NH referral process. Edward Miller and Emily Gadbois (Providence VA, UMass Boston) describe lessons from VHA's process for NH referral and contracting for integrated care initiatives promulgated under the Patient Protection and Affordable Care Act. Orna Intrator (Canandaigua VA, University of Rochester) and Susan Miller (Providence VA, Brown University) use data tracking Veterans service use across VA and non-VA sites of care to develop strategies for improving the provision of nursing home and end-of-life care, respectively.

#### **FACTORS THAT GUIDE NURSING HOME REFERRALS WITHIN THE VETERANS HEALTH ADMINISTRATION**

S. Gidmark<sup>1</sup>, E.A. Miller<sup>2,1</sup>, E.A. Gadbois<sup>2,1</sup>, M. Guihan<sup>3,4</sup>, O. Intrator<sup>5,6</sup>, *1. Providence VAMC, Providence, Rhode Island, 2. University of Massachusetts, Boston, Massachusetts, 3. Hines VA Medical Center, Hines, Illinois, 4. Northwestern University, Evanston, Illinois, 5. Canandaigua VA Medical Center, Canandaigua, New York, 6. University of Rochester, Rochester, New York*

This study describes factors that influence nursing home (NH) placement decisions within the Veterans Health Administration (VHA). Thirty-six semi-structured interviews were conducted with key informants at 12 Veterans Affairs Medical Centers (VAMCs). Results indicate that NH bed supply, VA eligibility status and payer source impact facility placement decisions. Other placement factors include NH proximity to the Veteran's family, Veteran's specialty care needs (e.g., wound care, ventilator care), predicted length of stay, and the demographic profile of residents served, including age, race, and proportion of Veterans served. Veterans with dementia and psychiatric problems or a criminal or violent history are hardest to place. Local differences in resources and practices and facility and Veteran characteristics lead to variation in NH referral across VAMCs. Recognizing this variation implies that the VHA must concentrate on promoting the consistent monitoring of care nationally in order to ensure that Veterans receive the best care wherever they are placed.

#### **LESSONS FROM THE VA NURSING HOME PROGRAM FOR DUAL ELIGIBLE INITIATIVES UNDER THE AFFORDABLE CARE ACT**

E.A. Miller<sup>1,2,3</sup>, S. Gidmark<sup>1</sup>, E.A. Gadbois<sup>2</sup>, M. Guihan<sup>4</sup>, O. Intrator<sup>3,5,6</sup>, *1. Providence VA Medical Center, Providence, Rhode Island, 2. University of Massachusetts Boston, Boston, Massachusetts, 3. Brown University, Providence, Rhode Island, 4. Edward Hines Jr. VA Medical Center, Hines, Illinois, 5. Canandaigua VA Medical Center, Canandaigua, New York, 6. University of Rochester, Rochester, New York*

This study examines how Veterans' eligibility for multiple payment sources impacts nursing home (NH) referrals within Veterans Affairs Medical Centers (VAMCs). Data derive from 36 semi-structured interviews with respondents with in-depth knowledge of the NH program at 12 VAMCs. Results indicate that placement decisions within the VA NH program are contingent, in part, on the types of facilities available,

including Community Living Centers, Contract Nursing Homes, and State Veterans Homes. Results also indicate that variation in NH referral across VAMCs derives from differences in both regional markets and local policies, most notably with respect to how Veterans eligible for multiple payment sources—VA, Medicare, and Medicaid—are handled. Findings highlight the potential for state and local differences in resource allocation decisions, including under Affordable Care Act initiatives that seek to rationalize how care is provided to frail and disabled elders eligible for multiple payment sources (i.e., Medicare and Medicaid).

#### **OVERSIGHT OF VETERANS HEALTH ADMINISTRATION COMMUNITY LIVING CENTERS: THE CLC DASHBOARD**

E.A. Gadbois<sup>5,4</sup>, L. Minor<sup>3</sup>, O. Intrator<sup>2,1</sup>, 1. *Public Health Sciences, University of Rochester, Rochester, New York*, 2. *Canandaigua VAMC, Canandaigua, New York*, 3. *Veterans Health Administration Center Office, Geriatrics & Extended Care Operations (10NC4), Washington, District of Columbia*, 4. *University of Massachusetts Boston, Boston, Massachusetts*, 5. *Providence VAMC, Providence, Rhode Island*

Veterans Health Administration's Central Office of Geriatrics & Extended Care (GEC) oversees operation of 134 Community Living Centers (CLCs) which provide short and long stay services to Veterans. A CLC Dashboard was created to help GEC oversee quality of care and access by monitoring outcomes, utilization and need over time. The dashboard presents 5 consecutive quarters of data for each CLC to allow for quarterly monitoring, adjusted for seasonal variation. Comparisons to average measures of CLC and community NHs in Veterans Integrated Service Network and nationally allows contextualization and benchmarking. Example measures are: percent of Veterans admitted who require a low level of care; average Resource Utilization Groups (RUGS) casemix index; Advancing Excellence Campaign measure of consistent assignment of nurses; 30-day rehospitalization rates; and potentially preventable hospitalization rates. This dashboard helps GEC administrators improve identification of higher and lower performing CLCs within their regional context, thereby targeting improvement of practices and ultimately leading to excellence in care of these frail Veterans.

#### **UNDERSTANDING SITES OF DEATH FOR VETERANS WHO RECEIVE NURSING HOME CARE**

S.C. Miller<sup>1,2</sup>, S. Cai<sup>3,4</sup>, O. Intrator<sup>3,4</sup>, 1. *Providence VA Medical Center, Providence, Rhode Island*, 2. *Brown University, Providence, Rhode Island*, 3. *Canandaigua VA Medical Center, Canandaigua, New York*, 4. *University of Rochester, Rochester, New York*

Where veterans die has not been systematically studied nor has the validity of the sites of death in the VA Residential History File (RHF), which tracks Veterans across VA and non-VA sites of care. We used California's death statistical master file to validate the sites of death in the RHF for 7,300 Medicare-eligible Veterans dying in California in 2008/09 and with any community living center (CLC) or nursing home (NH) care. Often, the RHF provided greater specificity; for example, the master file frequently identified deaths in hospital-based CLCs/NHs as hospital deaths while the RHF correctly classified these as hospital-based CLC/NH deaths. After reconciliation, there was a 90.6% agreement between the two data sources. These validated RHF data enable the VA to evaluate factors associated with varying sites of death. An example of such an analysis, considering a VA medical center's level of palliative/hospice beds and staffing, will be presented.

#### **LESSONS FROM THE VA NURSING HOME PROGRAM FOR PROVIDER CONTRACTING UNDER THE AFFORDABLE CARE ACT**

E.A. Gadbois<sup>1,2</sup>, E.A. Miller<sup>1,2,3</sup>, S. Gidmark<sup>1</sup>, M. Guihan<sup>3,4</sup>, O. Intrator<sup>5,6</sup>, 1. *Providence VAMC, Providence, Rhode Island*, 2. *University of Massachusetts Boston, Boston, Massachusetts*, 3. *Brown University, Providence, Rhode Island*, 4. *Hines VAMC, Hines, Illinois*, 5. *Canandaigua VAMC, Canandaigua, New York*, 6. *University of Rochester, Rochester, New York*

This study draws lessons from nursing home (NH) contracting in the Veterans Health Administration (VHA) for integrated care initiatives promulgated under the Affordable Care Act (e.g., Accountable Care Organizations, bundled payments). Thirty-six semi-structured interviews were conducted with key informants from 12 VA Medical Centers (VAMCs). Results indicate that the contracting process largely mirrors national contracting regulations, but significant variation was observed in how practices have evolved across VAMCs due to differences in local needs, resources, and practices. Operationally, this variation is reflected in the number and distribution of NH contracts across catchment areas, the services available in contracted facilities, and the level of facility and resident oversight provided. Challenges with contracting include difficulty recruiting/retaining NHs, especially in rural areas, due to the additional inspection required under VHA contracting/oversight. Overall, findings highlight difficulties associated with implementing one-size-fits-all contracting policies across jurisdictions with markedly diverse service populations, resource needs, and market characteristics.

#### **SESSION 795 (SYMPOSIUM)**

##### **CONDITIONS AND CORRELATES OF PERSONALITY MATURITY IN ADULTHOOD AND OLD AGE**

**Chair:** A. Reitz, *Columbia University, New York, New York*

**Co-Chair:** U.M. Staudinger, *Columbia University, New York, New York*

**Discussant:** D. Mroczek, *Northwestern University, Chicago, Illinois*

How to promote personality maturity remains a fascinating question that is of key interest in lifespan, personality, and clinical psychology. However, what exactly drives personality maturity is still not well understood. One of the main reasons is that the assessment of personality maturity poses several challenges. The present symposium brings together a collection of empirical studies that examine conditions and correlates of personality maturity in adulthood and old age using cutting-edge methodology. Glück and Dorner use a content analysis to identify two key components that allow transforming personal experiences into maturity. Newton and colleagues use a longitudinal design to address gender differences in the differential association of personality maturity and adjustment with generativity and ego integrity. Kunzmann and Rohr use an autobiographical memory task to examine the emotional quality and complexity of the memories as signs of personality maturity in young and older adults. Staudinger and Reitz use an intervention design to examine the effects of training of life reflection on personality maturity. As an expert in lifespan personality development, Daniel Mroczek will integrate and discuss the different studies to get a deeper understanding of the nature and development of personality maturity. In sum, the main aim of this symposium is to discuss different state-of-the-art methodologies and approaches to increase insights into the conditions and correlates of personality maturity in adulthood and old age.

## “I’M CONSTANTLY FORCED TO RELATIVIZE WHAT I THOUGHT LIFE WAS”: WISE WAYS OF THINKING ABOUT LIFE

J. Glueck, L. Dorner-Hoerig, *Alpen-Adria Universität Klagenfurt, Klagenfurt, Austria*

How does wisdom develop? We have argued that resources such as openness and reflectivity enable people to integrate life challenges in a wisdom-fostering way (Glück & Bluck, 2014). To better understand the processes underlying such growth, Dorner (2012) identified two main characteristics of growth in the psychotherapeutic and psychological literature. Process orientation is the acceptance and appreciation of life’s constant changes and challenges. Self-integration is a perceptiveness towards one’s own experiences and emotions that fosters a more comprehensive self-understanding. To test the prediction that these two characteristics contribute to the development of wisdom, narratives of difficult life experiences and conflicts from 47 wisdom nominees and 47 age- and gender-parallel control participants were content-analyzed. Wisdom nominees showed significantly higher levels of both process orientation and self-integration. These findings shed some light on the processes by which individuals with certain resources are able to transform personal experiences into growth.

## MIDLIFE PERSONALITY DEVELOPMENT: GENDER DIFFERENCES IN ADJUSTMENT AND GROWTH

N. Newton, *1. Northwestern University, Evanston, Illinois, 2. psychology, Univ Michigan, Ann Arbor, Michigan*

According to Erikson and colleagues (1986), late midlife personality development comprises elements of both generativity and ego integrity (see also Kivnick & Wells, 2014), which relate to subjective well-being and transcending the self (respectively). Analogous to this approach, Staudinger and Kunzmann (2005) articulate a bi-directional model of personality development, in which personality adjustment relates to well-being, and personality growth relates to self-transcendence. These two theoretical approaches provide the basis for this study examining the associations between generativity, ego integrity, personality adjustment, and personality growth (or maturity). Using data from the Foley Longitudinal Study of Adulthood (N = 145; age 59-63), results show that although personality adjustment and maturity relate to generativity and ego integrity, associations differ by gender, whether examining adjustment and growth scales or their constituent components: Big Five personality traits; psychological well-being subscales. Findings highlight the heterogeneous nature of adult personality development, and the utility of nuanced analyses.

## SIGNS OF ANGER AND SADNESS IN AUTOBIOGRAPHICAL MEMORIES: AGE MATTERS

U. Kunzmann, M.K. Rohr, *University of Leipzig, Leipzig, Germany*

The modulation of negative affect has been regarded as an important facet of the mature personality in adulthood and old age. Given that negative affect is a multidimensional concept, however, questions regarding age differences in specific negative emotions remain. In this study, we asked young and older adults to think aloud about two situations in which they felt particularly sad or angry. The resulting protocols were then assessed by the frequencies of sadness- and anger-related emotions and the salience of social motivations and control behaviors that are typically associated with either anger (social distancing, tenacious goal pursuit) or sadness (search for social nearness, flexible goal adjustment). Our analyses suggest that the signs of anger decrease with age, whereas the signs of sadness remain stable or increase. We propose that these multidirectional age differences in anger and sadness have important implications for our understanding of personality maturity across the adult life-span.

## PLASTICITY OF PERSONALITY MATURITY: THE ROLE OF LIFE REFLECTION AND SOCIAL CONTEXT

U.M. Staudinger, A. Reitz, *Columbia University, New York, New York*

Is it possible to promote people’s insights into their own life and if yes, how? The goals of the present intervention study were to examine whether personality maturity can be facilitated and whether life reflection and/or an interactive minds context were helpful in this regard. We used a sample of 80 natural dyads. The 160 participants, ranging in age from 20 to 80 years, were randomly assigned to one of four training conditions. These conditions differed on two dimensions: (i) the type of social cognitive process (life reflection versus reminiscence) and (ii) dyadic versus monadic settings. Results showed that training in life reflection facilitated personality maturity irrespective of whether it was conducted in a dyadic or monadic setting by half a standard deviation. No age differences were found. The findings highlight the plasticity of personality maturity and the validity of the maturity measure used.

## SESSION 800 (SYMPOSIUM)

### A NONPHARMACOLOGIC APPROACH TO TREATING PAIN TO REDUCE DISABILITY AMONG OLDER HOME HEALTH PATIENTS

**Chair:** C.M. Murtaugh, *Center for Home Care Policy & Research, Visiting Nurse Service of New York, New York, New York*

**Co-Chair:** C. Reid, *Weill Cornell Medical College, New York, New York*

**Discussant:** K.K. Mangione, *Arcadia University, Glenside, Pennsylvania*

Pain is an underassessed and undertreated risk factor for disability among older persons and is highly prevalent among individuals receiving home care. Cognitive behavioral therapy (CBT) is a well-developed evidence-based strategy for the mitigation of pain and associated disability. Teaching non-pharmacological pain management therapies in the home care setting is critical to providing access to these effective pain management methods since many older patients rarely leave home and cannot participate in community-based CBT programs. This symposium will present results from a cluster randomized controlled trial (RCT) designed to compare the effectiveness of usual care provided to older home health patients admitted with activity-limiting pain to usual care plus instruction by physical therapists (PTs) in a Cognitive-Behavioral Pain Self-Management (CBPSM) program. The first paper describes preliminary work where we translated a CBPSM protocol that was effective in reducing chronic back pain among individuals at senior centers for use in home health care with delivery by PTs. The second paper reports on baseline pain and disability levels, and coping strategies of the approximately 450 patients enrolled in the trial with a particular focus on differences among 3 race-ethnicity groups enrolled in roughly equal numbers: Hispanics, non-Hispanic African Americans, and non-Hispanic others (primarily whites). The third paper reports trial results with primary outcomes of reduction in disability and pain intensity between baseline and 60-day follow-up assessments. The final paper will present quantitative and qualitative data on PT fidelity to the protocol and patients’ experiences using the CBPSM techniques.



## ADAPTING A COGNITIVE-BEHAVIORAL PAIN SELF-MANAGEMENT PROGRAM FOR USE IN HOME HEALTH CARE

K. Beissner<sup>1</sup>, E.C. Bach<sup>2</sup>, C. Reid<sup>3</sup>, C.M. Murtaugh<sup>4</sup>, M.A. Trachtenberg<sup>3</sup>, S.J. Parker<sup>3</sup>, 1. *Department of Physical Therapy, Ithaca College, Ithaca, New York*, 2. *Visiting Nurse Service of New York, New York, New York*, 3. *Weill Cornell Medical College, New York, New York*, 4. *Center for Home Care Policy and Research, New York, New York*

Seventeen home care PTs were trained in the evidence-based senior center CBPSM program. They suggested changes to make it more feasible for home care and useful for their clients, as well as modifications and resources needed for successful implementation. An interdisciplinary panel made final decisions on program adaptation including content reduction. Another 32 PTs were trained in the revised program and implemented it with their patients. Patient feedback was obtained after each PT session with more than 90% recalling being taught about CBPSM with ratings of helpfulness high across the techniques. PT uptake was assessed 3 months after their initial training with 24.0% of therapists continuing to use the entire protocol with their patients. Most PTs reported a high level of comfort in delivering the program, especially deep breathing (90.0%) and general relaxation (86.2%). Program barriers included concerns about patient adherence and the time required to implement the program.

## RACE-ETHNICITY GROUP DIFFERENCES IN PAIN, DISABILITY AND COPING STRATEGIES AT HOME CARE ADMISSION

C.M. Murtaugh<sup>1</sup>, Y. Barrón<sup>1</sup>, K. Beissner<sup>4</sup>, E.C. Bach<sup>1</sup>, C.R. Henderson<sup>3</sup>, S. Sridharan<sup>1</sup>, C. Reid<sup>2</sup>, 1. *Center for Home Care Policy & Research, Visiting Nurse Service of New York, New York, New York*, 2. *Weill Cornell Medical College, New York, New York*, 3. *Cornell University, Ithaca, New York*, 4. *Ithaca College, Ithaca, New York*

The trial enrolled roughly equal numbers Hispanics, non-Hispanic blacks, and non-Hispanic others ages 55 and older with activity limiting pain. On admission, there were significant differences among the groups in pain intensity and disability. Hispanics and non-Hispanic blacks, relative to the “other” group, reported higher levels of pain at its worst, on average and right now ( $p < 0.001$  in all cases). They also reported higher levels of disability, compared to the other group, based on a count of ADL and IADL limitations (Hispanics vs. others  $p = 0.079$ ; non-Hispanic blacks vs. others  $p = 0.001$ ) and the Roland Morris scale ( $p < 0.01$  in both cases). While coping strategies tended to be similar, Hispanics and non-Hispanic blacks reported that current treatments only relieved about 50% of their pain compared with 60.7% for the other group ( $p < 0.005$  in both cases). These findings underscore the need to improve pain management among minorities and home health patients in general.

## RESULTS OF A RANDOMIZED CONTROLLED TRIAL OF THE EFFECTIVENESS OF A CBPSM PROGRAM IN HOME HEALTH CARE

C. Reid<sup>1</sup>, C.R. Henderson<sup>3</sup>, K. Beissner<sup>2</sup>, E. Bach<sup>4</sup>, Y. Barrón<sup>4</sup>, S. Sridharan<sup>4</sup>, M.A. Trachtenberg<sup>4</sup>, C.M. Murtaugh<sup>4</sup>, 1. *Weill Cornell Medical College, New York, New York*, 2. *Ithaca College, Ithaca, New York*, 3. *Cornell University, Ithaca, New York*, 4. *Visiting Nurse Service of New York, New York, New York*

We conducted a cluster RCT to compare the effectiveness of usual care (UC) provided to patients admitted with activity-limiting pain to UC plus instruction by PTs in CBPSM techniques. We hypothesized that patients receiving UC+CBPSM vs. UC alone would have (1) significantly better physical functioning as measured by Gait Speed and Timed Chair Stands tests) and self-reported disability levels, and (2) significantly reduced levels of pain intensity and increased levels of

pain relief 60 days after home health admission. The extent to which treatment benefits accrue among patients in each of three race-ethnicity groups as well as among patients with different pain conditions will be presented. The effects of other patient-level (e.g. age, gender), provider-level (e.g., years of therapist experience), and agency-level (e.g., team size) characteristics on treatment outcomes will also be presented. Outcome analyses will begin in April once enrollment is completed.

## PHYSICAL THERAPISTS' FIDELITY TO THE PROGRAM AND PATIENTS' EXPERIENCES USING THE CBPSM TECHNIQUES

E.C. Bach<sup>1</sup>, M.A. Trachtenberg<sup>1</sup>, K. Beissner<sup>3</sup>, S. Sridharan<sup>1</sup>, Y. Barrón<sup>1</sup>, C.R. Henderson<sup>4</sup>, C.M. Murtaugh<sup>1</sup>, C. Reid<sup>2</sup>, 1. *Visiting Nurse Service of NY, New York, New York*, 2. *Weill Cornell Medical College, New York, New York*, 3. *Ithaca College, Ithaca, New York*, 4. *Cornell University, Ithaca, New York*

PT fidelity to the program will be assessed by comparing intervention and control group PTs on: (1) rates of use of the “pain” problem in the patient’s home health record; and (2) patient follow-up interview responses concerning whether they were taught each technique. Baseline pain problem data for a cohort similar to those enrolled ( $N = 9652$ ) indicate that, among the 51% with some documentation, 42% were taught the reason for pain, 57% breathing exercises and 8% imagery. We also will convene intervention PT focus groups to learn about any program tailoring and implementation barriers. Patients’ experiences using the CBPSM techniques will be assessed by evaluating responses to follow-up survey questions concerning their understanding and use of each technique and its effect on their pain. Results of telephone interviews with a sample of patients to learn how experiences differ by pain condition and race-ethnicity status also will be reported.

## SESSION 805 (SYMPOSIUM)

### POST-ELECTION ANALYSIS: FUNDING AND POLICY IMPLICATIONS FOR AGING RESEARCH AND SERVICES

**Chair:** B. Lindberg, *The Gerontological Society, Washington, District of Columbia*

This session will provide up-to-the-minute information on and analysis of the 2014 mid-term election results. A national polling expert will present data on the election outcomes, including how age segments voted and what issues were most important to their decisions. An authority on aging policy and entitlement programs will review the implications for Social Security, Medicare, Medicaid, Older Americans Act, and the aging network, and discuss how the election results will affect the congressional leadership, committee chairs, and the agenda for the 114th Congress. Another panelist will suggest how the election results are likely to affect funding for basic research in aging and program evaluation. The symposium will devote at least 30 minutes for questions and comments from the audience.

## SESSION 810 (SYMPOSIUM)

### HOW TO PUBLISH

**Chair:** L. Ferrucci, *National Institute on Aging, Baltimore, Maryland*

This session is designed for anyone who would like to learn more about how to get published in peer-reviewed journals in the field of aging. Emerging scholars and professionals will find this symposium especially useful. This session will be divided into two parts: 1. Podium presentations by the editors in chief of two GSA journals will provide advice and guidance on critical components of publishing in peer-reviewed journals; 2. Roundtables organized by editors from each journal will provide an opportunity to meet informally with editors from GSA and AGHE journals and ask specific questions about getting published.

Participants will be encouraged to visit as many roundtables as they wish during this component of the session.

### GETTING READY TO PUBLISH

S.B. Kritchewsky, *Wake Forest Baptist Medical Center, Winston-Salem, North Carolina*

The first part of the symposium will discuss manuscript development and journal targeting to optimize the chances for timely acceptance and the wide dissemination of your research results to an audience most likely to appreciate your work. Options for publication have increased tremendously over the previous decade making targeting appropriate journals more difficult. The symposium will discuss the pros and cons of differing kinds of publication types (i.e. open-access on-line only versus traditional print journals) to help authors make better selections.

### PUBLISHING FROM TWO PERSPECTIVES

R. Pruchno, *Rowan University School of Osteopathic Medicine, Stratford, New Jersey*

The second part of the symposium will examine publishing from the perspective of authors and that of editors. From the author's perspective, the importance of writing for a specific journal and following the journal's Instructions to Authors will be highlighted. The importance of writing well and avoiding self-plagiarism will be discussed. Authors will gain understanding about how to make decisions about each aspect of an article, including its title, abstract, introduction, method, results, and discussion. Panelists will discuss how editorial decisions are made, strategies authors can use to increase the likelihood of gaining acceptance for their work, and commonly made errors. Authors will learn about the review process and the life course of peer-reviewed manuscripts.

## SESSION 815 (SYMPOSIUM)

### THE GEROSCIENCE INTEREST GROUP (GSIG) – NIH CROSS-INSTITUTE ROUND TABLE

Chair: F. Sierra, *Division of Aging Biology, National Institute on Aging, Bethesda, Maryland*

A central concept of geroscience is that multiple human diseases arise from a common cause, aging itself. Thus, slowing down the process of aging (as it has been done in animal models) represents a potentially fruitful approach to concurrently address and combat the many chronic conditions affecting the elderly. The GeroScience Interest Group (GSIG) is a collaborative effort across several NIH Institutes to support the development of new tools, models and paradigms that address the basic biological underpinnings of these multiple diseases. By pooling resources and expertise, the GSIG identifies major cross-cutting areas of research and proposes coordinated approaches to identify hurdles and envision solutions to the health problems of our burgeoning elderly population. The round table will consist of 5-6 short presentations by representatives of different NIH institutes, including an introduction by Dr. Felipe Sierra (NIA). Individual speakers from 5-6 major NIH Institutes and Centers will be available as discussants at the round table and representatives from additional NIH units will be identified during the presentations.

## SESSION 820 (SYMPOSIUM)

### AGING IN THE STEPFAMILY CONTEXT: INTERGENERATIONAL RELATIONSHIPS AND SUPPORT DYNAMICS

Chair: C.W. Sherman, *Life Course Development Program, Institute for Social Research, Ann Arbor, Michigan*

Co-Chair: S. Van der Pas, *VU University Medical Center, Amsterdam, Netherlands*

Aging adults have increasingly complex marital and family histories. Current and future cohorts of older adults face sustained rates of divorce and repartnering across the life course, and the nature and strength of their intergenerational ties with adult children and stepchildren is likely to impact the availability, type and quality of support exchanges. This symposium highlights five papers from the US and Europe that examine the factors influencing stepfamily ties, support, and care provision between older parents/stepparents and adult children/stepchildren. Arranz Becker and colleagues examine contact frequency between biological, adoptive and step parents and their adolescent and adult children using data from a German panel study. Suanet and colleagues examine the respective influences of parental partner status, partner history and family structure on help received from adult children across multiple waves of the Health and Retirement Study. Silverstein uses data from the Longitudinal Study of Generations to examine factors that contribute to the strength of adult children's relationships with older parents and stepparents, while van der Pas and colleagues, using longitudinal data from the Netherlands, report on how widowhood and later repartnering influence relationships with biological and step-children. Finally, Sherman presents convoy data and qualitative findings to describe adult stepchildren's attitudes towards, and experiences of, providing assistance and care to parents and stepparents. Together these papers use diverse datasets and methodologies to illustrate and illuminate the intricate nature of intergenerational ties and support dynamics in stepfamilies. Implications of the findings for addressing the care needs of aging adults and stepfamily members will be discussed.

### "WHO SHOULD DO WHAT?": ADULT STEPCHILDREN'S EXPERIENCES OF PROVIDING ASSISTANCE AND CARE FOR OLDER STEPPARENTS

C.W. Sherman, *Life Course Development Program, Institute for Social Research, Ann Arbor, Michigan*

Adult children are called upon to provide assistance and care for aging parents, and are second only to spouses as long-term caregivers. Increasingly, such support occurs in the stepfamily context without clear social or familial expectations regarding adult stepchildren's role and responsibilities. This paper presents findings from a multi-method pilot study of adult stepchildren's (n=30) care-related attitudes and actual care experiences for older parents and stepparents. Low levels of inclusion of stepparent(s) and/or stepfamily members were evident in the adult stepchildren's social relations convoys. Differences by age, gender and duration of stepfamily membership will be presented. Qualitative findings reflect the range of attitudes and experiences of providing care for aging stepparents. Findings illuminate the complex dynamics encountered by many adult stepchildren with respect to support and care for aging parents and step-parents. Implications for future caregiving research and practice within stepfamilies will be discussed.

### FAMILY STRUCTURE AND CONTACT BETWEEN PARENTS AND ADULT CHILDREN

O. Arranz Becker<sup>1</sup>, N. Lois<sup>2</sup>, V. Salzburger<sup>2</sup>, B. Nauck<sup>2</sup>, I. University of Mannheim, Mannheim, Germany, 2. Chemnitz University of Technology, Chemnitz, Germany

The present study examines contact frequency (face-to-face and through media) of biological parents, stepparents and adoptive parents with multiple adolescent and adult children. The analyzed data from the

German Family Panel (pairfam) include reports from up to three parents (total N = 4,957) per family (N = 3,115) on their relations (N = 11,746) with up to four biological and social children. Multilevel analyses show that fathers tend to 'swap families' in that they maintain less contact to their biological children from a previous partnership than to joint children with the current partner; in contrast, mothers generally have less contact with their stepchildren. Several sociobiological and sociological mechanisms underlying this pattern are discussed. The goals of the presentation are (1) to enable participants to gauge the relative impact of biological and social parenthood on parent-child contact and to (2) gain insights into stepfamily life in the German context.

### **EXPLAINING THE "STEP-GAP" IN THE INTERGENERATIONAL RELATIONSHIPS OF AGING BABY-BOOMER PARENTS: THE VIEW FROM BELOW**

M. Silverstein, *Aging Studies Institute, Syracuse University, Syracuse, New York*

Due the divorce revolution of the late 20th century, Baby Boomers are poised to enter their later years in complex families with various configurations of step- and biological relationships. This demographic condition raises questions about the adequacy of children to provide support and care for their older parents. This paper examines whether the following factors explain differences in the strength with which adult children maintain relationships with mature parents and step-parents as measured by contact frequency, emotional closeness, and providing support: amount of time having lived with parents during childhood, whether economic investments were received from parents, and perceptions of familialism of parents. Data derive from 638 adult children (mean age = 30) participating in the 2005 wave of the Longitudinal Study of Generations. These analyses provide a basis for assessing how children in complex families will cope with serving the needs of their aging parents for support and care.

### **WIDOWED PARENTS' CONTACT WITH THEIR BIOLOGICAL AND STEPCHILDREN**

S. Van der Pas<sup>1</sup>, B. Suanet<sup>2</sup>, T. van Tilburg<sup>2</sup>, 1. *EMGO Institute for Health and Care Research, VU University Medical Center, Amsterdam, Netherlands*, 2. *VU University Amsterdam, Amsterdam, Netherlands*

Still little is known about how widowhood influences relationships with biological and stepchildren. Using data from the Longitudinal Aging Study Amsterdam from observations in 1992 and 2002, this study investigates widowed stepparents' contact with their adult stepchildren in comparison to their biological children (123 stepparents, 56-88 years old; 355 step and 255 biological children). The focus is on widowed stepparents (n=56), of whom the stepchildren origin from their previous partnership, and widowed stepparents who have remarried (n=37) or repartnered (n=30), of whom the stepchildren origin from the current partnership. Results show that repartnered respondents have the least frequent contact with stepchildren, followed by remarried and widowed respondents. These differences are also observed for contact with biological children. The results suggest that life-events such as widowhood induce responses by both biological and stepchildren, but that the contact relies on earlier parental investments.

### **PARTNERSHIP STATUS AND HISTORY, FAMILY STRUCTURE AND INSTRUMENTAL HELP RECEIVED FROM CHILDREN BY U.S. OLDER PARENTS: EVIDENCE FROM THE HEALTH AND RETIREMENT STUDY 1998-2008**

B. Suanet<sup>1</sup>, J.A. Seltzer<sup>2</sup>, S. Van der Pas<sup>3</sup>, T.G. van Tilburg<sup>1</sup>, 1. *Department of Sociology, VU University Amsterdam, Amsterdam, Netherlands*, 2. *Department of Sociology, University of California, Los Angeles, Los Angeles, California*, 3. *EMGO Institute, Institute for Health and Care Research, Department of Epidemiology and Biostatistics, VU Medical Center, Amsterdam, Netherlands*

**Objectives.** The objective of this study was to investigate whether the effect of parental marital status, marital history and family structure on instrumental help given by adult children to older parents has changed across birth cohorts. **Methods.** Five waves of the Health and Retirement Study covering a time span of 10 years between 1998 and 2008 are employed. We conducted multilevel analyses for older mothers and fathers separately. **Results.** Data showed relative stability in the number of child helpers, the amount of hours of help and anticipated help of older parents in biological and stepfamilies across birth cohorts. Our results point at the importance of partnership status and history rather than the family structure for explaining the help that older parents receive from their (step)children. **Discussion.** In contrast to the theory on de-institutionalization of biological families and social selection in remarriages and stepfamilies, we find no changes in help that older parents receive from their children in biological and stepfamilies. A possible explanation for the latter could be that remarriages with children nowadays involve parent-child relationships with a higher relationship quality.

## **SESSION 825 (SYMPOSIUM)**

### **LIVING LONG, FEELING WELL, AND ACHIEVING MEANING: CLARIFYING THE DIFFERENTIAL IMPACT OF DISTAL, PROXIMAL, AND TRAUMATIC LIFE EVENTS IN OLD-OLD AGE**

**Chair:** A.J. Bishop, *Human Development and Family Science, Oklahoma State University, Stillwater, Oklahoma*

**Discussant:** D.S. Jopp, *Fordham University, New York, New York*

Persons living 85 years and older represent one of the fastest growing age-demographics in the United States. Many of these individuals have been exposed to various life-long experiences involving personally fulfilling moments of achievement, periods of physical suffering and mental anguish, and varying exposure to traumatic stressors. However, clarification surrounding the degree to which distal, proximal, and traumatic events contribute to physical and mental health outcomes in very old age has remained limited. Of central importance is the determination of how such lifetime experiences might come to represent unique but meaningful sources of well-being in old-old age. The purpose of this symposium is to provide conceptual, methodological, and empirical insights regarding the differential effects of distal, proximal, and traumatic experiences pertaining to the well-being experiences among the oldest old. Discussion will involve presentation of quantitatively derived conceptual models and qualitative content from oral life history narratives. Implications for theoretical advancement in the area of well-being and meaning in human longevity will also be addressed. Further recommendations will be provided for use and application within geriatric clinical practices and programs that serve to improve quality-of-life among long-lived adult populations.

## THE OKLAHOMA 100 YEAR LIFE PROJECT: A COLLABORATIVE EFFORT TO PRESERVE MEANINGFUL LIFE EXPERIENCES AND HISTORICAL MEMORIES ONE CENTENARIAN AT A TIME

A.J. Bishop, T. Finchum, *Human Development and Family Science, Oklahoma State University, Stillwater, Oklahoma*

The purpose of this project was to link oral life history narratives to gerontological theory. Data for this examination involved persons, 100 years of age and older, currently participating within an on-going oral history project in Oklahoma. Qualitative content of  $N = 25$  oral history collections were reviewed for purposes of identifying common themes across oral life stories. Evidence of emotionally meaningful content emerged relative to personal narratives of life-long experiences involving marital relationships and spousal caregiving, interpersonal and family kinship ties, and individual character strengths contributing to well-being and flourishing. Findings are discussed relative to demonstration of theoretical assumptions and principles within life-span development theory, life course theory, and familial-based aging theory. Further consideration will be given toward the concept of contemplative aging with implications for constructing and advancing a gerontological theory of meaning in old-old age.

## INFLUENCE OF PROXIMAL AND DISTAL LIFE EVENTS ON MENTAL STATUS IN LATER LIFE

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Research on the relationship of life events and mental status has not explored the differential effects depending on when the events happened. The goal of this study was to explore the influences of proximal (< 2 years) and distal (> 20 years) life events on mental status in later life. Data of 208 older adults over 80 years of age from the Georgia Centenarian Study were used for the analysis. Scores of the Short Portable Mental Status Questionnaire were used for the measurement of mental status. Results of the hierarchical regression analysis indicated that along with education, personality, social support, and social provision, both distal and proximal life events were significant predictors of mental status in later life. Our result that distal events ( $\beta = .632$ ,  $p < .001$ ) had stronger effects than proximal events ( $\beta = .119$ ,  $p < .05$ ) implicates the long process involved in the change of mental status.

## EARLY AND LATE LIFE EXPOSURE TO TRAUMATIC EVENTS AND BIOPSYCHOSOCIAL WELL-BEING IN EXCEPTIONAL OLD AGE

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Traumatic life events (TLE) influence resources important to successful aging. Little is known about the distal versus proximal influence of TLE on these resources. Using data from 154 Oklahoma community-dwelling centenarians, ranging in age from 99 to 109 years ( $M=101$ ;  $SD=1.72$ ), the study investigated the unique influence of TLE experienced before the age of 60 compared to TLE experience after the age of 60 on outcomes of physical disability (PD), health impairments (HI), depressive symptoms (DS), and social support (SS). Regression analyses demonstrated that TLE experienced after the age of 50, compared to those experienced before 50, significantly influenced DI ( $\beta = .24$ ,  $p = .004$ ), HI ( $\beta = .15$ ,  $p = .04$ , one-tail), DS ( $\beta = .19$ ,  $p = .02$ ), but not SS ( $\beta = .07$ ,  $p = .48$ ). For centenarians, the implications of experiencing a traumatic life event later in life, relative to earlier in life, are discussed.

## EXPLORING LIFE EVENTS AND EXPERIENCES AMONG GEORGIA AND IOWA CENTENARIANS

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This study compared life events of 199 Georgia centenarians and 150 Iowa centenarians. Two open-ended life events questions were categorized into life event domains. Results suggest 39% of Georgia centenarians and 25% of Iowa centenarians reported marriage events as most important [ $\chi^2(1, N = 331) = 7.18$ ,  $p < .01$ ]. In addition, 33% of Georgia centenarians and 17% of Iowa centenarians mentioned child/children events [ $\chi^2(1, N = 288) = 9.08$ ,  $p < .05$ ]. Approximately 25% of women and 6% of men reported events about their child/children [ $\chi^2(1, N = 330) = 10.01$ ,  $p < .01$ ]. In addition, 36% of White centenarians and 18% of African Americans reported marriage as the most important life event [ $\chi^2(1, N = 330) = 5.87$ ,  $p < .05$ ]. Twelve percent of centenarians living in nursing homes and 5% of centenarians living independently reported social activities as the most important life experience [ $\chi^2(1, N = 329) = 5.23$ ,  $p < .05$ ].

## SESSION 830 (SYMPOSIUM)

### UNDERSTANDING ELDER ABUSE IN AN U.S. CHINESE AGING POPULATION: FINDINGS FROM THE POPULATION-BASED STUDY OF CHINESE ELDERLY IN CHICAGO (THE PINE STUDY)

**Chair:** X. Dong, *Rush University, Chicago, Illinois*

Elder abuse is an important global health issue across all socio-economic and cultural backgrounds. Despite the growing attention, we still have rudimentary knowledge on the issue of elder abuse in minority populations. In order to fill the critical void, The PINE study - Population Study of Chinese Elderly in Chicago-is a comprehensive epidemiological study that examines the health and well-being of 3,159 Chinese older adults aged 60 and over in the greater Chicago area. It is the largest cohort of U.S. Chinese older adults that systematically examines elder abuse and elder self-neglect. Our quantitative and qualitative findings show that there exists an urgent need for culturally and linguistically appropriate educational initiatives and community awareness programs that highlight this important issue among minority older adults. In this symposium, session 1 will report the prevalence and socio-demographic correlates of elder abuse among U.S. Chinese older adults. Session 2 will detail the prevalence of the sub-types of elder abuse, including physical abuse, sexual abuse, psychological abuse, caregiver neglect and financial exploitation. Session 3 will discuss the possible associations between socio-demographic characteristics and the definitions as well as severities of elder abuse. Session 4 will investigate the socio-demographic and socioeconomic characteristics associated with prevalence and severity of elder self-neglect. Session 5 will explore Chinese older adults' views regarding elder abuse interventions in order to understand barriers and facilitators of help-seeking behaviors based on the findings from qualitative focus-group interviews.

### PREVALENCE AND CORRELATES OF ELDER ABUSE IN A COMMUNITY-DWELLING POPULATION OF U.S. CHINESE OLDER ADULTS

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This study aimed to examine the prevalence and correlates of elder abuse among U.S. Chinese older adults. Data were drawn from the PINE study, a population-based epidemiological survey of 3,159 U.S. Chinese older adults in the greater Chicago area. Elder abuse was measured using a 10-item self-reported instrument, derived from the Hwalek-

Sengstok Elder Abuse Screening Test (H-S/EAST) and the Vulnerability to Abuse Screening Scale (VASS), with Cronbach's alpha of 0.80. Our findings suggest a prevalence of 15.0% for elder abuse among Chinese older adults. In addition, higher levels of education ( $r=0.16$ ,  $p<0.001$ ), fewer children ( $r=0.1$ ,  $p<0.001$ ), lower health status ( $r=0.11$ ,  $p<0.001$ ), poorer quality of life ( $r=0.05$ ,  $p<0.01$ ), and worsening health over the past year ( $r=0.08$ ,  $p<0.001$ ) were positively correlated with any elder abuse. The findings point to a pressing need for researchers, community gatekeepers, health care providers and policy makers to increase efforts on reducing elder abuse in minority populations.

#### **SOCIO-DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS OF ELDER SELF-NEGLECT**

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We aimed to investigate the socio-demographic and socioeconomic characteristics associated with prevalence and severity of elder self-neglect based on the PINE study, a population-based study of U.S. Chinese older adults. Elder self-neglect was assessed with systematic observations of a participant's personal and home environment across hoarding, personal hygiene, house in need of repair, unsanitary conditions, and inadequate utility. Our findings suggest that the prevalence of elder self-neglect varied significantly by age, gender, and socioeconomic factors. Elder self-neglect was more prevalent among older adults aged 80 years or over (mild self-neglect: 34.6% 95% CI 30.9-38.4; moderate/severe: 15.6% 95% CI 12.8-18.6), men (mild: 28.6% 95% CI 26.1-31.3; moderate/severe: 13.1% 95% CI 11.2-15.1), those with 0-6 years of education (mild: 32.2% 95% CI 29.7-34.9; moderate/severe: 12.6% 95% CI 10.8-14.5), and those with an annual personal income between \$5,000 - \$10,000 (mild: 30.8% 95% CI 28.4-33.2; moderate/severe: 11.8% 95% CI 10.2-13.5).

#### **PERCEIVED BARRIERS AND FACILITATORS TO IMPLEMENT ELDER ABUSE INTERVENTION FOR VICTIMS AND PERPETRATORS: VIEWS FROM U.S. CHINESE OLDER ADULTS**

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Elder abuse is an existing public health problem in the Chinese community. This qualitative study aimed to explore Chinese older adults' views regarding elder abuse interventions in order to understand barriers and facilitators of help-seeking behaviors. Qualitative data were collected from semi-structured interviews with 37 Chinese older immigrants residing in Chicago Chinatown. Participants viewed many benefits of intervention programs. Perceived barriers were categorized under cultural, social and structural barriers. Facilitators to implement interventions included increasing education and public health awareness, integrating social support with existing community social services, as well as setting an interdisciplinary team. Perpetrators intervention strategies were also discussed. This study has wide policy and practice implications for designing and deploying interventions with respect to elder abuse outcome. Modifying barriers that affect health behavior of Chinese older adults will contribute to the salience of elder abuse interventions in this under-served community.

#### **UNDERSTANDING SUBTYPES OF ELDER ABUSE- PSYCHOLOGICAL, PHYSICAL, SEXUAL, FINANCIAL ABUSE AND CAREGIVER NEGLECT: THE PINE STUDY**

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This study intended to explore the scope of elder abuse including psychological, physical, sexual, financial abuse, and caregiver neglect among community-dwelling U.S. Chinese older adults in the greater Chicago area. We also aimed to examine the frequency and severities of each abuse type. Perpetrator information was also collected. Cross-sectional data from the PINE study suggests that among all subtypes of abuse, psychological and financial abuse were most prevalent; a total of 12.0% Chinese older adults reported victimized by psychological, whereas 9.2% reported experience of financial exploitation since they turned the age of sixty. The prevalence of physical, sexual, and caregiver neglect was 1.1%, 0.2% and 4.6%, respectively. Our findings also suggest spouses and adult children were most commonly identified as perpetrators; a total of 17.4% reported victimized by spouse, 11.6% by daughters, and 10.0% by sons. Correlates by each abuse type and its implications will also be discussed.

#### **DOES ELDER ABUSE DEFINITIONS MATTER? CHARACTERISTICS ASSOCIATED WITH DIFFERENT ELDER ABUSE DEFINITIONS AND SEVERITIES**

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Previous research has documented inconsistent results on the possible association between socio-demographic characteristics and the definitions of elder abuse. This study aimed to examine if elder abuse definitions may be associated with different socio-demographic characteristics and severities among minority older adults. Data were drawn from the PINE study, a representative population-based study of community-dwelling Chinese older adults aged 60 and over in the greater Chicago area. The overall prevalence of all subtypes of elder abuse assessed by the most restrictive criteria to the least restrictive definition ranged from 25.83% to 13.91%. However, there were no statistically significant differences with respect to key socio-demographic and socio-economic characteristics in various criteria of defining elder abuse. We believe this population-based study sheds lights on some of the common methodological challenges in elder abuse research, and holds the potential to call for a paradigm shift in defining elder abuse.

#### **SESSION 835 (SYMPOSIUM)**

##### **AGING WITH HIV/AIDS: THE MIND BODY CONNECTION**

**Chair:** K. Porter, *UMASS Boston, Quincy, Massachusetts*

**Co-Chair:** M. Brennan-Ing, *ACRIA, New York, New York*

**Discussant:** R.J. Havlik, *ACRIA, New York, New York*

This symposium will present four scholarly papers grounded in a range of methodological approaches that explore the mind-body connection within local, national, and international populations of older adults with HIV/AIDS. The content and narrative analyses presented in the first paper explore the bodily experience of aging in both males and females with HIV in Switzerland. The paper provides insight into the complexity of physical aging changes, fears of aging, and optimism. Two papers examine the use of complementary and alternative medicine (CAM) in people aging with HIV/AIDS. In the first, almost half (46.5%) of the sample were using CAM. Hispanics, relative to non-Hispanic Whites and non-Hispanic Blacks, were more likely to use CAM. Logistic regression results found CD4 count the sole predictor of CAM use in the sample. In the second paper, 28% used CAM. In logistic regression analyses, White race, higher education and income, greater pain, and fewer depressive symptoms were related to greater odds of

CAM use. The fourth paper compares depressive symptoms in older adults (ages 50-59 and 60-74) with HIV/AIDS (PLHIV) from the International Nursing Network for HIV/AIDS Research to similarly aged adults living with other chronic conditions from the Health and Retirement Study. Results indicate greater depressive symptoms in PLHIV older adults compared to other chronically ill, but non-HIV infected peers. The discussion will consider the inter-connections between biological and physical factors and mental well-being, and the importance of taking a holistic approach in the care and treatment of adults who are aging with HIV.

#### **DIFFERENCES IN CAM USE AMONG HIV+ OLDER ADULTS BY ETHNICITY, MODALITY AND DISEASE SEVERITY**

K. Porter, *UMASS Boston, Quincy, Massachusetts*

A growing evidence base shows upward trends in complementary and alternative medicine (CAM) use among older adults, especially people living with HIV/AIDS (PLHIV). This study compares differences in CAM use in PLHIV (N=172) by CAM modality and by race/ethnicity. Almost half (46.5%) of the sample were currently using CAM. Hispanics, relative to non-Hispanic whites and non-Hispanic blacks, were more likely to use provider-administrated CAM (36% vs 27%, 25%) as well as self-administered CAM modalities (45% vs 31%, 37%). Of provider-administered modalities, acupuncture was most used (48.2%), followed by massage (42.2%) and then chiropractic (20.2%). Of self-administered CAM, meditation was most used (48.2%), followed by nutritional supplements (47.0%), medicinal teas (43.4%) and herbal medicine (28.9%). Logistic regression found immune function (i.e. CD4 count) as a predictor of CAM use; a higher CD4 count increased the odds of use. Cultural traditions and selectivity will be discussed as an explanation for these findings.

#### **COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) USE AMONG OLDER ADULTS LIVING WITH HIV**

A.S. London, *1. Sociology, Syracuse University, Syracuse, New York, 2. Aging Studies Institute, Syracuse, New York*

We use data from the Research on Older Adults with HIV (ROAH) Study to investigate CAM use among older adults living with HIV in New York City (N=909). Overall, 28% used CAM; in multivariate logistic regression analyses, Whites, people with higher education, income, and level of pain, and fewer depressive symptoms, were more likely to use CAM. Mind/body-based CAM was used more frequently than body- or biologically-based CAM. Among CAM users, 63.2% used mind/body-based CAM. In multivariate logistic regression analyses, use of mind/body-based CAM was significantly higher than use of other types of CAM among LGBT-identified individuals, people reporting worse health, and those not taking HIV medications. Other factors significantly influenced use of body- and biologically-based CAM, respectively. These complex patterns of CAM use reflect diverse social and cultural influences, as well as use to enhance current health, or to manage pain, HIV-related symptoms, and the side effects of treatment.

#### **QUALITATIVE RESEARCH ON THE AGING EXPERIENCE OF OLDER ADULTS LIVING WITH HIV IN SWITZERLAND**

C. Rapo, *Psychology, University of Lausanne, Lausanne, Switzerland*

Since the advent of antiretroviral drugs, new issues have arisen for people aging with HIV/AIDS, including an increase of comorbidities. This paper explores HIV-positive older adults' bodily experience as they experience aging. Biographical and semi-structured interviews lasting 4 meetings were conducted with 3 females and 4 males aged over 50, living with HIV. Content and narratives analyses were performed; results suggest that aging is an ambivalent bodily experience raising both uncertainty and hope. Participants expressed fear of losing control over their health due to long-term HIV treatment side effects, as well as the aging process itself. However, they also developed coping

resources including hope and optimism. This research provides insights on specific challenges related to health, body and aging, in which positive and negative emotions are amplified. Implications for the treatment and care of this aging population will be explored.

#### **DO OLDER ADULTS LIVING WITH HIV/AIDS REPORT MORE DEPRESSIVE SYMPTOMS THAN OTHER CHRONICALLY ILL COMMUNITY-LIVING OLDER PERSONS?**

M. Brown<sup>1</sup>, K.M. Nokes<sup>2</sup>, L.S. Eller<sup>3</sup>, M. Brennan-Ing<sup>4</sup>, I. for HIV/AIDS Research<sup>5</sup>, *1. Syracuse University Aging Studies Institute, Syracuse, New York, 2. Hunter College, CUNY, New York, New York, 3. Rutgers, the State University of New Jersey, Newark, New Jersey, 4. ACRIA Center on HIV and Aging, New York, New York, 5. UCSF School of Nursing, San Francisco, California*

According to the NIMH, depression is one of the most common mental health problems in community-living older adults, negatively impacting function, health outcomes, quality of life, and health care costs. This project compares data about depressive symptoms in older adults (ages 50-59 and 60-74) living with HIV/AIDS (PLHIV) from the International Nursing Network for HIV/AIDS Research to similarly aged adults living with other chronic conditions from the Health and Retirement Study. Results indicate greater depressive symptoms in PLHIV subjects compared to other chronically ill older subjects. Depressive symptoms have been associated with specific physiologic and psychosocial factors in PLHIV. Physiologic factors include the direct impact of HIV on neurological functioning, medication side effects, and use of mind-altering drugs. Psychosocial factors include stigma, poor social support, and avoidant coping style. These findings indicate that depression is an important concern in older PLHIV compared to other chronically ill older populations.

#### **SESSION 840 (SYMPOSIUM)**

##### **METHODOLOGICAL CONSIDERATIONS IN THE STUDY OF AGING**

**Chair:** A.M. Freund, *Dept. of Psychology, University of Zurich, Zurich, Switzerland*

**Co-Chair:** D. Isaacowitz, *Northeastern University, Boston, Massachusetts*

It has long been recognized that the study of aging faces specific challenges associated with the relatively long time intervals it spans, especially compared with child development (i.e., decades rather than months or years), the impossibility of randomly assigning age to study participants, and the problems of repeated measurements of the same functions over time. The majority of publications simply acknowledge these problems in the limitation section of their discussion. This symposium will address some of the problems specific to aging research and outline potential solutions. The talks will encompass a plea for the use of experimentally simulating aging-related processes (Freund & Isaacowitz), provide an example of a Brunswikian approach to the study of social perception and aging (Isaacowitz & Vicaria), outline what daily diary methods can (and cannot) accomplish for understanding stress and aging (Alemeida & Mogle), introduce the concept of power equivalence to detect individual differences in change (Lindenberger et al.), and present an equilibrium dynamics approach to deal with multiple time scales (Boker).

## BEYOND AGE COMPARISONS: A PLEA FOR THE USE OF EXPERIMENTAL DESIGNS TO INVESTIGATE DEVELOPMENTAL PROCESSES

A.M. Freund<sup>1</sup>, D. Isaacowitz<sup>2</sup>, 1. *Dept. of Psychology, University of Zurich, Zurich, Switzerland*, 2. *Northeastern University, Boston, Massachusetts*

The field of adult development and aging faces particular methodological challenges stemming from the investigation of individual differences approached with age-group comparison designs. Many studies on adult development and aging use extreme-group comparisons, contrasting young and older adults, although such comparisons can lead to the overestimation of age-related effects. Moreover, age-group membership is used as a proxy variable for psychological processes leading to the observed age-related differences. The inherent correlational design of such age-group comparisons can only approximate a test of the underlying psychological processes causing the differences between the groups. We consider these problems and potential solutions to them, with a focus on pertinent practices in research in adult development and aging.

## AGING AND SOCIAL PERCEPTION: THE BENEFITS (AND CHALLENGES) OF A BRUNSWIKIAN APPROACH

D. Isaacowitz, I. Vicaria, *Northeastern University, Boston, Massachusetts*

Numerous studies have investigated age differences in accuracy in perception of emotional expressions and (to a lesser extent) social judgments. These studies tend to infer underlying mechanisms simply by the observed pattern of age differences, or by considering individual difference variables (cognitive abilities, mood) that might “explain” the age differences. In this talk, we argue instead for the use of a Brunswikian approach to study age differences in social perception, though it also comes with challenges. The Brunswikian approach separately considers properties inherent in stimuli that provide accurate cues, as opposed to the particular cues that perceivers may use to make their judgments. We present one example of a study of age differences in rapport judgments that allows for the full Brunswikian analysis, illustrating a case where there are no age differences in accuracy of judgments, but utilization of cues nonetheless varies in producing equivalent judgments.

## CAPTURING THE DAILY STRESS OF AGING: THE PROMISE AND PITFALLS OF DAILY DIARY DESIGNS

D. Almeida, J. Mogle, *Pennsylvania State University, University Park, Pennsylvania*

The understanding of stress and health across adulthood has benefited from the development of diary methods that obtain repeated measurements from individuals during their daily lives. Diary methods have a number of virtues including enhanced ecological validity and decreased retrospective memory distortions. Perhaps the most valuable feature of diary methods is the ability to assess within-person emotional or physical reaction to daily stressors. Our research shows that, as individuals age, they become more reactive to daily stressors. Furthermore individuals who are more reactive to daily stressors are more susceptible to physical disease and psychological problems. While promising, daily diaries bring specific challenges including subject burden and selection, lack of precision in assessing reactivity, and presence of contextual confounds. The goal of this presentation is to address both the methodological benefits and shortcomings of daily diary methods as they relate to health and aging.

## EQUILIBRIUM DYNAMICS AT MULTIPLE TIME SCALES

S. Boker, *University of Virginia, Charlottesville, Virginia*

Aging presents changes in external context that constitute new challenges and opportunities. In addition, the aging body and brain present new limits on adaptations that can be made. But not all change is unidirectional: short term daily fluctuations occur in strength, cog-

nitition, and emotional states. It is important to understand how short term fluctuations are regulated and how these short term fluctuations can lead to long term change. The current talk presents an overview of one method for estimating equilibrium dynamics of within-person short term fluctuations and how these equilibria may themselves change and adapt over time. While each individual’s model parameters and equilibria may have idiosyncratic trajectories determined by individual differences in external context and aging-related loss, larger nomothetic regularities may still be determined from this type of individual data-intensive analysis.

## CONCEPTUALIZING AND DETECTING INDIVIDUAL DIFFERENCES IN CHANGE

U. Lindenberger<sup>1</sup>, C. Hertzog<sup>2</sup>, A.M. Brandmaier<sup>1</sup>, T. von Oertzen<sup>3</sup>, P. Ghisletta<sup>4</sup>, 1. *Max Planck Institute for Human Development, Berlin, Germany*, 2. *Georgia Institute of Technology, School of Psychology, Atlanta, Georgia*, 3. *University of Virginia, Department of Psychology, Charlottesville, Virginia*, 4. *Faculty of Psychology and Educational Sciences, University of Geneva, Geneva, Switzerland*

Lifespan psychology offers a broad and principled perspective on behavioral variability and change from conception to old age. We start by listing central claims of the lifespan approach and outlining key research questions, with an emphasis on cognitive aging. We then review recent methodological advances in understanding statistical power in the context of latent growth curves (LGC) for longitudinal panel data. We introduce the concept of power equivalence or isopower contours (von Oertzen, 2010; MacCallum, Lee, & Brown, 2010): different latent variable models that have equivalent power to reject a designated null hypothesis, such as zero slope variance. We present Effective Growth Curve Reliability (EGCR) as an effect-size metric for LGC slope variances and describe a statistical program for a priori statistical power analysis of tests of slope variance and other parameters by manipulating design features (e.g., number of occasions) and EGCR, thereby assisting researchers in evaluating longitudinal design quality.

## SESSION 845 (SYMPOSIUM)

### EPIDEMIOLOGY OF FRAILITY, DISEASE BURDEN, AND LATE-LIFE CARE: INSIGHTS FOR HEALTH CARE AND POLICY

**Chair:** A.L. Byers, *Psychiatry, University of California, San Francisco, San Francisco, California, San Francisco VA Medical Center, San Francisco, California*

**Discusant:** D.K. Miller, *Indiana University, Center for Aging Research, Indianapolis, Indiana*

By evaluating the epidemiology of frailty, disease burden, and late-life care, we will provide practical insights into health care and policy for older adults. Using epidemiological methods, we can determine which factors are most important to target, supporting strategies for prevention and intervention and promoting independent living and quality of life. Furthermore, by investigating frailty, end-of-life care, and caregiver burden, we are able to evaluate particularly prominent aspects of the late-life care continuum. During our symposium, Dr. Bandeen-Roche will present findings on the epidemiology of frailty and highlight the importance of frailty in late-life health etiology using a nationally representative study, the National Health and Aging Trends Study. Ms. Aaltonen will present data on places of death and care transitions in Finland using nationwide health and social care registers; showing us that patterns of end-of-life care varied widely across individuals. Dr. Enguidanos will then present data on the impact of Advance Directives completion timing on decisions for care preferences and treatments received, as well as site of death. Continuing with end-of-life care, Ms. Mejia will examine whether a social approach to end-of-life care (i.e., a social model care facility) is associated with fewer hospital days than

community and long-term care. In the final presentation, Dr. Mittelman will describe strategies for translating evidence-based interventions for spouse/partner caregivers of individuals with dementia. The discussion will focus on the value of investigating the epidemiology of frailty, disease burden, and late-life care in supporting health care and policy for older adults.

#### **EPIDEMIOLOGY OF FRAILTY TOGETHER WITH DISEASE, DISABILITY, AND HOSPITALIZATION IN THE NATIONAL HEALTH AND AGING TRENDS STUDY**

K. Bandeen-Roche<sup>3</sup>, C.L. Seplaki<sup>1</sup>, J. Huang<sup>2</sup>, B. Buta<sup>2</sup>, J. Kasper<sup>3</sup>,  
1. *University of Rochester Medical Center, Rochester, New York*, 2. *Johns Hopkins Medical Institutions, Baltimore, Maryland*, 3. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

As populations worldwide age on an unprecedented scale, we must better understand the attendant burden of health impairments. Evidence regarding the epidemiology of frailty primarily has come from specialized cohort studies. Our work describes the epidemiology of frailty in the nationally representative, baseline sample of approximately 7,000 older community-dwelling Medicare enrollees in the National Health and Aging Trends Study (NHATS). Frailty was operationalized following Fried and colleagues. We found a higher prevalence of frailty in NHATS than has been typical in cohort studies, and similar demographic variation. The prevalence of adverse health outcomes was two-to-three-fold higher among frail than robust individuals, with absolute risk increases exceeding 20% for many conditions. Robust individuals only rarely exhibited disability; frail individuals frequently did; many also did not. Intriguing regional trends emerged. Our findings support the importance of frailty in late-life health etiology and identify areas and sub-groups in need on a national scale.

#### **PATTERNS OF END-OF-LIFE CARE IN FINLAND: CARE TRANSITIONS AND PLACES OF DEATH**

M.S. Aaltonen<sup>1</sup>, L. Forma<sup>1,2</sup>, J.M. Pulkki<sup>1</sup>, J. Raitanen<sup>1,3</sup>,  
P. Rissanen<sup>1</sup>, M. Jylhä<sup>1</sup>, 1. *School of Health Sciences and Gerontology Research Center, University of Tampere, Tampere, Finland*, 2. *Institute for Advanced Social Research, University of Tampere, Tampere, Finland*, 3. *UKK Institute for Health Promotion Research, Tampere, Finland*

With increasing longevity, death is postponed to very old age. In Finland, most deaths now happen at the age of 85 to 89, and the older the age of death, the longer is the preceding period of frailty. We studied places of death and care transitions in last 24 months among people who died at age of 70 or older years 1998-2011 (N=428 237) by using nationwide health and social care registers that include all deaths. Even out of nonagenarians, about half lived at home 6 months before death. Hospital ward was the most common place of death, followed by ordinary home and nursing home. Of decedents, 48.6% experienced at least 2 care transitions during the last 3 months; people suffering from dementia somewhat less than others. Patterns of end-of-life care varied greatly between individuals, and there were also differences between age groups and genders.

#### **EXPLORING THE GOLDILOCKS PHENOMENON FOR COMPLETING ADVANCE DIRECTIVES: DOES EARLY COMPLETION MATTER?**

S. Enguidanos, J.A. Ailshire, *Davis School of Gerontology, University of Southern California, Los Angeles, California*

Having an advance directive (AD) has been associated with improved quality of care at end of life and lower rates of hospital death. However, recent literature suggests timing of ADs completion can influence the appropriateness of care in relation to patient preferences and goals; ADs developed too early may reflect wishes of healthy individuals and thus may include aggressive measures no longer desirable to a seriously ill person. This study describes the relationship between timing of AD

completion, stated care preferences, aggressive treatment received, and site of death. We used HRS exit interviews from 2000–2010 and found significant variation in care choices depending on timing of AD completion, with those completing ADs closer to death more likely to specify aggressive care. Data suggests that choices made in the last three months of life are more aggressive in nature than those made in the last year or more of life.

#### **A SOCIAL APPROACH TO END OF LIFE CARE IS ASSOCIATED WITH FEWER HOSPITAL DAYS IN THE FINAL MONTHS OF LIFE**

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Minimizing time spent in the hospital is a preferred outcome for individuals at the end of life. We compare days spent in the hospital during the last 6 months of life among residents of a social model care facility (N = 90) with a nationally representative sample of community (N = 330) and long term care (N = 187) residing respondents from the 2008 and 2010 Health and Retirement Study using a zero-inflated negative binomial regression. Residents in the social model care facility spent fewer days in the hospital in the final six months of life than community and long term care facility residing individuals, adjusted for age, gender, number of diagnoses, and activities of daily living limitations; mean hospital days and 95% confidence interval: .60 (.20, 1.36); 6.17 (1.21, 15.21), p < .001; 7.37 (1.24, 16.43), p < .001; respectively. The mechanisms underlying these findings deserve further consideration.

#### **TRANSLATING AN EVIDENCE-BASED INTERVENTION FOR SPOUSE/PARTNER CAREGIVERS OF PEOPLE WITH DEMENTIA TO COMMUNITY SETTINGS**

M.S. Mittelman, *Psychiatry, NYU Langone School of Medicine, New York, New York*

Psychosocial interventions for people with dementia and their caregivers have demonstrated benefits in randomized controlled trials. As a result, efforts are being made to make these interventions available in community settings. One example is the NYU Caregiver Intervention (NYUCI) study which enrolled more than 400 caregivers and demonstrated short and long term positive effects. Community translations of this intervention have been conducted in multiple locations. We will illustrate the successes and barriers to translation with the NYUCI translation project in Minnesota. Training and supervision of providers, maintaining fidelity to the intervention, obtaining data to document effectiveness and creating a model for sustainability, were issues in translation. Nevertheless the perceived benefits were sufficient to convince Minnesota to include the NYUCI in the state aging services plan. We have now developed standardized training and certification available on the web to reduce the barriers to fidelity to the intervention and insure well-trained providers,

### **SESSION 850 (SYMPOSIUM)**

#### **MEDIATORS AND MODERATORS OF THE EFFECTS OF DAILY STRESSORS ON EMOTION AND COGNITION**

**Chair:** S. Scott, *University of South Florida, Tampa, Florida*

**Co-Chair:** M. Sliwinski, *Pennsylvania State University, University Park, Pennsylvania*

**Discussant:** T.L. Gruenewald, *University of Southern California, Los Angeles, California*

Research indicates that experiencing relatively minor stressors predicts being in a worse mood, and more emotionally reactive individuals have worse health over the long-term. Given this descriptive base, the next step is to test theoretical explanations for why and how. This col-



lection utilizes innovative measurements and statistical models to test theoretical depictions of daily stress process; intensive data on daily experience and functioning are drawn from smartphone-based cognitive tasks and surveys of affect, experiences, and thoughts. Sliwinski et al. uses novel mobile cognitive assessments to test a theory-based explanation for why chronic stress predicts worse outcomes. Regularly engaging in negative thoughts during everyday life mediates the relationship between higher levels of chronic role and environmental stress and cognitive performance, suggesting that recurrent negative thoughts is one of the pathways by which chronic stress affects functioning. Mogle et al. advances models the time-ordered nature of daily stressors and negative emotion. Beyond concurrent associations, Mogle et al. find evidence for lingering stress effects on negative affect that accumulate both within and across days. Attention to the order of events and responses is necessary to effectively test theories of emotion regulation and adaptation. Munoz et al. utilizes a facet-based measurement approach to identify the behavioral and cognitive characteristics that underlie the association of Neuroticism with exposure and reactivity to daily stressors. Dysphoric facets (i.e., depression, anxiety) predict exposure whereas other facets (i.e., immoderation, anger) predict emotional reactivity. Gruenewald's discussion will connect these findings to the literature on stress, aging, and long-term health outcomes.

#### **FACETS OF NEUROTICISM DIFFERENTIALLY PREDICT EXPOSURE AND REACTIVITY TO DAILY EVENTS**

E. Munoz<sup>1</sup>, J. Mogle<sup>1</sup>, S. Scott<sup>2</sup>, M. Sliwinski<sup>1</sup>, J. Smyth<sup>1</sup>, D. Almeida<sup>1</sup>, 1. *The Pennsylvania State University, University Park, Pennsylvania*, 2. *University of South Florida, Tampa, Florida*

Growing evidence shows that emotional reactivity to daily stressors may be more detrimental for long-term health than mere exposure. Individual differences in neuroticism have been associated with greater exposure and reactivity, but less is known about the specific components of this trait. We examined the association between six facets of neuroticism and daily self-reported exposure and reactivity to negative events using data from 180 adults (Mage=47, SDage=10) who completed a personality questionnaire at baseline and 14 subsequent days of ecological momentary assessments. The total neuroticism scale was associated with a greater reported stress exposure ( $p < .001$ ), but not associated with negative affect (NA) reactivity to events ( $p = .08$ ). Immoderation and anger facets were associated with greater NA reactivity ( $p < .001$ ) but not exposure. Vulnerability, depression, and anxiety facets were associated with greater exposure ( $p < .001$ ), but not reactivity. Our results suggest that facets of neuroticism may be differentially related to health-related processes.

#### **MOMENTARY UNCONSTRUCTIVE REPETITIVE THOUGHTS MEDIATE THE EFFECTS OF CHRONIC STRESS ON COGNITIVE FUNCTION ASSESSED IN DAILY LIFE**

M. Sliwinski<sup>1</sup>, J. Mogle<sup>1</sup>, S. Scott<sup>1</sup>, D. Almeida<sup>1</sup>, J. Smyth<sup>1</sup>, N. Ram<sup>1</sup>, M.J. Katz<sup>2</sup>, R.B. Lipton<sup>2</sup>, 1. *Center for Healthy Aging, Penn State, State College, Pennsylvania*, 2. *Albert Einstein College of Medicine, Bronx, New York*

Chronic stress exerts negative effects on physical and mental health, and recent research postulates that unconstructive and repetitive thoughts (URT) link stress to poor outcomes. The present study evaluates 1) whether chronic stress affects daily cognitive function and 2) whether URT mediates these effects. A racially diverse sample of 180 adults (age 25-65) completed 5 daily smartphone assessments (e.g., recent experiences, current affect and thoughts, cognitive function) for 14 days. Chronic stress (a composite of role and perceived stress surveys) and age were both negatively associated with working memory. Momentary URT mediated the effect of chronic stress on ambulatory working memory, controlling for trait level URT, and physical and mental health. A similar, but much weaker, pattern was obtained

for lab-based measures of working memory. This study provides the first demonstration of how engaging in URT may be one mechanism whereby chronic stress is associated with impaired functioning.

#### **WITHIN- AND ACROSS DAY STRESSOR ACCUMULATION: DIFFERENTIAL IMPACTS ON NEGATIVE AFFECT**

J. Mogle<sup>1</sup>, S. Scott<sup>3</sup>, M. Sliwinski<sup>1</sup>, M.J. Katz<sup>2</sup>, J. Smyth<sup>1</sup>, N. Ram<sup>1</sup>, 1. *Center for Healthy Aging, Penn State University, University Park, Pennsylvania*, 2. *Albert Einstein College of Medicine, Bronx, New York*, 3. *University of South Florida, Tampa, Florida*

Recent work has started to quantify the extent to which the emotional impact of daily stressor events accumulates across days, finding that accumulated stressor events significantly increased negative affect beyond experiencing a current event and that age moderated this effect (Schilling & Diehl, 2013). We extend this prior work by examining the effects of the accumulation of within-day stressor events and comparing it to the effects of across day accumulation. A sample of 180 adults (age 25-65) completed 5 surveys per day for 14 days. Older adults had higher within-day ( $p = .001$ ) and across day ( $p = .001$ ) accumulation scores compared with younger adults. After accounting for changes in negative affect due to a current event, accumulated stressors both within a day ( $p < .0001$ ) as well as across days ( $p = .006$ ) increase negative affect. Moderators of this effect (e.g., personality, rumination) and alternative calculations for stressor accumulation (e.g., exponential decay functions) will be explored.

#### **SESSION 855 (SYMPOSIUM)**

##### **THE INFLUENCE OF THE COUNTRY OF ORIGIN ON VOLUNTEERING BY OLDER EUROPEANS**

**Chair:** A. Principi, *Centre of Socio-economic Gerontological Research, National Institute of Health and Science on Aging (INRCA), Ancona, Italy*

While contextual factors of volunteering have been usually studied at the local level, this study deals with contextual differences between European countries. As Europe is characterised by different welfare regimes, the country in which older people live has a major impact in shaping their volunteering modalities. This study employs a conceptual framework according to which volunteering in older age is influenced by the interaction of the following main factors: welfare regime (i.e. cultural values and beliefs); welfare mix (i.e. how welfare-producing institutions interact with volunteering in older age); laws and policies at the macro level; motivations and predispositions at the individual level. This conceptual framework is employed to study volunteering in older age in eight European countries: Italy, Denmark, Germany, England, France, Poland, Sweden and the Netherlands. Findings show interesting insights to better understand the main challenges faced by each country to enhance volunteering among older citizens in the future.

##### **SOCIAL CONTEXT AND VOLUNTEER PARTICIPATION: THE BELGIAN CONTEXT**

S. Dury, D. Brosens, S. Van Regenmortel, D. Verté, *Vrije Universiteit Brussel, Brussels, Belgium*

There is strong evidence that social ties of older adults are correlated with volunteer participation. However, the process to which the relation between social ties and volunteering may vary remains under-explored in aging research. A mixed-method approach aims to identify social contextual factors that either promote or impede older people's volunteer participation. In the first quantitative phase, a multinomial logistic regression was applied with data of the Belgian Ageing Studies (N= 67,144; 141 municipalities) to analyze social ties characteristics determining volunteer participation. In the second, qualitative phase, six focus groups with older volunteers and nonvolunteers were conducted in each of the six case study areas (two municipalities with low, two with mediocre, and two with high rates of volunteering among

the older population) in order to explain and build on the quantitative results. Research findings indicate that associational membership and residential stability are key determinants for volunteering in later life.

### **CAPITAL IN CONTEXT: THE ROLE OF PLACE IN UNDERSTANDING CAPITAL THEORIES OF VOLUNTEERING**

M. Musick<sup>1</sup>, R. Rose<sup>2</sup>, 1. *Univ of Texas at Austin, Austin, Texas*, 2. *University of Minnesota Morris, Morris, Minnesota*

Research older adult volunteering has traditionally focused on a number of factors related to theories of social or human capital, but little attention has been given to the role that residence plays these relationships. Thus, this paper intends to explore the patterns of volunteering among older adults across different types of places in the US. It also examines whether the traditional predictors of volunteering differ in their effects based on the community in which respondents reside. Using data from the Independent Sector that is nationally representative of the US population, the paper explores several hypotheses concerning the interaction of place and capital. It finds that place moderates the effect of capital on volunteering, and that the type of moderation varies by forms of capital. It concludes that future research in the area might more fully take into account the role of place in volunteering processes.

### **VOLUNTEERING AND PLACE IN LATER LIFE: GLOBAL PERSPECTIVES**

J. Warburton<sup>1</sup>, S. Dury<sup>2</sup>, J. Warburton<sup>1</sup>, 1. *John Richards Initiative, La Trobe University, Wodonga, Victoria, Australia*, 2. *Vrije Universiteit, Brussels, Belgium*

This symposium explores empirical aspects of volunteering in later life with a particular focus on place. The intent of this forum is to gain improved understanding of volunteering by using an environmental gerontology approach. To date, research on volunteering in later life primarily addresses individual determinants of, and motives for, volunteering, with much less known how volunteer participation is influenced by the places where people live. Yet the context and environment of older people's volunteering is very important, with differences by locality, culture and region. In order to add to global understandings of volunteering in later life, we have invited scholars from different parts of the world to present on place-related connections with volunteering. Their work ranges from the micro-level of a person's social networks, to the meso-level of ethnicity and migration and finally to the macro-level of different countries. Presentations: Capital in Context: The Role of Place in Understanding Capital Theories of Volunteering Marc A. Musick, The University of Texas at Austin, and Roger Rose, University of Minnesota, Morris Social Context and Volunteer Participation: The Belgian Context Sarah Dury, Vrije Universiteit, Brussels The Influence of the Country of Origin on Volunteering by Older Europeans Andrea Principi and Giovanni Lamura, INRCA, Ancona, Italy Trust and Volunteerism in Hong Kong among Middle-aged and Older Adults: A Cultural Perspective Alice Ming Ling Chong and Susu Liu, City University of Hong Kong Volunteering during Retirement: Environmental Context in Canada Suzanne L. Cook, York University, Canada

### **VOLUNTEERING DURING RETIREMENT: ENVIRONMENTAL CONTEXT IN CANADA**

S.L. Cook, *Department of Sociology, York University, Toronto, Ontario, Canada*

This Canadian study examined older adults' experience of volunteering during retirement using mixed methods. Interviews were conducted with 12 individuals and 214 participants completed a survey. In this paper, the interplay of environmental and individual factors that shape the life course will be explored, demonstrating the ways that the place in which one lives influences volunteer activity. As older adults remain active and engaged through volunteer work, they are a

vital social capital resource for their communities when living within supportive, enabling and empowering environments.

## **SESSION 860 (SYMPOSIUM)**

### **STARING AT THE SUN: NOVEL INSIGHTS FROM RESEARCH ON SELF-PERCEPTIONS OF AGING AND DYING**

**Chair:** A. Shrira, *Bar-Ilan University, Ramat Gan, Israel*

This symposium is composed of five presentations that offer new insights on self-perceptions of aging and dying and their associations with physical functioning, cognitive status, mental state, and well-being. The presentations introduce novel findings drawn from large-scale community and diary studies of middle aged adults and older adults. The first presentation establishes the validity of self-evaluation of life expectancy by showing its strong correlations with physical, cognitive, and psychological functioning among those who are actually close to death. The second presentation shows that subjective evaluations of closeness to death interact with subjective evaluation of age in determining mental state, thereby emphasizing the importance of assessing self-perceptions of aging and dying concurrently. The third and fourth presentations demonstrate the interrelations between evaluations of subjective closeness to death and indices of well-being at both the intra-individual level (i.e., emotion) and the inter-individual level (e.g., meaning in life and will to live). The last presentation focuses on fears of aging and dying and their associations with mental state, as moderated by emotions. Together, the findings show that perceptions of one's aging or dying can help both researchers and clinicians predict late-life functioning. Participants attending the symposium will broaden their understanding of the relevance of self-perceptions of aging and dying to health outcomes. Furthermore, participants will learn of the variables that moderate the associations between self-perceptions of aging or dying and functioning outcomes through state-of-the-art statistical analyses of large datasets.

### **EVALUATION OF LIFE EXPECTANCY IS RELATED TO FUNCTIONING, ESPECIALLY WHEN ACTUAL DEATH IS CLOSE**

G. Kavé<sup>1</sup>, A. Shrira<sup>2</sup>, Y. Palgi<sup>3</sup>, E. Bodner<sup>2</sup>, 1. *The Open University, Israel, Raanana, Israel*, 2. *Bar Ilan University, Ramat Gan, Israel*, 3. *Haifa University, Haifa, Israel*

We examined whether evaluation of life expectancy is associated with physical, psychological, and cognitive status among older adults who subsequently died or survived. Data were derived from the first two waves of the Israeli component of the Survey of Health and Retirement in Europe (SHARE). Community-dwelling individuals (N=2,492, mean age=64) of whom 180 died by the second wave, provided subjective survival probability evaluations (the chance to reach to a certain target age), as well as measures of physical, psychological, and cognitive functioning. Evaluations of life expectancy were associated with functioning outcomes beyond demographic variables and beyond self-rated health, and this association was more noticeable among decedents than among survivors. These results suggest that evaluations of life expectancy predict health status when people are actually close to death. In contrast, people who are not approaching death assess their life expectancy without taking their current functioning into account.

### **THE INTERACTIVE EFFECT OF SUBJECTIVE CLOSENESS TO DEATH AND SUBJECTIVE AGE ON DISTRESS**

Y. Palgi<sup>1</sup>, A. Shrira<sup>2</sup>, E. Bodner<sup>3</sup>, 1. *University of Haifa, Haifa, Israel*, 2. *Bar Ilan University, Ramat Gan, Israel*, 3. *Bar Ilan University, Ramat Gan, Israel*

Subjective age is a person's perceived age, whereas subjective closeness to death reflects how close to death one perceives oneself to be. The present study examined whether subjective age and subjective closeness to death interact in predicting psychological distress. A sample of 1,073

community-dwelling older adults (mean age=58) rated subjective age, subjective closeness to death, psychological distress, and subjective health. The combination of older subjective age and feeling closer to death was related to the highest distress. Moreover, the effect of older subjective age on psychological distress was mitigated by feeling far from death, and vice versa. This interaction was strongest for those who reported lower subjective health. The findings emphasize the importance of an integrative view of two perceptions of time perspectives, one that focuses on time since birth and another that concerns the time left until death. This integrative view is especially important under conditions of physical vulnerability.

#### **AGE, SUBJECTIVE CLOSENESS TO DEATH, SUBJECTIVE AGE, AND EMOTIONAL COMPLEXITY**

A. Shrira<sup>1</sup>, E. Bodner<sup>1</sup>, Y. Palgi<sup>2</sup>, 1. Bar-Ilan University, Ramat Gan, Israel, 2. University of Haifa, Haifa, Israel

There are mixed findings regarding the association between chronological age and emotional complexity, defined as the ability to separate and differentiate between emotions. Some studies find that emotional complexity increases with age, some find no relationship, and others find an age-related decrease in emotional complexity. The current study examined whether chronological age, subjective age and subjective closeness to death are related to emotional complexity. Ninety-six respondents (mean age=57) rated their subjective age and their subjective closeness to death, and reported their emotions on a daily basis over 14 days. While chronological age and subjective age were generally unrelated to emotional complexity, a subjective report of feeling closer to death was related to lower emotional complexity. These results suggest that self-perceptions of dying may be more relevant to emotional complexity than is chronological age. When death is perceived as close, the ability to separate and differentiate between emotions is hampered.

#### **SUBJECTIVE CLOSENESS TO DEATH, MEANING IN LIFE, AND WILL TO LIVE: ATTACHMENT PATTERNS AS MODERATOR**

Y. Bergman, A. Shrira, E. Bodner, *Interdisciplinary Dept. for Social Sciences, Bar-Ilan University, Ramat-Gan, Israel*

The current research focused on the moderating role of attachment patterns on the relationship between evaluation of subjective closeness to death and both meaning in life and will to live. A sample of 1,073 community-dwelling older adults (mean age=58) completed attachment, meaning in life, and will to live questionnaires. Perceiving oneself as far from death and low levels of attachment anxiety and avoidance predicted higher meaning in life. Additionally, a significant three-way interaction indicated that the negative correlation between subjective closeness to death and meaning in life is especially powerful among individuals high in anxiety and avoidance, but is non-significant among individuals high on avoidance alone. Similar results were obtained for will to live. Findings are in line with knowledge regarding the relationship between anxious/avoidant attachment and high/low death anxiety, respectively, enhancing the understanding of the important role of attachment as a moderator of perceptions of aging and dying.

#### **DEATH AND AGING ANXIETY, EMOTIONAL COMPLEXITY, AND PSYCHOLOGICAL DISTRESS**

E. Bodner, A. Shrira, Y. Bergman, S. Cohen-Fridel, *Bar-Ilan, Ramat-Gan, Israel*

Both death anxiety and aging anxiety are related to higher psychological distress. However, this relationship may be mitigated by personal resources, such as emotional complexity. Ninety-six respondents (mean age=57) rated their death and aging anxiety as well as their general psychological distress (i.e., general depressive and anxiety symptoms), and reported their emotions on a daily basis over 14 days. Results showed that emotional complexity moderated the relationship between death anxiety and psychological distress, and between aging

anxiety and psychological distress. Those with high emotional complexity demonstrated weaker relationships between each of the two types of anxiety and psychological distress. The findings suggest that emotional complexity, as defined by the ability to separate and differentiate between emotions, buffers against psychological distress that may emanate from high fears regarding one's aging and death. Emotional complexity may thus be an important mental resource in regulating age-related fears and worries.

### **SESSION 865 (SYMPOSIUM)**

#### **THE SHARE INTERVENTION FOR PERSONS WITH EARLY-STAGE DEMENTIA AND THEIR FAMILY CARE PARTNERS**

**Chair:** C.J. Whitlatch, *Benjamin Rose Institute on Aging, Cleveland, Ohio*

Persons in the early stages of dementia and their family caregivers face unique challenges that require targeted interventions to address their emotional and social needs. Yet, few interventions are designed to meet the needs of the person with early-stage dementia and the family caregiver ("care partners"). This symposium describes the development, evaluation, and future directions of the SHARE program (Support, Health, Activities, Resources, and Education) an early-stage dyadic intervention designed to: 1) educate families about dementia, 2) improve communication, 3) enhance the care partners' shared understanding of the person with dementia's care values and preferences, 4) encourage care partners to engage in healthy activities, and 5) develop a plan of care that builds a network of support to address the family's changing circumstances. The symposium begins with a brief description of the research that led to the development of SHARE and provides evidence of the program's feasibility, acceptability, and efficacy. The second paper describes the challenges of recruiting, enrolling, and retaining early-stage care partners and provides recommendations for addressing barriers to participation. Next, using case examples, SHARE is presented with an emphasis on techniques and materials designed to empower and engage early-stage care partners. The fourth paper focuses on the most recent innovations of SHARE which include an online training curriculum and iPad app to make delivery of SHARE more widely available, efficient, and user friendly. Discussion will highlight the importance of early identification and targeted intervention to meet the unique needs of early-stage families.

#### **DEVELOPING AN EVIDENCE BASE FOR THE SHARE INTERVENTION**

C.J. Whitlatch, *Margaret Blenkner Research Institute, Benjamin Rose Institute, Cleveland, Ohio*

For families facing the challenges of dementia, the time surrounding diagnosis can be very stressful. Persons with dementia sometimes voice a sense of relief when they are diagnosed ("I am relieved to know that it's a disease that's causing my mind to be so muddy"), but they also feel anxiety and fear. For family care partners, coming to understand and accept the disease that is changing their loved one can lead to feelings of loss, anger, fear, and grief. Unfortunately, few psychosocial interventions exist that target the unique needs of families in the early stages of dementia. This paper describes the program of research that led to the development of the SHARE Program (Support, Health, Activities, Resources, and Education) for persons with early-stage dementia and their family care partners. Research findings will be described that support SHARE's feasibility, acceptability, and efficacy as well as its utility in the community.

## RECRUITMENT AND ENROLLMENT STRATEGIES FOR INVOLVING EARLY-STAGE DEMENTIA DYADS IN RESEARCH

S.M. Schwartz, C.J. Whitlatch, S. Orsulic-Jeras, *Research, Benjamin Rose Institute on Aging, Cleveland, Ohio*

Recruitment of persons with early-stage dementia and their family caregivers into research studies and intervention programs can present significant challenges for researchers and practitioners. Thus, appropriate recruitment, screening and enrollment strategies are needed for identifying early-stage dyads and directing them towards suitable research studies and interventions. This paper examines the organizational and participant-level barriers experienced by our research team specific to the recruitment of early-stage dementia caregiving dyads. First, we describe the unique characteristics of dementia dyads that make their recruitment, enrollment, and retention especially challenging. Next, we examine strategies we have employed to recruit dementia dyads, based on 15 years of early-stage dyad research and intervention development. We end with recommendations for successful recruitment procedures, so that researchers are able to develop interventions to meet the unique needs of families facing the long-term challenges of dementia.

## AN EARLY STAGE DYADIC INTERVENTION FOR PERSONS WITH DEMENTIA AND THEIR FAMILY CAREGIVERS: TWO CASE EXAMPLES

S. Orsulic-Jeras, C.J. Whitlatch, S.M. Schwartz, *Benjamin Rose Institute, Cleveland, Ohio*

This presentation will use two case studies to demonstrate the effectiveness of SHARE, a counseling-based psychosocial intervention for individuals with early-stage dementia and their family caregivers (care partners). Each of SHARE's seven sessions builds on the previous one, guiding care partners to make care-related decisions based on a mutual understanding of each other's care values and preferences. Through the use of specialized tools, in addition to SHARE Counselor training and supervision, SHARE helps care partners build a reliable network of support. In this presentation, we will describe: 1) The content of each of SHARE's seven sessions; 2) How skills learned in SHARE help care dyads plan for current and future care needs; and 3) How assessing the care partners' readiness and reevaluating it throughout the program is integral to the application of the intervention.

## NEXT STEPS FOR SHARE: DEVELOPMENT OF A TRAINING CURRICULUM AND IPAD APP FOR SHARE COUNSELORS

E. Femia<sup>1</sup>, C.J. Whitlatch<sup>2</sup>, *1. FIT Interactive, Falls Church, Virginia, 2. Benjamin Rose Institute on Aging, Cleveland, Ohio*

The SHARE Program is one of few evidence-based interventions that responds to the needs of families in the early stages of dementia. The program involves a pro-active strategy that offers preventive benefits and actively involves the person with dementia in discussions about future care issues. The increasing number of people living with dementia in the early stages has made SHARE appealing to service organizations who serve these individuals and their families. Consistent with the goals of translational research, the SHARE Program has taken the next steps towards broader dissemination in the "real-world" service setting. These steps include the creation of an on-line course to train new SHARE counselors and the development of new session material and tools, notably an iPad App, to help counselors more effectively facilitate SHARE sessions. The program materials and resources utilize best-learning practices and user-experience testing to ensure that the standards for treatment fidelity are maintained.

## EARLY STAGE INTERVENTIONS AND THE CONTINUUM OF DEMENTIA CARE

S.H. Zarit, *Human Development & Family Studies, Penn State University, University Park, Pennsylvania*

Early stage programs need to be seen as part of a continuum of care that provides ongoing assistance as dementia worsens. Past research has shown that time-limited interventions have limited impact for a disease that evolves over a long time period. Engaging caregivers and individuals with dementia (IWD) into a care system may be the most valuable outcome on an early stage program. As the IWD's awareness declines, caregivers must learn to take a more active and unilateral role in care, particularly managing behavior problems and safety. Middle stage programs that create continuity with the insights and plans of early stage interventions while helping caregivers learn a different set of skills may lead to better outcomes for both individuals in the dyad. Evaluation of early stage interventions need to be considered in terms of value added to later stage programs for maximizing each person's quality of life.

## SESSION 870 (SYMPOSIUM)

### LANGUAGE AND ALZHEIMER'S DISEASE: DISCURSIVE AND INTERACTIONAL APPROACHES

**Chair:** R. Schrauf, *Applied Linguistics, Pennsylvania State University, University Park, Pennsylvania*

**Discussant:** S.R. Sabat, *Georgetown University, Washington, D.C., District of Columbia*

Recent research in clinical linguistics, applied linguistics, sociolinguistics, and pragmatics (e.g. edited collections: Davis, 2009; Davis & Guendouzi, 2013; Schrauf & Muller, 2014) has focused on specific discursive and narrative devices used by persons with Alzheimer's disease and their interlocutors to jointly construct meaning in the ongoing flow of interactive talk. These efforts represent an ongoing shift in emphasis away from a cognitivist 'defects and decrements' view of communication and cognition in the disease toward a discursivist 'preserved abilities' view (e.g. Guendouzi & Muller 2005; Hamilton, 2005; Ramanathan, 1997; Sabat 2001) In this session, we extend that research to think more deeply about extended/distributed cognition as a frame for understanding the shared cognition in such conversations (Müller), the ways in which caregivers systematically shift their "participation frames" to accommodate to the speech of their family members with dementia (Schrauf), and discourse level strategies used by individuals with dementia to maintain and foster friendships over time (Saunders). Steve Sabat, author of *The Experience of Alzheimer's Disease: Life Through a Tangled Veil* (Wiley-Blackwell, 2001) will serve as discussant. After attending this session, participants will be able to (a) articulate some fundamental terms and concepts used in the analysis of communicative interaction between persons with dementia and their interlocutors, and (b) apply one or the other of these notions to everyday conversation with persons who show symptoms of dementia.

### THE STORIES OF FRIENDSHIP: ANALYSIS OF NARRATIVE BY PERSONS WITH DEMENTIA AND THEIR CAREGIVERS IN LONG TERM CARE

P.A. Saunders, *Neurology, GUMC, Washington, DC, District of Columbia*

The value of social relationships throughout the life course, no matter a person's abilities or limitations, is an important area of study. Friendships have been linked to psychological and emotional wellbeing and better physical functioning for older adults. Conversely, there are negative consequences (e.g., depression) associated with losing friendships and having ones' social networks decrease. Given that language and functional abilities decline as dementia progresses, it is challenging to identify markers of friendship. The Friendship Project is an ethnographic study of social interaction among persons with dementia living

in a long-term care setting. The data are from transcripts and field-notes of social interactions among residents with a range of cognitive impairments over a six-month time period. Results reveal that persons with dementia employ discourse level strategies such as narrative as well as specific linguistic features such as pronominal reference to make meaning and create relationships over time. Practical implications will be discussed.

### SHIFTING PARTICIPATION FRAMES TO A 'NEW NORMAL'

R. Schrauf, *Applied Linguistics, Pennsylvania State University, University Park, Pennsylvania*

Drawing on research on end-of-life caregiving trajectories (Penrod et al., 2011) and philosophical reflection on the normal and the pathological (Canguilhem, 1966 [1991]; Foucault, 1991), I analyze caregivers first-person narratives of accommodation to the changing communicative and cognitive abilities of family members who have memory loss ("deep forgetting") and possibly Alzheimer's disease. I attend in particular to the linguistic and discursive devices that narrators use to represent and accomplish changes in 'participation frames' (Goodwin & Goodwin, 2004) for the purpose of preserving meaningful and mutually satisfying conversation. I argue that shifting participation frames is a discursive rendering of successive 'new normals' in the caregiver-family member relationship, and that by examining these we may find ways of helping caregivers both prepare for and navigate these subtle transitions.

### THOUGHTS ON THINKING AND REMEMBERING IN DEMENTIA

N. Müller<sup>1</sup>, Z. Mok<sup>2</sup>, *1. University of Linköping, Linköping, Sweden, 2. Australian Catholic University, Melbourne, Victoria, Australia*

It is (probably) quite uncontroversial that a lot of thinking, reasoning, remembering and learning does not happen in individual, unaided brains, but is distributed between multiple brains and artifacts, and situated in interactive contexts, often conversations. There is a growing body of work, chiefly in cognitive science and philosophy, that explores the notion of extended and distributed cognition as it applies to memory. This presentation is theory- rather than data-driven, in that it presents an overview of recent work in this area, and discusses how it can be relevant for research and clinical practice in dementia and dementia care. Data from conversations with an individual with dementia, collected over the course of several years, are used to illustrate the theoretical concepts discussed.

### SESSION 875 (PAPER)

#### NEIGHBORHOOD, PLACE, AND AGING

##### DIABETES IN COMMUNITY DWELLING OLDER ADULTS: INDIVIDUAL AND NEIGHBORHOOD EFFECTS

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Health and well-being of older adults has been linked to the neighborhoods in which they live yet nesting of individual and neighborhood level characteristics has limited the understanding of these associations. A random-digit-dial sample of 5,688 community-dwelling adults aged 50-74 residing in 1,644 census tracts in New Jersey provided data for multilevel structural equation models (MLM-SEM) which account which account for measurement error, structural relationships and geographical clustering. We modeled self-reported diagnosis of diabetes, age, gender, race, marital status, education and income (individual level) and neighborhood advantage (latent construct constructed using percent college educated, percent professional jobs, high household income). We found that controlling for individual level characteristics, neighborhood advantage was negatively associated with having diabetes.

#### THE IMPACT OF WEATHER ON MOBILITY AND INDEPENDENCE IN OLDER AMERICANS

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Background: Increasing attention is being paid to the impact of extreme weather (e.g. heat waves, hurricanes, earthquakes) on population health. But the regular day-to-day challenges of weather have not received as much attention, particularly among older adults who may be more vulnerable because of limited mobility. Methods: Using nationally representative data from the 2013 Survey of Consumers (N=502 adults age 18-99) we examined differences in perceived weather hazards by age, and used multinomial logistic regression to understand factors associated with reported difficulty with daily activities (e.g. work, exercise, grocery shopping) under challenging summer and winter conditions. All data were weighted to be representative of the US adult population in 2013. Results: Compared to younger adults, older adults (N=337 age 65+) were more likely to say that summer heat interfered with their daily activities (20% vs 28%, respectively  $p < .05$ ). There were no differences in reported winter conditions by age. Older adults with mobility impairment were more likely to report some difficulty (OR=4.1, 95% CI=1.61-14.37) or a great deal of difficulty (OR=10.52, 95% CI=2.52-44.06) with day-to-day activities in summer heat than those independent in mobility, controlling for gender, age, education, region and assistive device use. However, mobility impairment was not associated with more difficulty going out in winter conditions (net of controls). Conclusions: Compared to younger adults, summer heat was identified as more challenging in the day-to-day lives of older adults. Older adults with mobility impairment are particularly at risk for being house bound in summer weather.

#### NEIGHBORHOOD ENVIRONMENT ASSOCIATIONS WITH MOBILITY AND SOCIAL PARTICIPATION IN OLDER ADULTS

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Rationale: As key determinants of many favorable health and quality of life outcomes, it is important to identify factors associated with mobility and social participation. Although several investigations have been carried out on mobility, social participation and neighborhood environment, there is no clear integration of these results. This study aims to provide a comprehensive understanding regarding how neighborhood environment is associated with mobility and social participation in older adults. Method: A rigorous methodological scoping study framework was used to search nine databases from different fields with fifty-one predetermined keywords. Data (neighborhood environment factors associated with mobility and social participation) were exhaustively analyzed, organized and synthesized by two research assistants following PRISMA-guidelines, and knowledge users were consulted. Results: Majority of the 53 selected articles report results of cross-sectional studies (32;60.4%), mainly conducted in US (25;47.2%) or Canada (15;28.3%). Studies mostly focused on neighborhood environment associations with mobility (40;75.5%), social participation (21; 39.6%), and occasionally both (13;24.5%). Neighborhood aspects considered mainly concerned Product and technology (44;83.0%) and Natural and human-made changes (38;71.7%), but also Support and relationships (16;30.2%) and Attitudes (21;39.6%). Mobility and social participa-

tion have been mainly associated with Available seating, Aesthetics, Resources proximity, Access to recreational facilities, Good condition of streets, Presence of cross-walks or sidewalks, Safety walking and Access to public transit. Conclusion: This comprehensive synthesis will ultimately support decisions and the development of innovative interventions for the creation of age-supportive environments. This study is funded by the Canadian Institutes of Health Research [#KAS-116 630].

#### NEIGHBORHOOD SOCIAL AND PHYSICAL CONTEXTS AND LEISURE-TIME PHYSICAL ACTIVITY AMONG OLDER INDIVIDUALS IN UTAH

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**BACKGROUND:** The population over age 65 in the US is rapidly growing. Inactive older adults experience significantly greater disease burdens compared to their physically-active peers. Abundant literature has shown that neighborhood contexts matter for individual lifestyle factors but older adults are less studied in neighborhood effect on lifestyle studies. This study examined the association between neighborhood economic resources and built environment features and individual odds of no LTPA participation in Utah. **METHODS:** Individual-level data were from Behavioral Risk Factor Surveillance System (BRFSS) collected in 2007, 2009 and 2011 in Utah. Neighborhood-level data were from the 2007-2011 American Community Survey (ACS) and a geographic information system (GIS) park database provided by ESRI in ArcGIS collected in 2010. Zip codes were used to define neighborhoods. Multilevel regression analyses were performed to examine the research questions. **RESULTS:** Neighborhood income level is consistently and negatively correlated with the odds of no LTPA. When examined separately, walkability and spatial park accessibility were both significant and negative correlates net of confounding factors. When simultaneously examined, park accessibility effects remained whereas walkability effects were rendered nonsignificant. Younger-old women (age 65-80) were the most responsive to these neighborhood contexts. The oldest old group (age 80+) were not affected by neighborhood contexts. **CONCLUSIONS:** Both economic resources and availability of parks nearby are negatively linked to older adults' odds of reporting no LTPA participation in Utah with stronger effects found on younger-old women (age 65-80) compared to other age and gender subgroups in this sample of age 65 and over.

#### ASSESSING THE AGE-FRIENDLINESS OF A METROPOLITAN CITY AND BUILDING AN ACTION PLAN

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**Introduction:** Chicago, Illinois recently received the designation of an age-friendly city by the World Health Organization (WHO), with the intent to build capacity to support the health and well-being of older adults and sustain an integrated community. This paper presents the development and findings of a baseline assessment of the age-friendliness of Chicago. It was conducted to feed forward findings into an action plan for city agencies. The concept of age-friendliness has been coined by the WHO to give value to the physical, social, and environmental factors that can either promote or hinder older residents' ability to age-in-place in cities. **Methods:** We conducted mixed-methods analyses based on the following: (1) data from an environmental scan of current age-friendly indicators; (2) focus groups with 106 older adults across the city; and (3) interviews using a Q-sort methodology with 38 city stakeholders, who were representative of each age-friendly domain and of hard-to-reach populations. **Results:** Government officials, community professionals, researchers, and older Chicagoans all identified similar priorities for the city of Chicago, with the highest prioritized indicators falling within the domains of community support services, health, housing, and community and information. Stakeholders and community members identified several gaps in the content of existing

age-friendly indicators, including content on pets and service animals, nutrition and food options, and accessible private transportation. **Conclusions:** The concept of age-friendliness has unique global and local relevance. Our findings will enable the city to build an action plan that directly targets the priority areas specific to Chicago.

#### SESSION 880 (PAPER)

#### MINORITY HEALTH AND PHYSICAL FUNCTIONING

#### LATE LIFE DISABILITY FOR HISPANICS IN THE UNITED STATES: A COMPARATIVE APPROACH

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Hispanics will represent 20% of all older adults in the United States by the year 2050. Most of our understanding of Latino aging comes from data on Mexican Americans in the southwest of the United States. However, 37% of Hispanics are not of Mexican origin and one-quarter live outside the southwest region. Florida has the greatest number of Hispanics outside of California and Texas. The purpose of the study is to describe the growth of the Hispanic population and present comparative disability levels for older Hispanics in Florida and the Northeast Region using data from the U.S. Census Bureau and the 2011 American Community Survey. The Hispanic population in Florida has grown five-fold since 1980, and saw nearly a 60% growth in the last decade. Meanwhile Hispanic population growth in the northeast has remained constant with the overall population growth at 3%. The majority of Hispanics in Florida are of Caribbean or South American origin. Older Hispanics in Florida report twice as much cognitive disability than Whites; it is highest among Cuban females. Mobility disability is similar among Hispanic and White males, but higher in Hispanic females, though lower than Blacks. For both self-care disability and independent-living disability, Hispanic females report higher rates than Whites, similar to Blacks. Research among Hispanics in the Southwest and Midwest has also shown heterogeneity. Recognizing the diversity of Hispanic is important for crafting policies that encourage optimal aging across diverse populations.

#### RACE DISPARITIES IN MOBILITY LIMITATION IN URBAN MIDDLE TO OLDER ADULTS

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Much of the research on disparities in mobility has focused on adults ages 65 years and older, but since African American adults experience disability at younger ages and have lower life expectancies, studies focused on these older adults likely underestimate the true extent of race differences in mobility. In addition, many studies failed to account for the confounding of race, SES and social context. We examined the cross-sectional relationship between race differences in mobility limitation in men and women aged 50 years and older in the Healthy Aging in Neighborhoods of Diversity across the Life Span study. Mobility limitation was defined as any difficulty or inability to walk ¼ mile or climb 10 steps. Logistic regression models were used to estimate relationship between race and mobility limitation adjusting for age, education, insurance status, poverty status, body mass index, drinking and smoking status, and number of chronic conditions. Of 1618 adults, 731(45.2%) were male, 974(60.2%) were black, 630 (38.9%) were living below 125% of the federal poverty level (low SES), and 604(37.3%) reported mobility limitation. Similar proportions of Blacks reported mobility limitation (women: 44.2% Blacks vs. 40.1%; p=0.248; men: 32.4%

Blacks vs. 28.7%;  $p=0.288$ ) as whites. In the fully adjusted model, black adults had similar odds of mobility limitation (women:  $OR=0.91$ ; 95%  $CI=0.58-1.41$ ; men:  $OR=1.56$ , 95%  $CI=0.89-2.74$ ) than white adults. These findings underscore the importance of examining differences in mobility at younger ages in cohorts at risk for disablement.

### **BODY PERCEPTIONS MODERATE THE ASSOCIATION BETWEEN PHYSICAL FUNCTION AND HEALTH OUTCOMES AMONG AGING AFRICAN AMERICAN WOMEN**

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Aging adults often face a series of challenges in later life including declines in physical function and health. Although the body is the central locus for aging processes, little attention has been given to how perceptions of the body may influence functional capacities and health for older women. Race and gender specific patterns need to be considered, because African Americans experience earlier onset of death and disability compared to Whites and other ethnic-racial groups, and body perceptions may be a key factor that influences the health and well-being of older women. Using an intersectional approach, we test the main effect between physical functioning and aspects of health and emotional well-being, examining body perceptions as a moderator of this association among a community-based sample of African American women aged 65 and older. Results indicate that the importance of body functioning significantly moderated the relationship between physical functioning and pain, as well as between physical functioning and emotional well-being such that women who are functioning well and rate aspects of body function as important demonstrate the lowest levels of pain and highest levels of emotional well-being. Further, women who were low in physical functioning and were dissatisfied with their body function had the highest levels of pain. Given the scarcity of research examining race- and gender-specific outcomes in the gerontological and public health literature, this study informs future research and health care recommendations aimed at increasing physical functionality for African American women.

### **PHYSICAL FUNCTION, MENTAL HEALTH, AND FEAR OF CRIME AMONG OLDER ADULTS: DIFFERENCES BY RACE AND SEX**

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Background: Research has demonstrated that older adults and persons with poor self-rated health may have more fear of crime (FOC) than others. However, no work has demonstrated if other demographic factors and more objective markers of health are associated with FOC within the older adult population. Methods: Data from the UAB Study of Aging, a cohort study of 1000 community-dwelling Alabamians aged 65+, were used to assess the association between physical function (the Short Physical Performance Battery), mental health (Geriatric Depression Scale (GDS) and the Mini Mental Status Questionnaire), on FOC (self-reported limitation of activities for fear of being robbed or attacked). We conducted descriptive and multivariable logistic regression analyses with the full sample and found an interaction by race and sex. We stratified the sample by Black Females (BF), Black Males (BM), White Females (WF); White Males (WM). Results: Among the full sample, 177 (17.7%) expressed FOC. Using the full sample and adjusting for sex, living alone, age, race, poverty, and education, persons with depressive symptomology ( $GDS>5$ ) had 2.6 times greater odds of FOC. In stratified models, depressive symptomology was associated with 4.0 times greater odds of FOC for BFs and 3.9 times greater odds of FOC for WFs. WF's better physical function was associated with 1.2 times greater odds of FOC. Conclusion: Physical function and depressive symptomology are differentially associated with FOC by

race and sex groups in older adults. Future research should examine if participants' neighborhood characteristics interact with their individual characteristics to affect FOC.

### **CUMULATIVE DISADVANTAGE THEORY EXPLAINS SUBJECTIVE MEMORY/COGNITION IN BLACK OLDER ADULTS WITH CIND**

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Objective To examine racial (black:  $n=51$ ; white:  $n=195$ ) differences in the effects of subjective memory on cognitive functioning. Also, to highlight how cumulative disadvantage theory drives reporting patterns and cognitive status in Blacks with CIND. Design Cross-sectional analyses participants from a nationally representative survey of community-dwelling American older adults, with CIND. Setting Four waves of data from the Aging, Demographics, and Memory Study. Participants The ADAMS participants aged 70 and older with CIND ( $n=246$ ). Measurements Participants completed the Mini-Mental State Examination to measure general cognition. Subjective memory was measured by the Health and Retirement Study Self-Report of Memory Problems Questionnaire. Results African Americans were significantly less likely to report worse memory than non-Hispanic whites, however, objective measures show that African Americans are significantly more likely to suffer from low cognitive functioning than whites. Income, education, and healthcare were worse among African Americans across all waves, controlling for age. Conclusion Cumulative disadvantage explains why minorities have worse cognitive outcomes than whites. As a result of poor healthcare, income disparities, and educational disadvantages, African Americans are more likely to suffer from low cognitive functioning (worse memory reporting patterns). Prevention of severe cognitive decline can be achieved through early detection. Promotion of regular check-ups and reports of memory problems should be encouraged, especially for African Americans, as they are at greater risk of dementia diagnoses, than whites. Cognitive batteries should be included in regular check-ups for older adults over 55.

## **SESSION 885 (PAPER)**

### **RETIREMENT**

#### **THE TASK OF TIME IN RETIREMENT**

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Retirees almost without exception prize retirement for its "freedom" from work-related obligations and schedules. In order to learn how people use retirement time, we interviewed 30 retirees aged 65+ about their daily lives. This effort was part of a larger cross-cultural study of present and future time among elders. Despite the expressed appreciation for time freedom, time use for our respondents was not improvisational, taking each day as it comes. People create routines and obligations. Our sociological explanation for this is two-fold. First, retirees need a narrative about their time. When asked to describe "everything that you did yesterday," our retirees tended to answer in terms of what they usually do. The recitation of the idealized daily routine is evidence that people are quite practiced in talking about their daily time. Second, even without employment obligations, retirees are embedded in social structures that organize and prioritize time use. Common commitments include shared meals, household chores, care of pets, volunteer activities, newspapers and television programs that compel attention, church membership, family visits, exercise regimens, and organized social activities. The cultivation of daily routines is shaped as well by perceptions of productive/virtuous vs. nonproductive/wasteful time which mirror the time values of wider social contexts and personal life histories. For some, routines may be perceived as obligatory or limiting, even though they are generally self-imposed. Although contemporary retirement seems remote from Earnest Burgess's dark vision (1960)

of a “roleless role,” how to fill time and use time remains a real task for retirees.

### MIDDLE-AGED BABY BOOMERS' PERCEPTION OF MIDDLE-AGE AND ANTICIPATION ON RETIREMENT LIFE: CASE OF KOREA

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Positive pre-retirement anticipation on retirement life is an important factor for successful retirement adjustment. As retirement signifies the starting point of old age, it is important for middle-aged people to have positive view towards the new phase of life. In this paper we aim to examine whether and to what extent middle-aged workers' perception on middle age are related to positive anticipation on retirement life. We expect that people who regard their current age as still young with many opportunities to take and who are not distressed by being in their 50s would have positive anticipation on life after retirement. We rely on data from the first wave of Korea Baby Boomer Survey (2010), whose main respondents are baby boomers born between 1955 and 1963 in Korea (aged 47 – 55 in 2010). As the general retirement age in Korea is 56, baby boomers are in their high time to form retirement anticipation and plans. The study sample is 3,503 Korean men and women who are currently working and not retired. Preliminary results confirmed our expectations on link between middle-aged workers' perception on middle-age and positive anticipation on retirement life.

### WORK ROLE RESIDUALS AMONG FULLY RETIRED INDIVIDUALS

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From a role theoretical perspective it can be expected that individuals differ in the extent to which they experience aspects of the work role after they have fully retired from it. Quantitative empirical insights regarding these postretirement “work role residuals” are scarce though. This study aims at filling this gap, by (1) developing a measure capturing different aspects of work role residuals, and (2) examining these residuals in relation with the preretirement work role, alternative roles, and retirement transition characteristics. Analyses are based on panel data collected in 2001, 2006/7, and 2011 among more than 800 older individuals in the Netherlands, who were all employed at Wave 1 and fully retired after that. These fully retired individuals were asked several questions about the role of their prior work in their current lives. The results show that retirees vary considerably in that respect. For example, about 40% still likes to talk about prior work, more than 20% indicates to still keep up with the latest developments in the field, and approximately 15% is still doing work-related activities as a hobby. For understanding differences in work role residuals especially characteristics of the preretirement work role and the retirement transition appear to be important, whereas the effects of preretirement alternative roles (e.g., volunteer work, caregiving) are not statistically significant. Challenging preretirement work, a higher educational level, and involuntary retirement are all found to be associated with a higher likelihood of experiencing work role residuals after retirement.

### UNRAVELING RETIREMENT

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Recent changes to the standard retirement age in Canada have created financial incentives to delay retirement. As retirement has unraveled from institutional schedules and age norms, what it means to be retired has become ambiguous. This study contributes to a growing body of research that is rethinking the ways in which the boundaries between work and retirement are changing. For this mixed methods study, a sample of individuals near traditional retirement age from Toronto, Canada (n=148) were asked to select from pre-specified work status categories and then to describe their work trajectories and current work

status in their own words. Using conventional content analysis to examine verbal descriptions, respondents were identified as not working, working full- or part time and these three groups were compared to initial identification with working or being retired. Findings suggest that while most (74% of) respondents who identified as retired described their work status as not working, consistent with traditional definition of retirement, a sizable subset identified as retired yet were still working full- or part-time, while 10% of the total sample identified as working yet described their current work experience as being fully retired. Men in the sample were significantly more likely to adhere to a traditional definition of retirement and age played a key role in distinctions for women. Drawing from the life course perspective and integrated analyses from the qualitative and quantitative strands, a dynamic conceptual model of retirement emerged from this study.

### MECHANISMS OF THE EFFECT OF INVOLUNTARY RETIREMENT ON OLDER ADULTS' SELF-RATED HEALTH AND MENTAL HEALTH

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This study examined mechanisms of the effect of involuntary retirement on self-rated health and mental health among adults aged 50 and older, and the conceptual basis of the study was drawn from latent deprivation theory and the life course perspective. Using two waves of the Health and Retirement Study (2006 and 2010), we selected a sample of 1,280 individuals working for pay at baseline who responded to a life-style questionnaire in both waves. Regression-based path analyses were conducted to test the mediating effects of financial control, positive and negative family relationships, and social integration in the relationship between involuntary retirement and self-rated health and mental health. This study conducted the analyses in multiple phases to compare and contrast various dimensions of the mechanisms of retirement: mechanisms of retirement with and without specification of its voluntariness, mechanisms of involuntary and voluntary retirements both compared to no transition to retirement, and mechanisms of involuntary retirement directly compared to voluntary retirement. Approximately 37% of retirees in our sample perceived their retirement as involuntary. Transition to involuntary retirement had a significant direct effect on adverse self-rated health compared to voluntary retirement and no transition to retirement. Involuntary retirement also had a significant indirect effect on adverse mental health via financial control. No significant direct or indirect effects of retirement on self-rated health and mental health outcomes were found when retirement was not specified as voluntary or involuntary. Results of the study present the significance of recognizing the heterogeneity in the mechanisms of involuntary retirement.

### SESSION 890 (PAPER)

#### COGNITION

#### AGE-RELATED DECLINES IN SPECIFIC DOMAINS OF COGNITIVE PERFORMANCE PREDICT TIME OF DEATH

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Cognitive performance declines from middle-age to late adulthood, but there have been few studies of cognitive decrements as predictive of time of death. We examined age-related changes in 20 cognitive tasks of crystallized and fluid intelligence, perceptual speed, semantic memory, and visuospatial memory in a sample of 6203 adults from Greater Manchester and Newcastle-upon-Tyne, UK. Specifically, we modeled decrements in these variables within a structural equation framework, and we then examined these decrements as predictive of time of death, controlling statistically for demographic variables such as



gender, socio-economic status, locale, and cohort. Longitudinal factor analyses showed that in four of five cognitive domains, strict factorial invariance held across four occasions of measurement. Composite scores were generated from items comprising these four domains. We applied latent growth curve models to each specific task and also to the four composite scores, with trajectories spanning 56 years (i.e., age 42 to age 97). Items and composite scores related to perceptual speed, fluid intelligence, and semantic memory showed significant interindividual differences in age-related decrements. Hierarchical survival analyses showed that these same decrements contributed significant explanatory power in predicting time of death, whereas processes related to crystallized intelligence and visuospatial memory did not. These outcomes indicate that mortality prediction based on cognitive decline appears as a pervasive rather than a specific process. Additionally, our findings disconfirm the hypothesis that abilities well-preserved in old age are more affected by impending death than those that start declining at relatively younger ages.

### **COGNITIVE DECLINE ASSOCIATED WITH RISK AVERSION AND TEMPORAL DISCOUNTING IN NON-DEMENTED SENIORS**

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Risk aversion and temporal discounting are related to sub-optimal healthcare and financial decision making in older adults. It is unknown whether age-related cognitive decline affects these decision making preferences. We studied whether cognitive decline was associated with risk aversion and temporal discounting in 455 older persons without dementia from the Rush Memory and Aging Project. All underwent repeated annual cognitive evaluations using a battery of 19 tests for up to 14.8 years (mean=5.5). Risk aversion was measured using behavioral economics questions asking participants to choose between a certain monetary payment versus a gamble in which they could gain more or nothing, with gambling gains varied. To measure temporal discounting, participants were asked to choose between an immediate, smaller payment and a delayed, larger one; two sets of questions dealt with small and large stakes based on payment amount. Regression analyses were used to test whether prior rate of cognitive decline predicted level of risk aversion and temporal discounting, controlling for age, sex, education, and starting level of cognition. More rapid cognitive decline predicted higher levels of risk aversion ( $p=0.002$ ) and temporal discounting (small stakes:  $p=0.01$ , high stakes:  $p=0.006$ ). In analyses restricted to persons without any cognitive impairment (no dementia or mild cognitive impairment), the relationship between cognitive decline and risk aversion persisted ( $p=0.08$ ); the relationship of cognitive decline and large stakes temporal discounting persisted ( $p=0.026$ ) but not for small stakes ( $p=0.11$ ). These findings suggest that subtle age-related changes in cognition can affect decision making preferences to the detriment of older persons.

### **PERSON PERCEPTION IN FRAIL, OLDER ADULTS: CONTENT ANALYSIS OF THEIR IMPRESSIONS OF UNFAMILIAR OTHERS**

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A component of social cognition is person perception, including the tendency to form impressions of people we have just met. As part of a larger study of social cognition in aging and dementia, 40 nursing home residents, nearly half with GDS scores indicating mild to moderate cognitive decline, completed a test that measured their ability to infer psychological attributes of strangers. Participants viewed six brief videotapes of diverse individuals explaining what they would do with a large lottery win. After viewing each tape, participants answered the following questions: (1) "What is your impression of this person?", (2) "What kind of a person do you think he/she is?", and (3) "How would

describe this person to someone who hasn't seen the tape?" Verbatim transcripts of the taped responses were coded using these categories: "Inferred, intentional," inferences about the individual's intentions, goals, and values; and "Inferred, dispositional," inferences about psychological traits or attributes, as well as interpersonal qualities. Mean number of statements coded "Inferred, intentional" and "Inferred, dispositional" across descriptions was significantly higher for residents with no or minimal cognitive impairment than for those with mild to moderate impairment. Additional, finer-grained content analyses examined how the level of detail of the descriptions, as well as specific trait information and judgments about character, varied across the six diverse, target individuals, as well as across participants. Improved understanding of the social cognitive abilities of older persons, including those with dementia, would inform the design of interventions to optimize their social functioning.

### **EFFECTS OF VALENCE, AROUSAL AND AGE IN INCIDENTAL ENCODING OF WORDS AND RECOGNITION MEMORY**

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Emotional words are widely accepted to be processed differently and recognized more accurately than neutral words. The effects of arousal (highly and medium arousing) and valence (positive, neutral and negative) axes of emotion on recognition memory accuracy and liberal bias were examined for emotional words. 113 volunteers participated: 60 young adults (mean age 20.77, 30 F) and 53 older adults (mean age 77.13, 33 F). In the study session, the words were presented at the center of a computer screen. The participants were instructed to count vowels under incidental encoding. After 30 min of retention interval, memory was assessed with a surprise old/new recognition task. A 2 (age: young, old) x 2 (arousal: high, medium) x 3 (valence: positive, negative, neutral nonarousing) mixed ANOVA was conducted. The results showed that young participants recognized more accurately ( $M=1.48$ ) as compared to older participants ( $M=.92$ ) ( $p=.000$ ). Valence differences of words showed significant effect, such that positive words were recognized better in both age groups ( $p<.05$ ). When response bias was taken into account, in the old-age group, there was a significant bias to respond as 'old' only to positive words ( $p=.000$ ), but in the young-age group a significant liberal bias is detected for only negative words ( $p<.05$ ). Older participants showed a strong liberal bias for positive words indicating that better recognition of positive words in this group is attributable to the confounding factor of bias. Spontaneously, older participants regulate their emotion in favour of maintaining well-being, while younger participants tend to carry a negative focus.

### **THE LINKS BETWEEN EARLY LIFE SOCIOECONOMIC STATUS AND OLD-AGE NUTRITION AND COGNITION STATUS**

H. Tung, C. Li, *Asia University, Taiwan, Wufeng, Taichung, Taiwan*

The life course and Cumulative Inequality theory specify that social systems generate inequality over the life course and personal trajectories are shaped by accumulation of risk or availability of resources, which may lead to health inequalities in old age. In this study we explore the links between childhood socioeconomic status (SES), adulthood achievement, and nutrition and cognition measures among a representative sample of elders in Taiwan ( $N=3,511$ ) over a 10-year follow-up period. A longitudinal survey of Taiwanese elders was launched in 1989. The elders' own level of education and their father's were used as indicators for early childhood SES. Nutrition status was evaluated by the Mini Nutritional Assessment (MNA) and Cognitive functioning was measured by using the Short Portable Mental Short Portable Mental Status Questionnaire, SPMSQ) in 1999. In order to control for sample attrition over the 10-year period, multinomial logistic regression models

were used to model the odds of “death” or “having a malnutrition status” against the “stayed in normal nutritional status.” The same procedure was conducted when evaluating another old-age health measure, cognitive impairment in 1999. All the analyses were separated by gender. The results show that childhood SES was associated with both of the two health outcomes. Childhood SES was still a significant predictor of cognitive decline after controlling for their adulthood SES for both gender (for male, OR=2.47 and for female OR=2.05, both  $p < .001$ ). However, gender-specific association patterns were found when evaluating the nutritional status among this cohort of Taiwanese elders. For the males, childhood SES was no longer a significant predictor of old-age malnutrition status once their adulthood SES was taken into account. Nonetheless, childhood SES remained a strong predictor of old-age malnutrition status among the females, after adulthood SES has been accounted for. Our results suggest that childhood SES is directly associated with cognitive impairment in old age. For old-age nutritional status, childhood SES matters more among the elderly women in Taiwan.

## SESSION 895 (SYMPOSIUM)

### THE VIRGINIA GERIATRIC EDUCATION CENTER (VGEC): INTERPROFESSIONAL COLLABORATION TO DEVELOP AND IMPLEMENT TEAM PRACTICE IN GERIATRICS

**Chair:** E.F. Ansello, *Virginia Center on Aging, Virginia Commonwealth University, Richmond, Virginia*

**Co-Chair:** P.W. Slattum, *Virginia Center on Aging, Virginia Commonwealth University, Richmond, Virginia*

**Discussant:** N. Tumosa, *Bureau of Health Professions, Rockville, Maryland*

The VGEC, a consortium of faculty from health-related units at Virginia Commonwealth University, Eastern Virginia Medical School, and the University of Virginia, conducts and evaluates a number of brief and extensive training programs in interprofessional geriatrics care for academic faculty, community practitioners, and students in the health care professions. The Plenary, comprised of 20 faculty from the consortium institutions, oversees management of all programs, including implementing, evaluating, and refining curricula content; recruiting program participants; assessing skills and knowledge gains and their effects on interprofessional practice and patient care. This symposium addresses both its unusual administrative collaboration and three annual VGEC programs, as follows: 1) Collaboration key elements in developing and successfully managing the VGEC; 2) the 160-hour September to June Faculty Development Program (FDP); 3) the 40-hour Train-the-Trainer geriatrics program for health care preceptors and community practitioners; and 4) the 24-hour Evidence Based Practice (EBP) training program on preventing the recurrence of falls, conducted to improve both communication and patient care of older adults within interprofessional teams. The Plenary represents the best in interprofessional communication and partnership to develop, implement, and evaluate all three programs highlighted here: the FDP, TTT, and EBP-falls. Members of the Plenary have assessed changes in program participants' knowledge gains, acquisition of targeted competencies (Partnership for Health in Aging, and Interprofessional Education Collaborative Expert Panel), impact of EBP-falls training on interprofessional patient care reflected in clinical chart review, and implementation of FDP Scholars' curriculum projects to pass the torch of interprofessional geriatrics care.

### THE VIRGINIA GERIATRIC EDUCATION CENTER COLLABORATION

E.F. Ansello, P.W. Slattum, C.L. Coogle, J.H. Mathews, *Virginia Center on Aging, Virginia Commonwealth University, Richmond, Virginia*

Faculty from Virginia Commonwealth University, Eastern Virginia Medical School, and the University of Virginia representing multiple

healthcare disciplines and evaluation experts came together to form the VGEC focused on themes of interprofessional teamwork, medication management, and transitions of care in geriatrics. The VGEC conducts three annual interprofessional education initiatives. Core faculty and staff meet for 2.5 hours twice monthly to plan, evaluate, and revise these and other initiatives. This Plenary has evolved to function at a high level, respecting the contribution of all members to the success of the project. The Plenary effectively identifies faculty, practitioners, and teams for the programs, continuously revises and develops new curricula, and works through challenging issues, such as budget cuts and publication plans. Open communication, strong organization and commitment have been key to exceeding objectives. The forming of the VGEC team and the elements that contribute to its success over time will be discussed.

### THE VIRGINIA GERIATRIC EDUCATION CENTER FACULTY DEVELOPMENT PROGRAM

P. Boling<sup>1</sup>, L. Hackett<sup>2</sup>, A. Conlon<sup>1</sup>, C.L. Coogle<sup>1</sup>, E.F. Ansello<sup>1</sup>, *1. Virginia Commonwealth University, Richmond, Virginia, 2. Eastern Virginia Medical School, Norfolk, Virginia*

The VGEC conducts annually a 160-hour faculty development program (FDP). The VGEC, composed of faculty at three institutions, recruits as FDP Scholars 12-17 health care-related academic faculty, community practitioners, and preceptors who work with students and colleagues in classroom or clinical settings, to expand their knowledge in geriatrics, emphasizing interprofessional competencies, effective teaching methods, and teamwork. The FDP curriculum is based on the six domains of core competencies established by the Partnership for Health in Aging Workgroup, as relevant to and endorsed by all health profession disciplines. The FDP approach also models the core competencies developed by the Interprofessional Education Collaborative Expert Panel. Each FDP Scholar develops, implements and evaluates a curriculum project with content and evaluation mentoring by VGEC faculty. Scholar knowledge and attitudes are assessed, as well as outcomes of curriculum projects. Twenty-seven scholars representing six disciplines have completed the first two years of the FDP program.

### THE VIRGINIA GERIATRIC EDUCATION CENTER TRAIN-THE-TRAINER PROGRAM

K. Fletcher<sup>1</sup>, P. Parsons<sup>2</sup>, E. Bradley<sup>1</sup>, *1. School of Nursing, University of Virginia, Charlottesville, Virginia, 2. Virginia Commonwealth University, Richmond, Virginia*

The VGEC developed and implemented a 40-hour train-the-trainer (TTT) program for health professionals in three regions of Virginia. The TTT engages practitioners from multiple health care-related disciplines practicing in the community to increase their knowledge and competencies in geriatric care through a curriculum emphasizing interprofessional teamwork, geriatric syndromes, principles of teaching and learning with adults, transitions of care, medication management, preventing recurrence of falls, and more. Participants develop teaching projects as part of the program. The TTT uses a hybrid of live and on-line interaction among participants and faculty. Participant knowledge and attitudes, as well as outcomes of the teaching projects, are assessed. Fifteen practitioners representing six disciplines have completed the TTT during the first two years.

### THE VIRGINIA GERIATRIC EDUCATION CENTER EVIDENCE-BASED PRACTICE FOR MANAGING AND PREVENTING FALLS

E. Wheeler, R. Fix, L. Waters, C.L. Coogle, M.G. Owens, *Virginia Commonwealth University, Richmond, Virginia*

The VGEC conducts an annual 24-hour evidence-based practice training on reducing falls (EBP-falls) for interprofessional provider teams. The EBP-falls program is designed for existing interdisciplinary teams working with older adults to increase their effectiveness in man-

aging and preventing falls. The educational program focuses on improving teamwork and interprofessional communication, person-specific, environmental, treatment-related, and other intrinsic and extrinsic risk factors, evidence-based assessments, and interventions for preventing the reoccurrence of falls and instituting interprofessional care planning. Seventy team members working at Program of All-inclusive Care for the Elderly (PACE) sites have participated in the EBP program during the first three years. The VGEC has assessed participants' improvements in content knowledge and adoption of evidence-based practices (as demonstrated by review of patients' clinical charts) and documented change in practice.

## **SESSION 900 (SYMPOSIUM)**

### **EAST MEETS WEST: END-OF-LIFE CARE**

**Chair:** D. Dobbs, *University of South Florida, Tampa, Florida*

**Co-Chair:** Y. Suh, *Seoul National University, Gwanak, Republic of Korea*

This presentation will highlight the U.S. Hospice Medicare Benefit and the eligibility criteria for receiving the hospice Medicare benefit. Data will be provided on the population who utilizes the Medicare hospice benefit in the U.S. Comparisons between Medicare funded hospice and nonhospice palliative care will be discussed and some of the key barriers that research has identified related to access to both Medicare hospice and nonhospice palliative care such as geographic disparities between rural and urban areas, system funding mechanisms, cultural and religious values, and the lack of a social marketing strategy within our western death denying culture. The strategies developed within health care organizations and provider groups to increase the use of both of these types of end-of-life care, with a specific focus in long-term care settings (assisted living and nursing homes) will also be discussed. This section is to provide special discussion table about the End-of-Life Care in East and West. With an intensive medical care service to the elderly in East Asia more old men should meet EoL phase in which they require special medical & social care system in AD or before. Most EoL policies from hospice and palliative care unit to death are, however, different from western countries because of its socio-economic & -cultural influence including medical insurance system and death-culture. Although with some differences of social system and culture in Japan, Korea and China, old men had different thinking about the authority of medical doctor for preparing their end-of-life, the role of their family for their right to know and decide, the role of hospice and palliative care, and death itself with postmortem process. Various legal and social problems and issues occur such as what's mean by EoL itself, role of family relation in EoL care, role of hospice unit outside their home, and process of death and after. Our Korean project of "biopolitics of the elderly" deals mainly with consciousness and institutional conflicts about ethical, legal and social issues (ELSI) of medical interventions to aging, chronic diseases and death including EoL in Korea and in East Asia. At first, our main research plan with some results is introduced by principal investigator, Dr. Yi-Jong Suh, and later legal issues and social issues are presented by Dr. KS Choi and Dr. KS Park. This discussion table will offer a collaboration research plan for a comparative study on ELSI of elderly care including end-of-life decision making in East and West.

### **BIO-POLITICS OF END-OF-LIFE CARE IN KOREA**

Y. Suh, *Seoul National University, Seoul, Republic of Korea*

Before the highest speed of development into super-aged society in Korea we meet various problems from twisted new policies on socio-cultural tradition of elderly care. Therefore our first 3 years project of bio-politics of the elderly focuses on the finding of new ethical and social way for a system-building of the elderly care including End-of-Life care from the grass-root, with empirical research of ethical consciousness in conflict at first year, of institutional systems in conflict at

second year, and of alternative policies in social movements including religions at third year. EoL care means not only care in related individual systems, but also a care flow between individual systems from terminally ill patients over hospice life to death. Under universal medicare system incurable and irreversible old men stay in general hospital because of hospital's interest for getting more profit inside and outside medicare, and of family's filial duties. For old men to leave from home to care facility means to be deserted from their family, and to leave from hospital among ill patients means to abandon treatment from no familial support, although with under medical doctor's decision of incurability or irreversibility. For a push to next step care hospitals for palliative care were established, but their cost-saving policy lead to producing many small care hospitals of poor facilities with too many old men per part-time doctors. Hospice seems yet socially unclear and exotic from a culture of death in fear. and of dominant filial moral. Therefore, higher rate of elderly suicide is a symbol of such ill-equipment of EoL care in Korea. My ongoing project will draw new discussable ethical and social ideas and policies for new system of EoL care internally, for example with social & legal issues such familial care moral, Christian & Buddhist hospice activities, non-Christian and non-religious view of death.

### **LEGAL AND ETHICAL ISSUES ON END-OF-LIFE CARE IN KOREA**

K. Choi, *Ewha Womans University, Seoul, Republic of Korea*

Korea tries to legislate withdraw or withholding life-sustaining treatment after the Korean Supreme Court decision on Grandma Kim's Case (2009). However, the Proposal for Legislation by Korean National Bioethics Committee has the following limitation. First, the Proposal requires that a patient who can decide to withdraw or withhold life-sustaining treatment be a dying patient who is about to die. A terminally ill patient is outside of the Proposal. Second, as the Supreme Court decision and the Proposal present, a Korean advance medical directive does not allow DPA and is merely an objective evidence to find patient's wishes. Thus, it may not be fully respected. Only POLST signed by competent patients themselves is effective. Third, a surrogate decision-making must be made by a legal guardian, a patient's whole family members, or hospital ethics committee. But a patient's whole family members consist of a patient's spouse, parents, and adult children only. In Korea, there is no clear legal regulation that is equivalent to Patient Self-determination Act in U.S.A. This legal situation raises lots of ethical and legal issues in end-of-life care including hospice. Can hospice appropriately work without a legal system to respect a patient's autonomy in forgoing treatments such as Patient Self-determination Act? In addition, palliative care is financially supported for cancer patients alone by the Korean national health insurance system. Thus, other terminally ill patients are likely to be reluctant to choose hospice. Further, most of end-of-life care is decided by family members, in most cases, a patient's son or daughter, rather than a patient himself/herself because of family-based Korean culture. But a patient's sons or daughters are inclined to do their best to make their parents survive as long as possible, even if treatments are futile, because they are aware of other's eyes. Unfortunately such Korean culture seems to make hospice be considered to give up any treatments for a patient.

### **CONTESTED KNOWLEDGE AND PRACTICES AND UNCERTAIN VALUE OF THE END OF LIFE CARE IN SOUTH KOREA**

K. Park, *Seoul National University, Seoul, Republic of Korea*

Medical-social treatments for the end of life care have rapidly developed in Korea with the extension of medical industry and the increasing need of long term care for the elderly and have replaced old practices and perceptions about terminal care. Moreover, the rise of complex and diverse actors in medical-social care sites bring the knowledge, practice, and value of end of life care into confusing and political contest. Despite the general perception of the extended medical and social care as social

development and individual wellbeing, the competitive extension of medical and social care particularly at terminal stage involves a critical uncertainty in terms of the dignity of life. We try to elaborate issues and meanings accrued at the competitive site of the end of life care in Korea by interpreting perceptions of diverse actors participating in end of life care, including elderly people, nursing staffs, family members, medical physicians, care related social organization, and religious groups. The analysis is based on the survey data collected in 2014 for 600 cases and in depth interviews of those diverse actors in the site of terminal care. Main themes to inquire into are meanings of pains and terminal state, the uncertainty of terminal care such as prolongation and palliative treatment, ethical concerns for terminal care and meanings of death.

#### **THE EFFECTIVENESS OF A PSYCHOEDUCATIONAL INTERVENTION PROGRAM ON FAMILY CAREGIVERS' COMPLETION ABOUT END-OF-LIFE DECISIONS FOR KOREAN IMMIGRANT ELDERLY WITH DEMENTIA**

S. Han<sup>1</sup>, E. Luckens<sup>2</sup>, *1. NamSeoul University, Seoul, Republic of Korea, 2. Columbia University, School of Social Work, New York City, New York*

The PsychoEducation Intervention Model draws on educational and therapeutic theory to help both patient and family decrease anxiety, increase knowledge, increase confidence in managing the illness and related challenges, and enhance resiliency (Lukens & Thorning, 2010). This study aimed to examine the effectiveness of a psychoeducational intervention program (PEIP) for family caregivers' ability to make end-of-life (EOL) decisions for Korean immigrant elderly with dementia residing at a nursing home in the U.S. This study used a pre-test and post-test control group design to examine whether PEIP would enhance caregivers' ability to understand and make EOL decisions when compared to a control group in which caregivers received only routinely provided in Korean-language information. One two-hour group PEIP was designed to educate family caregivers about dementia prognosis and symptoms, life sustaining treatment choices, and process and procedures involved in making EOL decisions. A bilingual social worker met individually with caregivers from both groups to provide information and conduct a knowledge-based pre-test. Telephone interviews using semi close-ended questions were conducted at three and six-month follow-up to assess knowledge gained and the extent to which family had made an active EOL decision. Data was analyzed through Repeated Measure ANOVA (SPSS19). At both three and six-month follow-up results indicate that those in the PEIP were significantly more likely to make EOL decisions and showed significantly increased knowledge of dementia than those in the control group. Results are discussed in the context of shortcomings of the current healthcare system and the need for a focused intervention such as PEIP in order to help caregivers effectively understand and finalize EOL decision.

#### **THE STUDY FOR MEDICAL SOCIAL WORKER'S KNOWLEDGE AND UNDERSTANDING FOR ELDERLY PATIENTS' RIGHTS ON END OF LIFE DECISION IN LONG TERM CARE FACILITIES IN SOUTH KOREA**

S. Han, *NAMSEOUL UNIVERSITY, Cheonan, Republic of Korea*

This study aimed to analyze medical social workers' knowledge and understanding for elderly patients' rights on End-of-Life (EOL) decision in long-term care facilities of South Korea. The study used a quantitative research method, presenting 230 social workers at long-term care facilities with survey questionnaires. Data was analyzed through T-Test, Multiple Regression (SPSS19). Using the 5-point Likert scale for the levels of understanding for elderly patients' rights on EOL decision, results showed an average of 3.51 points (SD=0.703), with an awareness of patients' rights to receive information of advance directives, and to get help their decision for life-sustaining treatments. Social workers' religious beliefs ( $p<.05$ ), level of license ( $p<.05$ ), experience of engaging of EOL decision ( $p<.005$ ) scored higher in overall under-

standing. The result also showed an average 2.26 points (SD=0.932) in their knowledge about Advance Directives (AD), using 5-point Likert scale. They answered that they have not enough knowledge to provide information to elderly patients and family members, as it is deemed that education and/or training is necessary. Social worker's training ( $p<.001$ ), experience of engaging of EOL decision ( $p<.005$ ) scored higher in the level of knowledge. From the Regression analysis, results showed the knowledge about AD ( $\beta=0.514$ ) is highest value on the levels of understanding of the rights of elders in EOL decisions ( $R(2)=0.438$ ,  $F=45.869$ ,  $p=.000$ ). This study found that social workers were involved in EOL decision procedure, but limited support for proper education and training program in order for social workers to effectively carry out their roles in engagement for EOL decision in long-term care facilities, proposing to develop.

### **SESSION 905 (SYMPOSIUM)**

#### **STRENGTHENING LONG-TERM CARE THROUGH PARTNERED APPROACHES: CLOSING THE LOOP BETWEEN RESEARCH, PRACTICE, AND EDUCATION**

**Chair:** A. Rao, *School of Nursing, University of Pennsylvania, Philadelphia, Pennsylvania*

**Co-Chair:** E.O. Siegel, *Betty Irene Moore School of Nursing UC Davis Health System, Sacramento, California*

**Discussant:** J. Reifsnnyder, *Genesis HealthCare, Kennett Square, Pennsylvania*

Poor care quality in long-term care (LTC) is multifactorial; managing complexity in these environments requires collaborative problem-solving approaches. Partnerships at the institutional level are particularly important. Collaborative interactions among researchers, industry leaders, and educators result in shared processes for identifying priorities, incorporating interdisciplinary perspectives, enhancing dissemination and translation of research evidence, and developing sustainable interventions aimed at improving outcomes. Published literature describing such partnerships focuses primarily on hospital-university connections. LTC settings have long struggled with issues of recruitment and retention, workforce development, leadership stability, and poor outcomes. Addressing these complex issues requires the exchanges of information, ideas, and resources that institutional-level partnerships can facilitate. The purpose of this symposium is to discuss how partnerships in LTC settings contribute to scientific inquiry and to describe systems factors identified in these investigations that inform practice at the institutional level. Specifically, we examine (1) network characteristics and support structures that influence turnover intention among nursing home (NH) directors of nursing (DONs), (2) DONs' education, training, and experience to prepare for their positions and meet the needs of their organizations, (3) the design of interventions using systems-level data about clinical nursing practice in NHs, (4) job embeddedness as a predictor of intent to stay among NH registered nurses, and (5) a Grand Challenge approach to forming research partnerships in dementia care. A senior LTC-industry leader will serve as the discussant. This symposium will facilitate conversation between research-practice partners and highlight how partnered approaches to scientific inquiry at the systems-level can build capacity for high-quality LTC.

#### **THE DIRECTOR OF NURSING IN NURSING HOMES: EDUCATION, TRAINING, AND EXPERIENCE**

E.O. Siegel<sup>1</sup>, S. Sikma<sup>2</sup>, *1. Betty Irene Moore School of Nursing at UC Davis, Sacramento, California, 2. University of Washington Bothell, Bothell, Washington*

The director of nursing (DON) is critical to nursing home quality. Yet, formal opportunities to develop competencies for the DON position are not generally a component of nursing education programs. This paper describes DONs' education, training, and experience to prepare for their positions, advance in their careers, and meet the needs of their

organizations. A convenience sample of current and previous DONs and nursing home administrators (n=29) across 15 states participated in this exploratory, descriptive study. Data were collected from semi-structured telephone interviews. Thematic analysis was used to identify patterns and themes. DONs commonly develop their competencies through on-the-job experiences, organization-sponsored training, networking, and state trade associations. Competency gaps, consequences and recommendations were identified. In the absence of standardized education and training for the DON position, research-practice-education partnerships are essential to ensuring a DON workforce that is well-prepared to lead and manage high quality nursing home services.

#### **RETAINING NURSING HOME DIRECTORS OF NURSING: THE IMPORTANCE OF PROFESSIONAL NETWORKS AND HIGH QUALITY PROFESSIONAL SUPPORT**

A. Rao<sup>1</sup>, L.K. Evans<sup>1</sup>, C. Mueller<sup>2</sup>, E. Lake<sup>1</sup>, 1. *School of Nursing, University of Pennsylvania, Philadelphia, Pennsylvania, 2. University of Minnesota, Minneapolis, Minnesota*

Turnover among nursing home (NH) directors of nursing (DONs) is a common and costly issue that adversely affects care quality. This study examined the influence of network characteristics, available support, and perceived support quality on for-profit NH DONs' intentions to stay in their positions. We partnered with a national, for-profit NH corporation to administer a web-based survey to all 302 of their DONs; 133 (44%) responded. Descriptive and logistic regression analysis revealed that DONs relied on facility team members (e.g., NH administrator, assistant DON, regional consultant, department heads, and clinical nurses) for nearly all support. DONs received considerable task support from multiple network members but little coaching from any network members. DONs' younger age ( $p = .023$ ,  $OR = 1.06$ ), receipt of task support from NH administrators ( $p = .031$ ,  $OR = 1.77$ ), and favorable perceptions of task support quality ( $p = 0.042$ ,  $OR = 1.38$ ) significantly predicted their intent to stay.

#### **REGISTERED NURSES WORKING IN THE LONG TERM CARE SETTING: ROLE OF JOB EMBEDDEDNESS IN PREDICTING NURSE RETENTION**

O.E. Reitz, *Mennonite College of Nursing at Illinois State University, Normal, Illinois*

The aim of this research was to determine what factors predict intent to stay employed at the current position for a sample of Registered Nurses (RNs) working in long term care (LTC) settings. A cross sectional correlational mailed survey was used to assess what factors help predict nurse retention. The Job Embeddedness Instrument developed by Mitchell et al. (2001) was used to determine the level of embeddedness of LTC RNs. Individual demographic data and self-reported organizational data were collected. Outcome variables were self-reports of intent to stay employed at the current organization. Job embeddedness (JE) was the only variable predictive of intent to remain employed at the current job. Job embeddedness could be used as a foundation to provide effective nurse retention strategies in LTC settings. This represents a shift from trying to prevent turnover to trying to increase retention, a fundamental shift in conceptualizing staffing in LTC settings.

#### **PROVIDER-ACADEMIC PARTNERSHIPS FOR SYSTEMS-LEVEL INTERVENTIONS OF NURSING CARE IN NURSING HOMES: THE CASE OF REDUCING HOSPITALIZATIONS**

K. Corazzini<sup>1,3</sup>, B.B. Walker<sup>5</sup>, E.S. McConnell<sup>1,3,4</sup>, L. Day<sup>1</sup>, M. Haske-Palomino<sup>1</sup>, R.A. Anderson<sup>1,3</sup>, C. Mueller<sup>2</sup>, 1. *Duke University School of Nursing, Durham, North Carolina, 2. University of Minnesota School of Nursing, Minneapolis, Minnesota, 3. Duke University Center for the Study of Aging and Human Development, Durham, North Carolina, 4. Geriatric Research, Education and Clinical Center, Durham Veterans Affairs Medical Center, Durham, North Carolina, 5. Principle Long Term Care, Inc., Kinston, North Carolina*

Hospitalizations of nursing home residents are costly and adversely affect the health of residents; annually, approximately 25% of nursing home residents are hospitalized at least once (CMS, 2013). Current, systems-level interventions to reduce avoidable hospitalizations (e.g., INTERACT-II (Ouslander et al, 2011)) do not address the fundamental nursing practice (including assessment and care planning) required for implementation, despite concerns of how practice occurs (OIG, 2013). Thus, the purpose of this paper is to describe an academic-corporate provider partnership that aims to improve nursing practice for the purpose of reducing hospitalizations in a system that uses INTERACT-II. Using a participatory research framework (Horowitz et al, 2010), feasibility and acceptability of the intervention were established through an iterative process to develop the relationship, establish shared objectives, and co-create a mechanism for intervention delivery. Results indicate that the application of participatory research to long-term care may yield rich opportunities for systems-level nursing care improvements.

#### **A GRAND CHALLENGE APPROACH TO FORMING RESEARCH PARTNERSHIPS IN DEMENTIA CARE**

E. McConnell<sup>1,2</sup>, K. Corazzini<sup>1</sup>, E.O. Egerton<sup>1</sup>, L. Day<sup>1</sup>, M. Bunn<sup>1</sup>, A. Welch<sup>3</sup>, 1. *Duke University, Durham, North Carolina, 2. GRECC-VAMC, Durham, North Carolina, 3. Lenoir Community College, Kinston, North Carolina*

To strengthen the capacity to develop community-level, practice-relevant, research-based solutions in dementia care, we developed a Grand Challenge in Dementia Care, modeled after similar efforts in other fields (engineering and global health). Our approach to engaging communities and practice partners yielded new connections among 86 health care professionals from 3 North Carolina communities (14% minority, 52% rural) representing 7 professional categories (40% nursing, 21% rehabilitation, 18% social work or psychology) across the care spectrum. All sites showed statistically significant improvements in knowledge of dementia, confidence in managing dementia care and leading initiatives to improve systems-level outcomes. Two new research projects in long-term care, one focused on reducing avoidable hospitalization and one focused on improving oral hygiene among people with dementia have resulted. Grand Challenges are a promising approach to engaging diverse practice partners in both rural and urban communities, holding potential to enhance both discovery and implementation science research.

#### **SESSION 910 (SYMPOSIUM)**

##### **DIETARY PATTERNS AND SOCIODEMOGRAPHIC PROFILE OF THE VERY OLD IN THE NEWCASTLE 85+ STUDY**

**Chair:** A. Granic, *Newcastle University, Newcastle upon Tyne, United Kingdom*

**Objective:** To characterize dietary patterns (DP) in the very old (the fastest growing section of the population) and investigate the relationship with socio-economic status (SES). **Methods:** Two-step clustering was used with 32 food groups determined by 24-hr multipass recall in 791 participants in the Newcastle 85+ Study (all born in 1921). **Results:**

We identified four discrete DP and found significant associations between cluster membership and various SES measures. Compared with others, participants in DP1 ('High Potato & Meat Diet') were the least educated ( $p=0.01$ ), occupied manual/routine jobs ( $p<0.001$ ), had the fewest income sources ( $p=0.02$ ), and were mostly non-community dwelling ( $p<0.001$ ). Participants in DP3 ('Low Saturated Fat, High Fruit & Vegetable Diet') were the most likely to be married, to own their home, and to live in an affluent area (all  $p<0.001$ ). Conclusions: As in younger populations, higher SES is associated with favorable dietary status in the very old.

#### **FOOD INTAKE HABITS OF CENTENARIANS AND NONAGENARIANS LIVING IN PORTO ALEGRE, BRAZIL**

M.S. Cabral, P. Martins, A.G. Bós, *Institute of Geriatrics and Gerontology, Pontifical Catholic University of Rio Grande do Sul, Porto Alegre, RS, Brazil*

**Objective:** To define food intake habits of Centenarians and Nonagenarians living in Porto Alegre, Brazil. To observe the necessity of financial assistance and participation on food acquisition. **Methods:** Observational, cross-sectional, descriptive and analytical study. The research was conducted from October 2011 to May 2012, using 24 hours Food Recall. We also checked socioeconomic characteristics. **Results:** We evaluated 44 elderly ranging from 90 to 103 years of age, 33 women and 11 men. Thirty-one (72%) did not need financial assistance to buy food, only 31% participated in the acquisition, 29.5% participated in the preparation of meals. Men had higher socioeconomic status ( $p = 0.0174$ ). We observed low calcium, fruit and vegetables intake and high consumption of sweet foods and drinks. **Conclusion:** We observed important nutrient deficiencies among them: D and E vitamins and calcium, leading us to realize that centenarians and nonagenarians might need nutritional interventions to improved quality of life. **Keywords:** Nutritional assessment, oldest old, nutrition, eating habits.

#### **NUTRITIONAL STATUS OF OLDEST-OLD LIVING IN PORTO ALEGRE, BRAZIL**

C. Schirmer, A.G. Bós, *Institute of Geriatrics and Gerontology, Pontifical Catholic University of Rio Grande do Sul, Porto Alegre, RS, Brazil*

**Objective:** To observe the relationship between eating quality, nutritional status To observe the relationship between eating quality and body composition in the oldest old. **Methods:** This is a cross-sectional descriptive and analytical study, with the oldest-old (80 + years) living in Porto Alegre, Brazil. **Results:** Thirty-eight oldest-old, most women, uniformly distributed with and without nutritional risk, most had good and intermediate levels of diet quality. Good eating habits were associated with improved lipid and glucose serum profile. Lean mass was the largest component of body composition of oldest-old. The smallest difference between fat and lean mass was in individuals with poor diet quality and on nutritional risk. **Conclusions:** Weight loss was not the only nutritional problem in oldest old. It was clear the importance not only of nutritional assessment, but also the presence of a dietitian that can properly assess the health demands and priorities of care of the oldest-old. **Keywords:** aged, 80 and over; nutritional status; eating habits; body composition; public health

#### **DIFFERENCES IN NUTRITION STATUS OF OLDEST-OLD BETWEEN BRAZIL AND UK**

A.G. Bós<sup>1</sup>, M.S. Cabral<sup>1</sup>, A. Granic<sup>2</sup>, *1. Institute of Geriatrics and Gerontology, Pontifical Catholic University of Rio Grande do Sul, Porto Alegre, RS, Brazil, 2. Newcastle University, Newcastle upon Tyne, United Kingdom*

Oldest-old, as defined to be a person 80 years and older, is the fastest growing population in both developed and developing countries. The University of Newcastle started the cohort study on 85+yo in 2006 and the Catholic University did two cohort efforts on 90+ in 2012 and

80+ in 2013. Those two groups have original reports on nutritional assessments. The present symposium aims to expose both experiences using different approaches. The Newcastle group will explore their data identifying diet patterns associating it to socioeconomic status. The group of Porto Alegre will show similar results using a diet quality tool associating this with serum tests results on 80 years and older subjects. Finally the symposium presents the results on nutritional assessment on 90 plus years old Brazilian and the association between micro-nutrients and nutrition status. This is the first time both groups are presenting their experience which will also aims to reach a joint assessment protocol for better address the nutritional needs for the oldest-old population.

#### **SESSION 915 (SYMPOSIUM)**

##### **OCCUPATIONAL THERAPY IN DEMENTIA CARE: TESTING MODELS TO IMPROVE OUTCOMES**

**Chair:** R.H. Fortinsky, *Center on Aging, University of Connecticut Health Center, Farmington, Connecticut*

**Discussant:** L.N. Gitlin, *Johns Hopkins University, Baltimore, Maryland*

Interventions using nonpharmacologic strategies to improve health-related outcomes for people with dementia and their family caregivers are growing in number and creativity. Occupational therapists (OTs) are increasingly being deployed in home and other settings where people with dementia stand to benefit from their clinical expertise. This symposium will feature presentations by investigators from four ongoing projects in which OTs are core interventionists. The Alzheimer's Disease Multiple Intervention Trial utilizes OTs in the home setting with the aim of delaying functional decline among older adults with dementia recruited from primary care practice sites; self-reported and performance-based measures of function are primary outcomes. The Skill-building through Task-Oriented Motor Practice intervention utilizes OTs in home and clinic settings with the aim of improving performance in activities of daily living in people with mild-moderate dementia. The Tailored Activity Program (TAP) for veterans with dementia uses an OT-guided assessment of preserved capabilities and deficits, as well as previous roles, habits, and interests to address veterans' neuropsychiatric symptoms with the aims of improving daily activity performance, reducing challenging behaviors, and reducing family caregiver stress. Another version of the TAP intervention is being tested on a hospital chronic care unit specializing in geriatric mental health, where OTs train unit staff on the use of nonpharmacologic strategies for behavior management in persons with dementia. The discussant will comment on the benefits of and future prospects for using OTs as key interventionists throughout the spectrum of nonpharmacologic interventions to improve dementia care and health-related outcomes.

##### **PREVENTING FUNCTIONAL DECLINE IN OLDER ADULTS WITH ALZHEIMER'S DISEASE: IN HOME OCCUPATIONAL THERAPY COUPLED WITH BEST PRACTICES DEMENTIA CARE**

C. Callahan, *1. Indiana Center for Aging Research, Indianapolis, Indiana, 2. Regenstrief Institute, Inc, Indianapolis, Indiana*

Given the lack of disease-modifying therapies, it is important to explore new models of care for older adults with dementia. In a previous clinical trial, we demonstrated that collaborative care reduces patients' neuropsychiatric symptoms as well as caregiver stress. However, these improvements were not associated with delays in subjects' functional decline. The specific aim of the ADMIT study is to conduct a two-year randomized, controlled trial to delay functional decline among older adults with AD by comparing a control group receiving best practices primary care with an intervention group receiving best practice primary care plus a home-based occupational therapy intervention. The occupational therapy sessions are delivered over 2 years and are tailored to the specific needs and goals of each patient-caregiver dyad; these

needs are expected to change over time. Our primary outcome is the ADCS Activities of Daily Living Inventory; we are also assessing performance-based measures of function.

### **COMPARING TREATMENT ENGAGEMENT TO THE STOMP DEMENTIA INTERVENTION WHEN DELIVERED IN HOME VERSUS CLINIC ENVIRONMENTS**

C. Ciro<sup>1</sup>, J. Poole<sup>2</sup>, L.A. Hershey<sup>1</sup>, C. Robinson<sup>1</sup>, T. Hamilton<sup>1</sup>, J.E. Knoefel<sup>2</sup>, 1. *OUHSC, Oklahoma City, Oklahoma*, 2. *University of New Mexico, Albuquerque, New Mexico*

**Purpose:** Examine treatment engagement during an occupational therapy intervention for improving activities of daily living (ADL) in people with mild-moderate dementia called STOMP (Skill-building through Task-Oriented Motor Practice). **Methods:** Two quasi-experimental studies delivered either in home or in clinic. From daily tallies, we averaged the time spent on task and the number of repetitions completed, followed by Student's t-tests to analyze differences between groups. **Results:** Despite moderate dementia, participants in both groups demonstrated significant improvement in examiner- and caregiver-rated ADL which was retained at 90 days post-intervention. Mean number of repetitions were higher in the home (M=20.6 reps) vs. clinic (M=7.9 reps;  $p>.001$ ). Mean time on task was higher in the home (M=38.7min) vs. clinic (M=27.4min;  $p>.001$ ). **Discussion:** While both groups made significant improvement in ADL performance, participants treated in the home had greater treatment engagement which may hold significance for retention of ADL improvements beyond our 90-day follow-up.

### **TAILORED ACTIVITY PROGRAM – SUPPORTING CAREGIVERS AND ADDRESSING CHALLENGING BEHAVIORS IN VETERANS WITH DEMENTIA**

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The Tailored Activity Program – Veterans Affairs (TAP-VA) randomized controlled trial tests the efficacy of TAP compared to an educational intervention for Veterans with dementia and their caregivers. TAP represents an innovative theory-based dementia care approach, drawing upon occupational therapists' (OTs) unique knowledge and skills. TAP intervention aims to reduce negative dementia-related neuropsychiatric behaviors through activity engagement and implementation of environmental supports. Negative behaviors (e.g., refusing assistance, agitation) may decrease a Veteran's ability to initiate or sustain purposeful activity, and increase caregiver strain. To identify appropriate activities, OTs conduct home-based assessments of the Veterans' abilities, routines, and interests, the home environment, as well as caregiver needs, skills, and readiness. Subsequently, an activity program is introduced during 8 in-home sessions. Measurements occur at baseline, post-intervention (4 months), and long-term (8 months) to evaluate frequency and severity of neuropsychiatric behaviors, caregiver burden, and the impact of the intervention on VA health care costs.

### **THE ROLE OF OCCUPATIONAL THERAPISTS (OT) ON GERIATRIC MENTAL HEALTH UNITS TO MANAGE DEMENTIA-RELATED BEHAVIORS**

K.A. Marx<sup>1</sup>, L.N. Gitlin<sup>1</sup>, K. VanHaitma<sup>2</sup>, D. Alonzi<sup>3</sup>, T. Gentile<sup>3</sup>, 1. *Center for Innovative Care in Aging, Johns Hopkins University, Baltimore, Maryland*, 2. *Polisher Research Institute, North Wales, Pennsylvania*, 3. *Johns Hopkins Bayview, Baltimore, Maryland*

Hospital staff have limited training on handling challenging behaviors in dementia patients. We report a feasibility study that translated the Tailored Activity Program (TAP) for use on a chronic care mental health hospital unit. 20 dementia patients admitted for neuropsychiatric disturbances, with an average age of 77.5 years (SD=7.9) and who were mostly female (n=12, 60.0%) were enrolled. Common neuropsychiatric behaviors at admission were agitation (94.1%), dysphoria (70.6%), irritability (70.6%) and aggression (47.1%). OTs assessed participants for interests and capabilities, and trained staff on using activities to engage patients. Three case studies highlight the role of OT and activities to reduce behavioral challenges. We demonstrate that TAP can be successfully adapted for implementation in hospital settings, can be embedded in standard care and is reimbursable. Our approach represents a paradigm shift for the role of OTs, from a limited focus on physical function to their direct involvement in behavioral management.

## **SESSION 920 (PAPER)**

### **ACUTE CARE I**

#### **THE CREATION OF A PATIENT-CENTERED RESEARCH AGENDA FOR THE ACUTE CARE OF OLDER PATIENTS**

H.L. Wald<sup>1</sup>, L.K. Leykum<sup>2</sup>, M. Mattison<sup>3</sup>, E.E. Vasilevskis<sup>4</sup>, D. Meltzer<sup>5</sup>, 1. *Division of Health Care Policy Research, University of Colorado Health Sciences Center, Aurora, Colorado*, 2. *South Texas Veterans Health Care System / University of Texas Health Science Center at San Antonio, San Antonio, Texas*, 3. *Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, Massachusetts*, 4. *Vanderbilt University, Nashville, Tennessee*, 5. *The University of Chicago, Chicago, Illinois*

**Background:** Medical research focused on caring for acutely ill older patients is limited. We sought to determine research priorities for the care of the acutely ill older patient with a focus on inclusion of input from patients and clinicians. **Methods:** We employed a systematic and inclusive process for topic generation modified from the James Lind Alliance involving the engagement of multiple stakeholders, including patients and clinicians. The approach included 5 phases: 1. Convene steering committee; 2. Consult with stakeholders to identify gaps in the scientific knowledge; 3. Collate a list of potential research questions; 4. Prioritize the most important research questions, and 5. Disseminate results. **Results:** A steering committee of hospital medicine and geriatrics researchers from the Society of Hospital Medicine research committee led the process. Seventeen stakeholder organizations committed to participate. Using an electronic survey, stakeholder organizations surveyed their memberships to generate 580 individual responses and 1299 unanswered questions for consideration. Two levels of review reduced the list to 75 unanswered questions. Earlier published research agendas and Cochrane reviews were reviewed to add additional relevant questions. A round of email voting by stakeholder organizations was followed by a face-to-face prioritization meeting employing nominal group technique to reach consensus. A "top 10" list of the highest priority unanswered questions for research was identified and will be presented. **Conclusions:** The input of diverse stakeholders is feasible and generated a balanced list of priority topics for inclusion in a patient-centered research agenda at the intersection of hospital medicine and geriatric medicine.

## PERFORMANCE CHARACTERISTICS OF CAM AS SCREEN FOR DELIRIUM/ENCEPHALOPATHY IN ADULT HOSPITALIZED POPULATION - RESULTS OF HOSPITAL-WIDE SCREENING PROGRAM

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A hospital-wide screening program assessing all adult patients was able to track outcomes associated with CAM results in 45,000 consecutive patients. The population was comprised of med/surg patients, including patients in ICU/CCU/PACU and step-down units, age 15-104yrs. Screening consisted of CAM (Confusion Assessment Method) performed every shift. CAM results entered into the electronic medical record were labeled as "Positive", "Negative" or "Unable to Assess" according to standardized criteria (Criteria will be discussed). Patients were categorized as "CAM Positive" if they had one or more screen results that were "Positive", "CAM Unable to Assess" if they had one or more screen results that were "Unable to Assess", or "CAM Negative" if all results were "Negative". The screening program, in place for 18+ months yielded nearly 900,000 results in 45,000 patients. ICU and Step-Down populations yielded higher proportions of "CAM Positive" and "CAM Unable to assess" patients. In all settings, with or without ICU and/or Step-Down exposure, CAM results predicted clinical outcomes. Length of Stay (LOS) was >2x longer in "CAM Positive" patients (14days vs 5days), >2x longer in "CAM Unable to Assess" patients (12days vs 5days). Combining "CAM Positive" and "CAM Unable to Assess" did not further impact LOS. "CAM Positive" patients were 2x more likely to be discharged to SNF, >2x less likely to be discharged home, and > 3x more likely to die in the hospital. Combining "CAM Positive" and "CAM Unable to Assess" predicted nearly all of the inpatient deaths. Evidence-based interventions based on screening results are discussed.

## PRE- AND IN-HOSPITAL DYNAMICS IN SELF CARE AND MOBILITY INDICES AND SHORT TERM FUNCTIONAL RECOVERY

O. Zaslavsky, A. Zisberg, E. Shadmi, *Department of Nursing, University of Haifa, Haifa, Israel*

Background Post-hospitalization functional change has been associated with adverse outcomes. The functional dynamics, as conceptualized by trajectories of change, have been previously examined, however functional change in self-care abilities may have differential manifestations than changes in the ability to mobilize in terms of the effects on functioning. Our aims were 1) to estimate the relationship between the type of patient's functional trajectory and likelihood of functional recovery (FR); 2) to compare how the trajectories in self-care versus mobility relate to post hospitalization FR. Methods The sample included 691 older ( $\geq 70$ ) adults admitted to general-medical inpatient units in two hospitals in Israel, for non-disabling diagnosis. FR was defined as a restoration of functioning to levels reported 2-weeks prior to admission. Patients were classified into twelve functional trajectories depending on decline or stability in pre-hospital stage, and decline, stability or improvement between admission and discharge in ability to perform self-care or mobility activities. Results Patients who remained stable before and during hospitalization had the highest odds of remaining in their pre-morbid functional levels. Those who experienced functional improvement during hospitalization, despite previous functional loss, had a 2.4-3 times higher likelihood of FR comparing to persistent decliners. Comparing 'self-care' versus 'mobility' dynamics, the largest difference was observed in 'Stable-Decline' group, with Adjusted Odds Ratio (AOR)=2.2 (95% CI=1.1-4.5) for FR by self-care indicators, versus AOR=1.4 (95% CI=0.5-3.7) by mobility scores. Conclusion Dynamics in functioning are important correlates of subsequent FR. In-hospital changes in mobility are more deleterious than comparable changes in self care scores.

## HOSPITAL ASSOCIATED FUNCTIONAL DECLINE: THE ROLE OF HOSPITALIZATION PROCESSES BEYOND INDIVIDUAL RISK FACTORS

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OBJECTIVES: Functional decline (FD) following hospitalization is a widely described phenomenon, yet the role of a variety of in-hospital processes that potentially increase the risk for post-hospitalization FD is poorly understood. The study aimed to test a comprehensive model accounting for individual risk factors as well as hospitalization processes that lead to FD at discharge and one-month follow-up. METHOD: Prospective cohort study performed in two Israeli medical centers from 2009 to 2011. A total of 684 participants (70 and older) admitted due to non-disabling diagnoses interviewed at admission, during hospitalization, at discharge and one-month follow-up. In-hospital mobility, continence care, sleep medication consumption, satisfaction with the hospital environment and nutrition consumption were assessed using previously tested self-report instruments to model FD from pre-morbid to discharge and from pre-morbid to one-month post-discharge. Structural Equation Modelling was used to test model. RESULTS: In-hospital mobility ( $\beta=-.48$ ,  $p<.001$ ) continence care ( $\beta=-.12$ ,  $p<.001$ ) and length of stay ( $\beta=.06$ ,  $p<.01$ ) were directly related to FD at discharge and, together with personal risk factors (such as basic functioning, risk of malnutrition, depression, chronic and acute illness severity), accounted for 64% of the variance. Nutrition consumption ( $\beta=-.07$ ,  $p<.01$ ) was significantly related to FD at one-month post discharge, explaining together with other risk factors, 32% of the variance. CONCLUSIONS In-hospital low mobility, sub-optimal continence care and low nutrition consumption account for immediate and one-month post-hospitalization FD. These are potentially modifiable hospitalization risk factors for which practice and policy should be targeted in efforts to curb the post-hospitalization FD trajectory.

## HOW MUCH TIME HOSPITALIZED OLDER PATIENTS SPEND UPRIGHT?

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Physical activity is associated with shorter stay and lower functional decline in hospitalized older adults. This study examines how long patients spend upright per day during hospitalization. Patients are recruited within 48 hours of admission to the Emergency Department or a Geriatric Assessment Unit. Currently 34 patients (of 100 planned) over the age of 70 have participated in the study (mean  $85\pm 8$  years; 17 women); 28 were admitted via the Emergency Department and 6 directly to the Geriatric Assessment Unit. On average, patients remained in the hospital  $16\pm 12$  days. Five patients died during hospitalization. Time spend upright (standing, walking) was objectively measured daily until discharge or for 2 week using ActivPAL accelerometers. On admission 45% were able to walk without hands on or standby assistance while at discharge/2 weeks this increased to 66%. Across all days, patients were sedentary on average  $78\pm 84$  minutes per day. On the first day of admission, patients spent  $61\pm 91$  minutes per day upright. Among those who remained in the hospital for at least 7 days, upright time on the 7th day increased by  $6\pm 55$  minutes per day compared to the 1st day. Among those who remained in the hospital for at least 14 days, upright time on the 14th day increased by  $18\pm 71$  minutes compared to the 1st day. Hospitalized patients spend very little time standing or walking even when they can walk independently.



## FRAILTY &amp; DISABILITY

**CHRONIC KIDNEY DISEASE AND PHYSICAL FUNCTION: DOES THE EGFR MEASURE MATTER?**

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Although chronic kidney disease (CKD) may independently contribute to physical function decline, additional evidence is necessary to establish the best renal function measure to predict physical function. We used cross-sectional data from 261 BRINK In Kidney Disease Study (BRINK) participants; BRINK is a prospective cohort study of middle and older-age adults with moderate CKD (N=171) and non-CKD controls (N=90) (mean age: 69.9 (CKD), 67.3 (non-CKD)). Estimated glomerular filtration rate (eGFR) was calculated from serum cystatin C, creatinine and a combination of cystatin C and creatinine using CKD-Epidemiology Consortium equations. We considered continuous, categorical (eGFR: <45, 45-59, ≥60) and dichotomous (eGFR<60) functional forms of eGFR. Short Physical Performance Battery (SPPB) scores were categorized into three groups: very high (SPPB: 12), high (SPPB: 10-11), and moderate-to-low functioning (SPPB: ≤9). Covariates included age, sex, race, smoking status, measured body mass index and glycosylated hemoglobin. The covariate-adjusted association between each eGFR measure (cystatin C; creatinine; cystatin-creatinine) on physical function group was estimated with ordered logistic regression. Patterns were similar in nature for each eGFR measure, but continuous cystatin C eGFR provided the best model fit (C-statistic: 0.73) and was positively associated with higher physical performance categories: a 10-unit higher eGFR-cystatin was associated with a 53% greater odds of a higher functioning SPPB group (OR: 1.53, 95% CI: 1.03, 1.74). Although clinicians more commonly use creatinine in practice, cystatin C may be the better renal measure for etiologic research on physical function and CKD in older adults.

**EFFECT OF AGE ON VOCAL CHOICE REACTION TIME AFTER A SUDDEN SINGLE UNDERFOOT PERTURBATION DURING GAIT**

J.O. Nnodim, H. Kim, J.A. Ashton-Miller, University of Michigan, Ann Arbor, Michigan

The vocal choice reaction times of healthy young (22.0 ± 3.2 years; n = 32; 15 women) and old (72.0 ± 6.4 years; n = 8; 5 women) were measured while stationary as well as during perturbed and unperturbed gait. The perturbation was administered using customized shoes instrumented to lower a small flap suddenly at random under the medial or lateral forefoot during a single stance phase of 12 of 30 gait trials. The results showed that vocal choice reaction time was significantly prolonged by gait (368.9 ± 87.0 ms at standstill vs 487.4 ± 89.4 ms during unperturbed gait in healthy young adults [p=0.0018]; 332.8 ± 76.5 ms at standstill vs 529.9 ± 119.3 ms during unperturbed gait in healthy old adults [p=0.0015]). In young healthy adults, no further significant prolongation occurred with sudden simultaneous underfoot perturbation (494.7 ± 125.3 ms), in contrast with healthy older adults who showed a significant increase in vocal choice reaction time under the same circumstance (614.7 ± 80.2 ms; p = 0.016). Neither group significantly altered their step kinematics. We conclude that healthy old adults were

significantly slowed in the performance of a non-gait attentional assignment by the requirement to respond to a concurrent gait challenge.

**FRAILTY PREVALENCE AND KIDNEY TRANSPLANT OUTCOMES IN RECIPIENTS OF ALL AGES**

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Objective: To quantify the prevalence of frailty in adult kidney transplantation (KT) recipients of all ages, and its association with adverse KT outcomes (length of stay [LOS], graft loss, and mortality). Methods: 544 KT recipients were enrolled in a prospective cohort study. Frailty was measured as per Fried scale. The risk of prolonged LOS was estimated using adjusted modified Poisson regression and the risk of death-censored graft loss and mortality was estimated using an adjusted Cox proportional hazards model. Results: At KT, 21.9% of all recipients were frail; 27.8% of older (age≥65) and 20.8% of younger (age<65) were frail, and 36.1% and 31.4% were intermediately frail, respectively. Frailty was associated with prolonged LOS (16.1% of frail patients had LOS>3 weeks, versus 12.7% intermediately frail and 8.6% nonfrail), higher death-censored graft loss (9.33 per 100,000 person-years for frail patients, versus 6.51 intermediately frail and 3.77 non-frail), and higher mortality (13.47 per 100,000 person-years for frail patients, versus 9.11 for intermediately frail and 5.03 for non-frail). In adjusted models, frailty was independently associated with 1.80-fold (95%CI:1.03-3.16, P=0.04) higher risk of LOS ≥3 weeks, 3.03-fold (95%CI:1.16-7.88, P=0.023) higher risk of death-censored graft loss, and 2.35-fold (95%CI:1.04-5.33, P=0.040) higher risk of death. The association of frailty with KT outcomes did not differ between older and younger participants (all p-values for interaction >0.05). Conclusions: KT recipients of all ages have a very high prevalence of frailty, more than 3-fold higher than community dwelling older adults. In this population, regardless of chronologic age, frailty is associated with poor KT outcomes.

**A LOW COST ANDROID HEARING ASSISTIVE TECHNOLOGY APPLICATION**

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Objectives: Hearing loss is a prevalent condition among older adults. Hearing aids and other forms of hearing assistive technology (HAT) are expensive (~\$1000 and higher) and batteries costly. Smartphones can be used as an inexpensive alternative form of HAT. The applications currently on the market are iOS-based, and do not publish their electroacoustic characteristics, and most do not comply with FDA Regulatory Requirements for Hearing Aid Devices and Personal Sound Amplification Products guidelines. Our objective was to develop an Android based HAT application that integrated safety requirements for output intensity and duration, and provided the electroacoustic properties of interest according to the ANSI S3.22 specification. Methods: Using the Android platform we tailored the aural output to patient needs by generating an audiogram to characterize the extent of hearing loss of the patient via a hearing test; an equalizer customizes the frequency response for each ear accordingly. We employed both a discrete-wavelet transform filter and spectral subtraction methods for denoising. Form factor considerations for elder use were taken into account, to allow for ease of use. Findings: Recycled cell phones can be configured for low income elders with poor hearing, alleviating the need for hearing aid and battery purchase. Conclusions: This Android application/device has far-ranging quality of life applications. Our future goal is to test the feasibility and acceptability of this device using the Client Oriented Scale of Improvement (COSI) and the Abbreviated Profile of Hearing Aid Benefit (APHAB). This application could be useful for global health applications, as well.

## LONG-TERM CONSEQUENCES OF FALLS ON WELL-BEING IN OLDER WOMEN

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**Background** - The physical and mental health consequences of a fall may influence the individual's well-being. Well-being is an important outcome in clinical trials, but the long-term consequences of falls on well-being in an aging population are unclear. The aim was to investigate the long-term consequences of falls and injurious falls on well-being in community-dwelling older women. **Methods** - Data were from 10,059 participants in the Australian Longitudinal Study on Women's Health who returned the 1999 survey (then aged 73-78 years). 3960 Participants completed all 3-yearly follow-up surveys until 2011 with questions about falls and injurious falls in the past year and the Short Form-36. Scores on the SF-36 sub-scales (range 0-100) were compared between fallers and non-fallers using linear mixed modelling adjusted for survey, age, education, depression, chronic conditions and physical activity. **Results** - Over 12 years, 46.7% reported at least one fall, respectively. The fallers scored significantly lower than the non-fallers on all sub-scales ( $p < 0.001$ ). The differences in scores ranged from -5.8 (95% confidence interval [CI] -6.8, -4.8) for role physical to -1.5 (CI -1.9, -1.2) for mental health. The associations were somewhat weaker when only complete cases were included and somewhat stronger for injurious falls. **Conclusion** - In community-dwelling older women, falls and injurious falls influence all domains of well-being and these effects remain on the long-term.

## SESSION 930 (SYMPOSIUM)

### POLICY SERIES: THE 2015 WHITE HOUSE CONFERENCE ON AGING: GSA SECTION LEADERS REFLECT BACK AND LOOK FORWARD TO THE NEXT PHASE OF AGING POLICY ACTION

**Chair:** G.E. Alkema, *The SCAN Foundation, Long Beach, California*

2015 marks a historic year with the anniversaries of Medicare, Medicaid, the Older Americans Act, and the Americans with Disabilities Act. In this session, thought leaders from each of GSA's sections will describe key milestones in their field that have impacted aging policy and what they envision for the future of aging policy from their field's vantage point. Sponsored by GSA's Public Policy Committee.

## SESSION 935 (SYMPOSIUM)

### CULTURALLY-SENSITIVE RESEARCH ON MINORITY DEMENTIA CAREGIVERS: THE NEED FOR TAILORED ASSESSMENTS

**Chair:** V.E. Richardson, *College of Social Work, The Ohio State University, Columbus, Ohio*

Most studies on dementia caregivers have used white respondents from non-diverse backgrounds; however, based on a recent report from the Alzheimer's Association older minorities, in particular older Hispanics and African Americans, are proportionately more likely than older whites to have Alzheimer's disease. Research also indicates that cultural views substantially affect the stress associated with caregiving. The objective of this symposium is to present novel data on four typically insulated caregivers from South Korean, Hispanic, rural, and African American backgrounds. In this symposium, we present four papers focusing on the unique themes from each subgroup. All data were based on in-depth interviews using a culturally-sensitive research model and modified grounded theory integrating an intersectionality, critical feminist gerontology framework. Purposive sampling methods were used to recruit participants, and member checking was conducted

in second interviews. In the paper on South Korean caregivers cultural isolation exacerbated by language barriers contributed to the physical and mental stresses these families encountered. Although language barriers also segregated the Hispanic caregivers, the researcher uncovered cultural values, such as anti-institutionalization, that collided with the needs of these caregivers. These issues differed from those reported in the paper about African American caregivers who more successfully used formal services and social and spiritual supports. Finally, the effects of geographic isolation among rural caregivers and their use of informal community supports were discussed in the fourth paper. All authors argued for transcendence over stereotypes and individualized assessments that practitioners could use to more effectively tailor interventions with these minority dementia caregivers.

### EXPLORING THE EXPERIENCES OF KOREAN CAREGIVERS OF PERSONS WITH DEMENTIA

S. Won, *Department of Social Welfare, Daegu Cyber University, Gyeongsan Gyeongbuk, Democratic People's Republic of Korea*

In-depth interviews by a well-trained culturally competent gerontology practitioner were conducted in Los Angeles with two spousal and three daughter Korean caregivers of dementia persons. Four of the five caregivers had no substitute caregiver because few children or relatives lived in the United States. In addition, as first generation immigrants, language barriers substantially interfered with these families obtaining formal support. Participants reported feeling overwhelmed, burdened with caregiving, and that Korean values placed heavy responsibilities on them to care for their loved ones. However, they also took caregiving for granted. Spousal caregivers wished to avoid burdening their children while the daughters felt sorry for their aging Mothers who were forced to follow rigid gender roles. New information about Korean dementia caregivers along with recommendations for how service providers can better reach and serve these caregivers and engage in more culturally-competent practice are discussed.

### SUPPORTING CULTURALLY-ORIENTED CHOICES AMONG AFRICAN AMERICAN CAREGIVERS OF PERSONS WITH DEMENTIA

E. Bradley, V.E. Richardson, *College of Social Work, The Ohio State University, Columbus, Ohio*

Using a modified grounded theory approach five dementia caregivers from African American backgrounds were interviewed by an experienced practitioner trained in culturally competent interviewing. Participants demonstrated resilience relying on their spirituality, carving out time for respite, and by receiving help from friends and extended family. They cared for loved ones in the home for as long as possible while not in opposition to using community-based care options. They sought to "broker" community resources coupled with their friendships and kinship networks as a means of maintaining their commitment to home-based care. Practitioners must have cultural awareness of these caregivers' historical experiences to "struggle and survive." By applying a strengths-based perspective linking kin and formal supports into a more integrated, holistic practice approach service providers will more successfully fortify these caregivers' faith and culturally-oriented preferences and help them conserve their mental and physical well-being to maintain their ongoing caregiver responsibilities.

### EXPLORING THE EXPERIENCES OF RURAL-COMMUNITY CAREGIVERS OF PERSONS WITH DEMENTIA

A.K. Gibson<sup>1</sup>, S.D. Tarrant<sup>2</sup>, 1. *College of Social Work, The Ohio State University, Columbus, Ohio*, 2. *Sanders-Brown Center on Aging, University of Kentucky Alzheimer's Disease Center, Lexington, Kentucky*

In-depth interviews were conducted by well-trained, rural-based gerontology practitioners with caregivers of persons with dementia

residing within rural communities of Ohio and Kentucky (n=15). Participants reported lack of available support services, lack of information regarding available resources, lack of financial supports, and distance to services as major issues that impacted their role as caregivers. Despite these barriers, many rural caregivers indicated that they felt well supported through informal community members such as neighbors and church members. Faith-based organizations were a major resource for a number of these often geographically-isolated caregivers. Challenges to supporting rural community caregivers along with recommendations for how service providers can provide a better continuum of care for this population will be introduced.

### **I WISH I COULD DO MORE: THE EXPERIENCE OF DEMENTIA CAREGIVERS FROM LATINO BACKGROUNDS**

N.L. Fields, *School of Social Work, The University of Texas at Arlington, Arlington, Texas*

Dementia among older Hispanics is growing at a faster rate than among white populations, yet there is limited research that examines the needs of family caregivers within the context of culturally-sensitive research methods. A researcher with expertise in the cultural aspects of caregiving conducted in-depth qualitative interviews with a sample of dementia caregivers from Latino backgrounds using a modified grounded theory approach (n = 5). Participants reported the frequent use of community-based services; however, a lack of Spanish speaking informal and formal care providers was perceived as a challenge to caregiving. Bilingual communication was indicated as an essential aspect of culturally competent care. However, participants also highlighted the importance of acknowledging the heterogeneity of the Latino population in terms of cultural values and traditions. Finally, a strong sense of familism was expressed by participants, particularly in their expressed desire to avoid institutionalization of their loved ones.

## **SESSION 940 (SYMPOSIUM)**

### **GREEN HOUSE NURSING HOMES: IMPACT AND OUTCOMES**

**Chair:** N. Fishman, *Robert Wood Johnson Foundation, Princeton, New Jersey*

**Co-Chair:** B.J. Bowers, *University of Wisconsin-Madison, Madison, Wisconsin*

**Discussant:** M. Downs, *University of Bradford, Bradford, West Yorkshire, United Kingdom*

Culture change models were initially designed and implemented as a means for improving quality of life for long-term care residents. More recently, interest has focused on the clinical and financial implications of culture change. This symposium addresses important questions about what might be achieved through culture change initiatives. The first presenter, a senior program officer at the Robert Wood Johnson Foundation, will present the existing knowledge related to Green House (GH) model nursing homes, and overview the Foundation's THRIVE collaborative of interrelated research projects. The remaining presentations will provide new information from the THRIVE collaborative. The first research presentation addresses the relationship between clinical outcomes and a pre-identified set of care related structures and processes in both GH and comparison nursing homes. The second research presentation focuses on GH homes achieving the highest quality clinical outcomes, exploring how these homes differ from other GH homes. The third research presentation reports on the relationship between Medicare service use and expenditures and adoption of the GH model. The final research presentation compares the quality of care in homes that adopted the GH model with homes that were similar but did not adopt the model. Two discussants will address the implications of findings for the future of the GH model and for culture change initiatives more generally, as well as the implications for research and practice development within

an international context. Attendees will learn about the relationship of culture change practices to outcomes for residents and organizations.

### **CULTURE CHANGE MODELS: OUTCOMES, IMPACT AND PROMISING PRACTICES**

N. Fishman, *Robert Wood Johnson Foundation, Princeton, New Jersey*

While a greater sense of home for residents of Green House and other culture change models has long been accepted, the evidence for broader impact, particularly in relation to financial and clinical outcomes, is lacking. Understanding what can be gained from implementing culture change is important for determining how resources should be targeted, and what should be expected in return. Equally important is a need to understand the specific culture change processes that can be expected to achieve improved outcomes. This presentation will summarize the existing knowledge related to Green House nursing homes, setting the stage for the four presentations to follow that provide new data from the THRIVE research collaborative.

### **RELATIONSHIP OF CARE TO OUTCOMES IN GREEN HOUSE AND OTHER NURSING HOMES**

S. Hudak<sup>2</sup>, P. Brown<sup>3</sup>, R.J. Smout<sup>3</sup>, S.D. Horn<sup>3</sup>, L.W. Cohen<sup>1</sup>, D.A. Reed<sup>1</sup>, S. Zimmerman<sup>1</sup>, *1. Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, 2. SLH Clinical Consulting, East Grand Rapids, Michigan, 3. ISIS, Inc, Salt Lake City, Utah*

Culture change nursing homes (NHs), including Green House NHs, intend to provide person-centered care and enhanced resident quality of life. Emerging evidence suggests that culture change may not relate to better clinical outcomes, however. This study examined relationships of structures and processes of care to resident outcomes (hospital transfer, falls, pressure ulcer development, functional status change) in a matched sample of 14 Green House homes, 4 higher culture change NHs, and 4 lower culture change NHs. Results indicate that after controlling for resident characteristics, various setting structures and clinical processes are associated with better outcomes. Some of these structures and processes are found more frequently in Green House NHs; others are equally common in higher culture change NHs; and still others are more common in higher and lower culture change NHs. Discussion will address the complex relationship between resident characteristics, structures and processes of care, and outcomes in NHs.

### **RELATIONSHIPS AMONG RESIDENT OUTCOMES, CLINICAL AND ORGANIZATIONAL PRACTICES IN GREEN HOUSE HOMES**

B.J. Bowers<sup>1</sup>, K. Nolet<sup>1</sup>, T.J. Roberts<sup>2</sup>, B.J. Ryther<sup>1</sup>, N. Jacobson<sup>1</sup>, *1. University of Wisconsin-Madison, Madison, Wisconsin, 2. William S. Middleton Veteran Affairs Hospital, Madison, Wisconsin*

While culture change initiatives were designed specifically to improve quality of life for long term care residents, little is known about how culture change initiatives affect resident clinical outcomes. This study was designed to explore the practices associated with high performing Green House homes and to determine the extent to which these practices are the result of or are facilitated by the Green House model. Data collection included field work and in-depth interviews at four Green House sites, representing both high and low performers on hospital transfers, pressure ulcers and falls. In-depth, onsite interviews were conducted with leadership and frontline staff in Green House homes to understand how care structures and processes related to these outcomes are designed and implemented. Study findings explore the clinical and organizational processes associated with overall level of organizational performance on hospital transfers, pressure ulcers and falls and relationship to the Green House model.

## THE IMPACT OF THE GREEN HOUSE MODEL ON MEDICARE UTILIZATION AND EXPENDITURES FOR NURSING HOME RESIDENTS

D. Grabowski<sup>1</sup>, C.C. Afendulis<sup>1</sup>, D.J. Caudry<sup>1</sup>, A. O'Malley<sup>2</sup>, *1. Harvard Medical School, Boston, Massachusetts, 2. Dartmouth College, Hanover, New Hampshire*

This research represents the first large-scale longitudinal evaluation of the impact of the Green House nursing home model on Medicare spending and utilization for services such as hospitalizations, skilled nursing facility care, and hospice. We examined the implementation of the Green House Model in eighteen nursing homes over our study period and compared Medicare expenditures and utilization relative to propensity score matched comparison facilities. Thus, we relied on a differences-in-differences framework in which we compared the pre-post change in Medicare expenditures and utilization for nursing homes adopting the Green House relative to the change over this same time period in facilities not adopting the model. The results are still preliminary but the findings will provide guidance to policymakers and providers about how the Green House model impacts Medicare spending.

## THE EFFECT OF THE GREEN HOUSE MODEL ON NURSING HOME QUALITY OF CARE

D. Grabowski<sup>1</sup>, A. O'Malley<sup>2</sup>, D.J. Caudry<sup>1</sup>, C.C. Afendulis<sup>1</sup>, *1. Harvard Medical School, Boston, Massachusetts, 2. Dartmouth College, Hanover, New Hampshire*

One innovation to potentially address low quality nursing home care is the Green House Project, a culture change initiative that alters the living environment and increases the level of resident and staff autonomy compared with a traditional nursing home. Although this model is thought to improve the quality-of-life for residents, less is known about the impact on clinical quality-of-care. Using a differences-in-differences framework, we examined the pre-post change in quality in eighteen nursing homes adopting the Green House model relative to propensity score matched comparison facilities. This study will provide strong evidence on whether the Green House model delivers better clinical nursing home quality.

## SESSION 945 (SYMPOSIUM)

### DIRECT SERVICE WORKER (DSW) TURNOVER IN LONG-TERM CARE (LTC)

**Chair:** A. Bukach, *Benjamin Rose Institute on Aging, Cleveland, Ohio*

DSW turnover is a critical problem in the LTC industry. This study examined differences in DSW turnover over time, as well as predictors of DSW turnover among four types of LTC agencies: nursing homes, home health, mental health and those that serve developmentally disabled populations. Stratified random sampling was used to select sites from the four types of agencies and five geographic regions across Ohio. Data were obtained from 49 agencies at two points in time. Overall, the DSW turnover rate was consistent at 31% in both years across all providers. There was a significant increase in turnover for the region type small city from 2011 (18%) to 2012 (37%). Additionally, the following organizational characteristics were predictors of lower DSW turnover: Fewer DSWs on payroll, rural location, and higher maximum hourly wages for DSWs. Recommendations include learning from the successes of organizations with little or no turnover.

### THE DETERMINANTS OF DIRECT SERVICE WORKER TURNOVER IN OHIO

R.J. Gitter<sup>1</sup>, F.K. Ejaz<sup>2</sup>, A. Bukach<sup>2</sup>, *1. Economics, Ohio Wesleyan University, Delaware, Ohio, 2. Benjamin Rose Institute on Aging, Cleveland, Ohio*

Turnover among direct service workers (DSWs) in the long-term care (LTC) industry is quite high as are associated replacement costs.

This study examined the characteristics of DSWs to predict the probability of their leaving their employer within six months. A longitudinal study design was used to collect data from 235 DSWs from 44 employers representing four LTC industries. Using logit analysis, we found that Home Health DSWs were more likely to turnover as were women, particularly married women with children ages 6 to 18. Involving the DSW in the care plan, having permanent assignments, and planning one's schedule increased the chances of DSWs staying. Higher wages, paid family sick leave, and employer contributions to family health insurance were found to reduce turnover. These results point to the importance of addressing DSW vulnerable background characteristics, type of involvement at work and family friendly policies as methods to reduce turnover.

### DIRECT SERVICE WORKERS: EMPLOYER AND EMPLOYEE PERSPECTIVES ON EXAMINING JOB SATISFACTION AND TURNOVER

F.K. Ejaz<sup>1</sup>, R.J. Gitter<sup>2</sup>, M. Sengupta<sup>3</sup>, *1. Benjamin Rose Institute, Cleveland, Ohio, 2. Ohio Wesleyan University, Delaware, Ohio, 3. National Center for Health Statistics, Hyattsville, Maryland*

This symposium addresses issues related to job satisfaction and turnover among direct service workers (DSWs) in four types of long-term care (LTC) settings. Data were collected as part of a larger, longitudinal study from administrative staff as well as DSWs in various LTC settings. Stratified random sampling was used to select sites from the four provider types and five geographic regions across Ohio. Dr. Ejaz will present data 503 DSWs drawn from 82 providers. She will focus on examining predictors of job satisfaction guided by the LTC Stress and Support model. The analyses uses a mixed-model approach to include data from DSWs and providers. Findings will be discussed in the context of practice and policy implications. Ms. Bukach will focus on predictors of turnover using provider-level data on turnover in 2011 and 2012. 42 providers had complete data on turnover over time. Overall turnover rate was consistent at 31% in both years across providers although there were regional differences. Recommendations for practice will include a discussion of learning from organizations that had little or no turnover. Dr. Gitter will focus on determinants of turnover from both the employer and employee perspectives using data from 44 providers and 235 DSWs. Using logit analyses, results point to the importance of addressing DSW characteristics that place them as a vulnerable population group; and of including family friendly policies from a management perspective. Dr. Sengupta will serve as the discussant and will use her experience of conducting national LTC surveys to discuss the findings.

## SESSION 950 (SYMPOSIUM)

### FORGET MEMORY: RECONNECTING PEOPLE WITH DEMENTIA THROUGH PARTICIPATORY ARTS

**Chair:** J.M. Kinney, *Miami University, Oxford, Ohio*

**Co-Chair:** K. De Medeiros, *Miami University, Oxford, Ohio*

**Discussant:** C.J. Camp, *Center for Applied Research in Dementia, Solon, Ohio*

In her book, Anne Basting argues that imagination rather than memory should be the focus of dementia-based interventions, and that the participatory arts (performance based creative arts that are led by a professional artist) offer a unique way to achieve this. Over the past decade, arts-based interventions for people with dementia have increased dramatically. Although these interventions are conceptualized in the context of person centered care and boast short- and long-term benefits for participants, there is little consensus about what components are necessary, mechanisms at play, and the intended outcomes of these interventions (as well as how to measure them). In addition, arts-based interventions vary widely along multiple dimensions, including the level and type of training of the facilitator, the roles of the facilitator(s) and participants

in the process, the type and degree of structure built into the process, and the intended product that results from the process. Our symposium reports on results from a research retreat in which three directors of national participatory arts-programmed met with social science and behavioral researchers to better understand components, mechanisms and outcomes. Discussions were recorded; transcripts were reviewed for themes. The first paper examines personhood in the context of the life course perspective of linked lives and the second paper describes specific validation techniques that facilitators use in their interventions. The final paper uses a literary studies approach to explore how poetry improves well-being for people with dementia. Taken together, these papers advance our understanding of the processes that underlie participatory arts-based interventions.

### **“HEALING WORDS”: CRITICAL INQUIRY OF POETRY INTERVENTIONS IN DEMENTIA CARE**

A. Swinnen, *Department of Literature and Art, Maastricht University, Maastricht, Netherlands*

Poetry interventions are one example of creative approaches that increasingly receive recognition as good practices in dementia care. This seems counterintuitive given that people with dementia lose their language abilities and poetry is regarded to be the most complex literary form. This paper argues that in addition to the existing research on poetry interventions from a health and social sciences' perspective, an approach from literary studies will help provide answers to the question *how* poetry works to improve the wellbeing of people with dementia. Drawing on participant observations of poetry interventions by Gary Glazner (Alzheimer's Poetry Project, USA) and Sandra Stark (Zona's Kiosk Amsterdam, NL), this paper frames poetry interventions as a specific form of oral poetry in which people with dementia are positioned as co-creators of embodied texts and directly benefit from the power of the spoken word.

### **TOGETHER IN ART: EXPLORING PERSONHOOD IN THE CONTEXT OF LINKED LIVES**

L. Hahn, 1. *Sociology & Gerontology, Miami University, Oxford, Ohio*, 2. *Mahidol University, Salaya, Thailand*

People living with dementia have unique thoughts and outlooks on the world, and — though communication may not look or sound like it once did — their voices deserve to be heard. This idea is at the heart of participatory, creative arts programming for individuals with neurocognitive impairment. Thomas Kitwood (1997) called it personhood, a standing or status bestowed upon one human being, by others, that implies recognition, respect, and trust. Literature about personhood and person-centered care typically positions non-impaired individuals, such as care providers, as those who grant status. In participatory arts interventions, however, status is bestowed by and among people with dementia, called co-creators, as they craft original poems, dances, or songs alongside professional artists. Using the research literature on personhood and self, this paper considers the concept of personhood within the context of linked lives, a life course principle that underscores the power of community and connection with others.

### **VALIDATION OPPORTUNITIES AROUND IN PARTICIPATORY ARTS-BASED INTERVENTIONS FOR PEOPLE WITH DEMENTIA**

D.B. Kaplan, *Institute for Geriatric Psychiatry, Weill Cornell Medical College, White Plains, New York*

Participatory arts-based interventions for people with dementia involve the collaborative creation and performance of poetry, story, song, and dance. These programs are designed to stimulate self-expression, social interaction, and feelings of empowerment and validation. Professional artist facilitators met with social and behavioral researchers to articulate common intervention components, mechanisms and outcomes. This paper reviews facilitators' detailed descriptions of their

use of validation in the implementation of their interventions and as a cornerstone of person-centered dementia care. For example, specific verbal and non-verbal communication techniques demonstrate respect for participants. Equal opportunities for participation honor each person's potential contribution. Incorporating the artistic contributions of participants empowers group members to actively engage and interact. Encouraging the sharing of life experiences celebrates the personhood of participants. These validation techniques offer direct benefits for participants during the interventions as well as indirect benefits when modeled in the presence of formal care providers and family members.

## **SESSION 955 (SYMPOSIUM)**

### **A STUDY OF GUARDIANSHIP IN PENNSYLVANIA**

**Chair:** D.A. Menio, *CARIE, Philadelphia, Pennsylvania*

**Co-Chair:** J. Campbell, *Bryn Mawr College, Bryn Mawr, Pennsylvania*

**Discussant:** J.K. Davitt, *University of Maryland School of Social Work, Baltimore, Maryland*

In 2011, the Pennsylvania Department of Aging (PDA) contracted with the Center for Advocacy for the Rights and Interests of the Elderly (CARIE) to conduct an in-depth study of the guardianship process and practices in Pennsylvania. Specific attention was given to the interaction of the aging service system (particularly Oder Adult Protective Services) with guardianship, attorneys and the courts. This session will focus on the methods, results, and recommendations of the comprehensive study.

### **GUARDIANSHIP: FOCUSING ON THE ISSUES**

D.A. Menio, *CARIE, Philadelphia, Pennsylvania*

Guardianship of an older adult can be life-saving, even as it may mark the end of the right to make decisions regarding how, where and with whom she or he may live. It is critical that the system by which a vulnerable older adult comes under the protection reflects best practices for preserving the rights and interests of the older adult. This research was designed to develop a deep and nuanced level of understanding of the role of the Pennsylvania AAAs in the provision of guardianship services and to make recommendations based on input from Pennsylvania stakeholders and from other states. The study examined current guardianship practices for older adults; how AAAs participate in the process; and best practices nationally to improve guardianship practices and the role of AAA's in Pennsylvania's guardianship process. Information will be presented about what has happened since the study was released in late 2013.

### **GUARDIANSHIP: FINDINGS FROM A COMPREHENSIVE STUDY**

J. Campbell, *Social Work, Bryn Mawr College, Bryn Mawr, Pennsylvania*

Guardianship law and practice are subject to continuous analysis and evaluation due to ongoing issues: how it is initiated, how guardians are selected, how guardians are educated and overseen, and how wards are protected. This study collected information from a wide range of sources: results and recommendations from national and state studies and reports; the insight of more than 40 key informants; eight focus groups – 4 with PS workers and 4 with ombudsman; a survey of elder law attorneys (140); and a survey of all 52 PA AAA directors. The study findings are presented in chronological order beginning with a discussion of the issues related to the pre-guardianship phase, guardianship hearing phase, and finally the post-appointment phase. The study concludes with recommendations for each of these phases of guardianship including systems reforms that can be implemented through a mixture of legislation, regulation, policy, and practice action steps.

## DEMENTIA CARE AND PERSONNEL NEEDS

## DEMENTIA CARE MANAGEMENT IN AN UNDERSERVED COMMUNITY: A COMPARISON OF TWO DIFFERENT APPROACHES

J. Chodosh<sup>1,2,3</sup>, B.A. Colaiaco<sup>3</sup>, K.I. Connor<sup>1</sup>, D.W. Cope<sup>2</sup>, H.L. Liu<sup>4</sup>, D. Ganz<sup>1,2,3</sup>, D. Cherry<sup>5</sup>, B.G. Vickrey<sup>1,2,3</sup>, 1. VA Greater Los Angeles Healthcare System, Los Angeles, California, 2. UCLA, Los Angeles, California, 3. RAND Health, Santa Monica, California, 4. RAND Health, Boston, Massachusetts, 5. Alzheimer's Association, Los Angeles, California

**Objectives:** To compare the effectiveness and costs of a telephone-only approach to an in-person plus telephone approach for delivering an evidence-based coordinated care management program for dementia. **Methods:** We randomized 151 patient-caregiver dyads from an underserved predominantly Latino community to two arms sharing the same care management protocol but differing in implementation strategy: in-person visits at home and/or in the community plus telephone and mail, versus telephone and mail only. We compared between-arm follow-up differences (6 and 12 months) on primary outcomes of caregiver burden (Zarit Burden Interview) and care-recipient problem behaviors (Revised Memory and Behavior Problem Checklist). We also compared patient-caregiver dyad retention, care quality, healthcare utilization, and costs as secondary outcomes. **Results:** Recruitment achieved 60% of the planned sample size. Caregiver burden, care-recipient problem behaviors, retention, and healthcare utilization did not differ across arms. Retention was 61% at 6 months. Adherence to process measures of care quality improved substantially over time in both arms, and did not differ between arms: adherence to 11 out of 19 indicators more than doubled from baseline to follow-up. Average total program cost per case per month for the in-person arm intervention was \$358 compared to \$216 for the telephone arm, with no significant between-arm difference in healthcare utilization/costs over the follow-up period. **Discussion:** Dementia care quality improved regardless of how care management was delivered; large differences in effectiveness or cost offsets were not detected. It remains unclear whether greater recruitment and higher retention would reveal moderate but meaningful differences across approaches.

## ANTIPSYCHOTIC QUALITY REPORTING: EFFECTS ON ANTIPSYCHOTIC AND PSYCHOACTIVE MEDICATION USE

J.A. Lucas<sup>1,2</sup>, J.R. Bowblis<sup>3,4</sup>, C.S. Brunt<sup>5</sup>, 1. Seton Hall University, College of Nursing, South Orange, New Jersey, 2. Rutgers University, Institute for Health, Health Care Policy and Aging Research, New Brunswick, New Jersey, 3. Miami University, Department of Economics, Oxford, Ohio, 4. Scripps Gerontology Center, Miami University, Oxford, Ohio, 5. Georgia Southern University, Department of Finance and Economics, Statesboro, Georgia

**Background:** With evidence of negative health outcomes for use of antipsychotic medications in nursing home residents with dementia, public policy initiatives have attempted to reduce the unnecessary use of these medications. **Objective:** This study examines how nursing homes changed their use of antipsychotic and other psychoactive medications in response to Nursing Home Compare's initiation of publicly reporting antipsychotic use in July, 2012. **Research Design and Subjects:** The study includes all state recertification surveys (n=40,415) for facilities six quarters prior and post the initiation of public reporting. Using a difference-in-difference framework, the change in use of antipsychotics and other psychoactive medications is compared for facilities subject to public reporting and facilities not subject to reporting. **Results:** The overall percentage of residents using antipsychotics, hypnotics, or

any psychoactive medication is found to decline after public reporting. Facilities subject to reporting experienced an additional decline in antipsychotic use (-1.94 v. -1.40 percentage points) but did not decline as much for hypnotics (-0.60 v. -1.21 percentage points). Any psychoactive medication use did not vary with reporting status, and the use of antidepressants and anxiolytics did not change significantly over the study period. **Conclusion:** Public reporting of an antipsychotic quality measure can be an effective policy tool for reducing the use of antipsychotics – though the effect may only exist in the short run. While all facilities reduced the use of psychoactive medications, there is some evidence of substituting drugs that are not publicly reported but have similar sedative properties as antipsychotics.

## TEAM-BASED INTERPROFESSIONAL COMPETENCY (TIC) TRAINING IN DEMENTIA SCREENING AND MANAGEMENT

Z.S. Tan<sup>1</sup>, D. Gans<sup>1</sup>, R. Price<sup>1</sup>, J. Damron-Rodriguez<sup>1</sup>, M. Cadogan<sup>1</sup>, D. Osterweil<sup>1</sup>, S.K. Shimomura<sup>2</sup>, J. Chodosh<sup>3,1</sup>, 1. University of California, Los Angeles, Los Angeles, California, 2. Western University of Health Sciences, Pomona, California, 3. VA Greater Los Angeles Health System, Los Angeles, California

**Background:** According to the Alzheimer's Association, as many as 50% of people satisfying diagnostic criteria for dementia remain undiagnosed. The California Geriatric Education Center developed a team-based training program for dementia-related competencies of four professions (medicine, nursing, pharmacy and social work) whose scope of practice involves dementia care. **Methods:** We identified the minimum profession-specific competencies for dementia screening and management and highlighted overlaps and opportunities for interprofessional collaboration. A multidisciplinary group of 10 faculty was trained to facilitate four interactive competency stations on: 1.) Dementia screening; 2.) Differential diagnosis; 3.) Management/Team Care Planning; and 4.) Caregiver Stress. Registrants were organized into teams of five to include at least one member of each profession. The teams rotated through all stations, completing assigned tasks through interprofessional collaboration. Post program, participants were provided access to the Workshop Toolkit Essentials in order to implement the program at their own institution. **Results:** A total of 82 professionals (31 physicians; 18 nurses; 18 pharmacists; 11 social workers; 4 others) successfully completed the program. Change scores showed significant improvements in overall competence in dementia assessment and intervention (average change=1.24, p<0.0001), awareness of importance of dementia screening (average change=0.93, p<0.0001) and confidence in managing medication issues (average change=0.94, p<0.0001). Over 81% (n=54) of participants reported feeling "confident"/"very confident" using the dementia toolkit at their home institution. **Conclusion:** The TIC is an innovative team teaching model that can be used to enhance dementia screening and management competency in medical, nursing, pharmacy and social work practitioners.

## PERSONAL CARE AIDE WORKFORCE DEVELOPMENT: VITAL KEY TO MEETING THE NEED FOR HOME-BASED LONG TERM SUPPORTS AND SERVICES

C. Luz<sup>1</sup>, D.P. Ochylski<sup>2</sup>, 1. Michigan State University, East Lansing, Michigan, 2. University of Michigan, Ann Arbor, Michigan

The U.S. population is aging, resulting in a higher demand for in-home long-term care and a shortage of qualified workers to provide the type of care most needed, i.e. assistance with tasks of daily living such as bathing, dressing, cooking and transportation. Most paid in-home, hands-on care is provided by personal care aides (PCAs). A larger PCA workforce is needed to meet the care gap and it is critical that these workers be qualified to provide competent, safe care in a respectful manner. Yet, no federal PCA training requirements exist and many PCAs work without credentials even though they are in an excellent position to monitor client health and intervene early before costly,

adverse events occur. The Personal and Home Care Aide State Training (PHCAST) demonstration, administered by the Health Resources and Services Administration, recently funded six states to develop, implement, and test PCA training programs. The Michigan model, Building Training...Building Quality, is a 77 hour, in-person training that covers basic competencies, emphasizes person-centered care, and is taught using adult learner teaching strategies. This community-based, participatory project involved multiple partners, was implemented in five regions across Michigan, and was evaluated using a quasi-experimental design, randomized control group and mixed methods of data collection and analyses. Findings indicate significant knowledge gained and improved skills, job status, and job satisfaction among the 400 participants. This session will cover key findings and lessons learned that are of value to others interested in developing a competent PCA workforce through a similar training program.

### **EXPLORING THE EXPERIENCES OF CARE STAFF IN DEMENTIA CARE SETTINGS: HOW RESIDENTIAL CARE AIDES' CONCEPTUALIZE GOOD CARE**

H. Cooke, N.L. Chappell, K.I. Stajduhar, *Univ of Victoria, Victoria, British Columbia, Canada*

While person-centered care is increasingly viewed as synonymous with good quality dementia care, its widespread adoption and integration remains elusive. As such, greater examination of the structure of dementia care provision and the experiences of the residential care aides (RCAs), who wield enormous practical influence yet little formal power, is required. To date, however, few studies have examined how RCAs conceptualize good dementia care or construe their daily care provision. As part of a larger ethnographic study focused on the influence of the physical and organizational care environment on care provision, we explored RCAs perceptions of good dementia care. In-depth interviews were conducted with 13 care aides in two nursing homes with specialized dementia units in British Columbia, Canada. Thematic analysis of the interview transcripts revealed that RCAs equated good dementia care with tangible care outcomes – keeping residents clean, comfortable, calm and happy. Of note was the limited variation that occurred across their narratives – such tangible outcomes were almost always the RCAs first response. Also central to the RCAs notions of good care was their care approach, that is, delivering care in a gentle, kind and patient manner. Noticeably absent from their narratives was any discussion of autonomy, choice, independence, or continuity of self, themes which have emerged in studies exploring the subjective experiences of residents with dementia living in care (e.g., Clare et al., 2008). Study findings highlight the importance of messaging and modeling person-centered care, of rewarding relational care processes, and providing environmental supports that foster such care.

### **SESSION 965 (POSTER)**

#### **BIOMARKERS OF AGING AND AGE-ASSOCIATED DISEASE**

##### **ASSOCIATIONS BETWEEN TELOMERE LENGTH AND ALLELIC VARIATION IN TWO GROUPS OF OLDER ADULTS**

C.E. Perry, D. Hedges, D.T. Ricks, B.L. Nielsen, M.J. Larson, J. Kauwe, V. Call, *Brigham Young University, Provo, Utah*

Accelerated telomere shortening has been associated with more rapid aging and increased disease risk. Particularly, shortened telomere length has been associated with major depressive disorder and cognitive impairment, both prominent disorders in aging. Genetics, stress exposure and exercise all affect in telomere length. . Given the emerging importance of telomere length on healthy aging and the lack of investigation on the effects of particular polymorphisms on telomere length in older adults, we examined the relationship between of polymorphisms

associated with mood disorders, stress tolerance, and cognition and telomere length in two groups of older adults: 1) older adult participants in a competitive athletic event and 2) community-dwelling older adults. Telomere lengths in the group of older adults participating in a competitive athletic event were significantly longer than in the community-dwelling group ( $Z=7.349$ ,  $p<0.00001$ ). We found no associations between gene polymorphisms and telomere length in the athletic participants. In the community-dwelling older adults, however, we found that the LS genotype of the 5-HT polymorphism was negatively associated with telomere length ( $B=-21.456$ ,  $p=0.023$ ), the GG genotype of the GR gene was positively associated with telomere length ( $B=31.99$ ,  $p=0.012$ ), and the A1 allele of the DRD2 was positively associated with telomere length ( $B=19.09$ ,  $p=0.030$ ). These findings suggest that lifestyle or other environmental effects may modify associations between allelic variation and telomere length in older adults. This research helps elucidate the importance of genetic variation, telomere length, and exercise in aging and their effects on chronic diseases prevalent in aging.

##### **INTERLEUKIN-6 AND C-REACTIVE PROTEIN AS PREDICTORS OF COGNITIVE DECLINE IN LATE MIDLIFE**

A. Singh-Manoux, *INSERM, Paris, France*

Peripheral inflammatory markers are elevated in those with dementia. In order to assess their etiological role we examined whether interleukin-6 (IL-6) and C-reactive protein (CRP), measured in midlife predict concurrently assessed cognition and subsequent cognitive We used mean value of IL-6 and CRP, assessed on 5217 persons (27.9% women) in 1991-1993 and 1997-1999 in the Whitehall II longitudinal cohort study, categorized into tertiles to examine 10-year decline (assessments in 1997-1999, 2002-2004 and 2007-2009) in standardized scores (mean=0, standard deviation=1) of memory, reasoning, and verbal fluency using mixed models. Mini Mental State Examination (MMSE) was administered in 2002-2004 and 2007-2009, decline  $\geq 3$  points was modeled with logistic regression. Analyses were adjusted for baseline age, sex, education, and ethnicity; further analyses were also adjusted for smoking, obesity, Framingham cardiovascular risk score, and chronic diseases (cancer, coronary heart disease, stroke, diabetes, and depression). In cross-sectional analysis, reasoning was 0.08 standard deviation (95% CI: -0.14, -0.03) lower in participants with high compared to low IL-6. In longitudinal analysis, 10-year decline in reasoning was greater (ptrend=0.01) among participants with high-IL6 (-0.35; 95% CI: -0.37, -0.33) than those with low IL-6 (-0.29; 95% CI: -0.31, -0.27). In addition, participants with high IL-6 had 1.81 times greater odds ratio of decline in MMSE (95% CI: 1.20, 2.71). CRP was not associated with decline in any test. Elevated IL-6 but not CRP in midlife predicts cognitive decline; the combined cross-sectional and longitudinal effects over the 10-year observation period corresponded to an age effect of 3.9 years.

##### **DOES HIGHER BMI INCREASE THE RISK OF DEVELOPING OSTEOPOROSIS?**

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Aim Determine the relationship between weight status as determined by body mass index (BMI) and T-Score as a predictor of increased risk of osteoporosis. Method A retrospective analysis was performed on data from patients previously seen in our Osteoporosis Center. Based on densitometric diagnosis (DXA), T-Score  $>-1$ ;  $<-1$  but  $>-2.5$ ; and  $<-2.5$  were determined and patients were classified as having a normal bone mass, osteopenia or osteoporosis respectively. Body Mass Index (BMI) was calculated and patients were assigned to an appropriate weight status (underweight, normal, overweight and obese) using CDC weight classification. We then performed a cross tabulation analysis for T-Score and BMI by weight status to determine relationship and subsequent level of significance. Results We included 1,662 patients, primarily

veterans: 1,359 men and 303 women, mean age 65.4 years, 94% were age 50 and older. Body mass index for this population were underweight (2%), normal weight (23.9%), overweight (37.9%) and obese (36.3%). Densitometric diagnosis revealed that in this population, 15.3% had osteoporosis, 56.8% had osteopenia and 27.9% had a normal bone density. BMI had a low significant association with DXA T-Score  $r = .291$ ,  $p < .01$ . Chi-square measure of association between T-Score with BMI were significant  $\chi^2 167.2$  ( $6, n = 1665$ ). Conclusion Results suggest that patients who were overweight were more likely to have osteopenia; a group which reportedly have a greater number of fractures.

### HEMISPHERIC DIFFERENCES IN TIME PERCEPTION IN OLDER AND YOUNGER ADULTS

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Time perception is defined as our subjective experience of time. Time perception is involved in many aspects of our lives such as goal setting, driving, risk taking, interpersonal relations, and organizational behavior. This current study investigated hemispheric differences in time perception and how emotion and age affect this process. Undergraduate students ( $N=108$ ) and adults over the age of 55 years ( $N=61$ ) participated in a bisection task using angry, happy, and neutral faces presented to either the right or left visual field to investigate the tendency for an individual to under or overestimate durations of time. Each stimulus was presented randomly five times at each of the two standard durations (400 and 1600 ms) and at five intermediate comparison durations (600, 800, 1000, 1200, and 1400 ms). It was hypothesized that the right hemisphere would be more susceptible to the emotions of the faces and would thus overestimate the duration of the high emotionality faces compared to neutral more so than the left hemisphere would. A difference between young and old adults was expected to emerge. While the ANOVA for the angry and neutral expressions condition yielded no significant findings, there was a trend towards an age difference with old participants exhibiting a tendency to underestimate the shorter durations. The ANOVA for the happy and neutral expressions condition yielded a significant interaction between duration and age. A pairwise comparison revealed that old participants overestimated the shortest duration and underestimated longer durations.

### PTX3 AS A MARKER OF ACUTE CORONARY SYNDROME RELATES TO MMP9 AND SHOWS LOW FREQUENCY OF PROMOTER METHYLATION

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Background—The PTX3 expressed in the heart under inflammatory conditions, plays an important role in atherogenesis. But the mechanism of PTX3 involving in atherogenesis and the factors influencing PTX3 levels are not yet clear extensively. Mechanisms of epigenetic control of PTX3 gene related to coronary artery disease have not been investigated thus far. Objective—To investigate the association between PTX3 level and MMP9 (biomarker of vulnerable plaque). To explore the influence of PTX3 promoter methylation on the PTX3 plasma concentration and its link with acute coronary syndrome (ACS). Methods and results —Plasma levels of PTX3 and MMP9 were measured by ELISA. PTX3 promoter methylation were evaluated by methyl-specific PCR. PTX3 plasma concentrations in ACS was  $8.84 \pm 7.12$  ng/mL (mean  $\pm$  SD), higher than the mean  $\pm$  SD of ACS-free groups ( $3.60 \pm 2.20$  ng/mL). MMP9 plasma concentrations of ACS was  $355.95 \pm 343.84$  ng/mL, higher than the mean  $\pm$  SD of ACS-free groups ( $173.27 \pm 146.61$  ng/mL). Correlation was found between the plasma levels of PTX3 and MMP9 ( $R^2 = 0.53$ ). Promoter methylation index of PTX3 were lower in ACS ( $58.91 \pm 25.00$ ) than in those with ACS-free ( $71.59 \pm 13.33$ ). Conclusions —PTX3 as a biomarker of acute coronary syndrome may be involving in formation of vulnerable plaque. Epigenetic regulation through methylation of PTX3 promoter may be associated with the risk of ACS.

### MICROVASCULAR MECHANISMS OF AGE-RELATED COGNITIVE DECLINE

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Hypertension in the elderly substantially contributes to cerebrovascular damage and promotes the development of vascular cognitive impairment. Despite the importance of the myogenic mechanism in cerebrovascular protection, it is not well understood how aging affects the functional adaptation of cerebral arteries to high blood pressure. Hypertension was induced in young (3 mo) and aged (24 mo) C57/BL6 mice by chronic infusion of angiotensin II. In young hypertensive mice, the range of cerebral blood flow autoregulation was extended to higher pressure values and the pressure-induced tone of MCA was increased. In aged hypertensive mice autoregulation was markedly disrupted, and MCAs did not show adaptive increases in myogenic tone. In young mice the mechanism of adaptation to hypertension involved up-regulation of the 20-HETE/TRPC6 pathway and this mechanism was impaired in aged hypertensive mice. Downstream consequences of cerebrovascular autoregulatory dysfunction in aged angiotensin II-induced hypertensive mice include exacerbated disruption of the blood-brain barrier and neuroinflammation (microglia activation, up-regulation of pro-inflammatory cytokines and chemokines), which were associated with impaired hippocampal cognitive function. Collectively, aging impairs autoregulatory protection in the brain of mice with angiotensin II-induced hypertension, potentially exacerbating cerebrovascular injury and neuroinflammation.

### AGING EXACERBATES OBESITY-INDUCED IMPAIRMENT OF NEUROVASCULAR COUPLING AND CEREBROMICROVASCULAR RAREFACTION: IMPLICATIONS FOR THE PATHOMECHANISM OF VASCULAR COGNITIVE IMPAIRMENT

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Obesity has deleterious effects on the brain and cognitive function in the elderly, however the mechanisms through which aging and obesity interact to promote cognitive decline remain unclear. We hypothesized that aging exacerbates obesity-induced disruption of both functional and structural integrity of the cerebral microcirculation, contributing to a significant decline in higher brain function. To test our hypothesis we compared neurovascular coupling measured by CBF response above the barrel cortex to whisker stimulation, and cerebral capillary density by CD 31-labeling of cerebral vessels in young (7 mo) and aged (24 mo) high fat diet-fed obese C57BL/6 mice. High fat diet in young mice severely impaired CBF response to whisker stimulation (~50 % decrease), which was significantly exacerbated by aging. The high-fat diet-induced decrease in neurovascular coupling was significantly improved in both young and aged mice in the presence of the NADPH oxidase inhibitor apocynin. Aged animals exhibited a significant decrease in cerebral capillary density, and the aging-induced rarefaction was significantly exacerbated by high-fat diet. These functional and structural pathological changes were associated with a decreased hippocampal-dependent cognitive function in aged obese mice. In conclusion, aging exacerbates high fat diet-induced decrease in neurovascular coupling via increased NADPH-oxidase derived ROS production,



and significantly enhances capillary rarefaction in the brain probably contributing to cognitive decline observed in aged obese animals.

#### **FIVE-YEAR CHANGES IN 24-HOUR HOLTER-BASED PARAMETERS AND INCIDENT DEMENTIA: THE CARDIOVASCULAR HEALTH STUDY**

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**Background:** Pathophysiological changes occurring prior to cognitive impairment in dementia are not well understood. Identification of early predictors is crucial for prevention and treatment. Previous studies have suggested a link between dementia onset and sleep disturbances, with sleep disturbances suggested to predate the onset of impairment. **Methods:** To determine if 24-hour Holter-based parameters or changes in these parameters over 5 years differ between cognitively normal older adults with (DEM, N=78) and without (N-DEM, N=156) incident dementia over a 9-year follow up, Holter data from the Cardiovascular Health Study (CHS), a population-based longitudinal study of adults >65 years old, were analyzed using a nested case-control design. DEM participants were matched by age, gender, and diabetes status to two N-DEM controls. Holter-based parameters included: heart rate, heart rate variability, ectopy counts, apparent bed and wake times and dipping heart rate pattern at night. **Results:** Although most Holter-based parameters were not different between groups at baseline, DEM were less likely to have a clear dipping heart rate pattern at night (p=0.010). When changes over 5 years were compared, DEM were more likely to have an increased apparent sleep duration (p=0.023) and tended to have a larger change in sleep duration (>1 hour longer or shorter) (p=0.060). DEM were also more like to have a  $\geq 5$  count increase in VPCs on the second recording compared with N-DEM (p=0.022). **Conclusion:** Holter-based parameters may potentially help identify circadian and clinical abnormalities in older adults at risk for dementia

#### **ANTICIPATING THE HEALTH OF AGING WOMEN: EXPLORING THE POTENTIAL FOR A SENSITIVE PERIOD AT MID-LIFE USING A BIOMARKER FOR INFLAMMATION**

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Population aging in the United States is of economic concern, particularly with respect to its effect on rising health care costs. The health of aging women bears particular economic significance because of women's longer life expectancy and higher utilization of health services. Knowledge about the health of "near-elderly" women could facilitate efforts to predict and plan for future health service utilization and spending. Using survey data of menopausal women in the U.S., I will examine if the menopausal transition—otherwise known as perimenopause—represents a sensitive period for systemic inflammation. Fibrinogen is a sensitive indicator for inflammation, that, in relatively high concentrations, is strongly associated with cardiovascular disease, poor physical functioning, and increased risk of mortality. I will test the hypothesis that stressful life events experienced during perimenopause is associated with a greater increase in fibrinogen than stress experienced during pre- or post-menopause. Associations of fibrinogen and life stress experienced by menopausal stage will be analyzed longitudinally using a time and individual fixed effects analysis. Significant results would suggest that endocrine changes during perimenopause represent a pathway for stress to influence fibrinogen concentration. Null results would confirm earlier work on sensitive periods suggesting that windows in early development have the most profound impact on adult health outcomes. The implications of this study include greater insight into aging women's health and knowledge about whether increased risk of later-life mortality and morbidity can be linked to the interaction of endocrine changes and stress occurring at mid-life.

#### **CROSS-DOMAIN BIOMARKER INTERACTIONS INFLUENCE COGNITIVE AGING:ALZHEIMER'S-RELATED GENES AND TYPE 2 DIABETES**

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**Introduction:** This gene x health study focused on exemplars of two domains of risk factors associated with Alzheimer's disease (AD). Specifically, we tested the interactive (i.e., magnifying) effects of (a) Apolipoprotein E or Clusterin (CLU; rs11136000) or PICALM (rs541548) with (b) type 2 diabetes (T2D) on (c) both executive function and memory in (d) older adults from the Victoria Longitudinal Study. **Method:** The present study includes three longitudinal waves (9 years) of data on n=597 (baseline) adults (age range 53 – 95, M age = 70). Initial analyses were conducted on wave 1 data, with extension to longitudinal follow-ups. **Results:** Results reveal several concurrent gene x health interaction effects. First, for ApoE x T2D, typical memory deficits associated with T2D are attenuated by the presence of the protective  $\epsilon 2$  allele, whereas adults without T2D exhibit similar memory performance with or without the  $\epsilon 2$  allele. Second, for CLU x T2D, adults without T2D show no executive function deficits across CLU risk categories, whereas adults with T2D and a CLU risk allele (C) exhibit the poorest executive function performance. Third, for PICALM x T2D, adults with T2D and a PICALM risk allele (C) exhibit relative memory deficits when compared to adults without a PICALM risk allele or T2D. **Conclusion:** Cross-domain AD-related biomarker interactions may reveal both vulnerability magnification and combined protective effects for concurrent cognitive performance in normal aging. In the presentation, we extend the analyses to examine effects on 9-year cognitive change as a surrogate endpoint for potential neurodegenerative decline.

#### **TOLERANCE OF DEFICITS IN WOMEN IS GREATER THAN IN MEN, BOTH IN RELATION TO DEMENTIA AND DEATH**

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**Introduction:** Many age-related health problems have been associated with dementia, suggesting that, as with death, late-life dementia may be determined less by specific risk factors, and more by the operation of multiple health problems, which can be aggregated in a frailty index. **Methods:** Older adults in the Canadian Study of Health and Aging who were cognitively healthy at baseline were analyzed (men=2,902, women=4,337). Over 10 years, 44.8% men and 33.4% women died; 10.2% men and 9.1% women developed dementias. A frailty index was constructed from 42 items, including both known dementia risk factors and other deficits. Variable numbers (n=1 to 42) of randomly selected deficits were used to calculate interactions of the index, i.e. the proportion of deficits present in an individual. **Results:** At baseline, women had a higher mean FI than did men (0.13±0.08 vs. 0.17±0.09). The age-adjusted hazard ratios per additional deficit were 1.22 (95% CI 1.18-1.26) in men and 1.14 (1.11-1.16) in women in relation to death, and 1.18 (1.12-1.25) in men and 1.08 (1.04-1.11) in women in relation to dementia. In both sexes, the predictive value increased with the number (n) of deficits considered, regardless whether they were known dementia risks. **Discussion:** In both men and women, mortality and dementia risk are related to frailty. The relationship was clearest when all available health deficits were included in a frailty index. For both death and dementia, although women had accumulated more deficits than men, they tolerated them better, as evidenced by lower relative risks per deficit.

## FUNCTIONAL IMPAIRMENT IN COMMUNITY-DWELLING OLDER ADULTS: THE ROLE OF HEALTH, FALLS, AND PHYSICAL ACTIVITY

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This study aims to identifying determinants of functional impairment of older adults and to establish the cutoffs values that may accurately distinguish who are at risk for loss of performance in activities of daily living. Participants included 1424 community-dwelling old adults aged +65 years. Three field assessments were used: 1) Health status and falls history questionnaire; 2) YPAS Physical Activity (PA) Survey; 3) Chair-stand and 8-foot up-and-go tests from Senior Fitness Test battery and tests 4-7 from the Fullerton Advanced Balance Scale. Participants were divided into low functional fitness (LFF) and high functional fitness (HFF) groups, according to the sum of percentiles obtained in each test by each subject divided by the median of all sample. Backward logistic regression models showed that being woman, having 75+ years, poor health perception and fear of falling, being a recurrent faller in the previous year and overweighted were determinants for LFF (1.70 < OR < 5.89). Vigorous PA and moderate walking were protective for LFF when adjusted for other determinants (both OR = 0.98). The odds estimating correctly LFF elderly was 73% indicating that models fit well the data. The area under ROC curve showed good discrimination of the participants with LFF (AUC: 0.80; 95% CI: 0.77-0.83; sensitivity: 75%; specificity: 80%). Cutoff-values for vigorous PA, moderate walking, and body mass index were 60 min/week, 150 min/week, and 27 kg/m<sup>2</sup>, respectively. Thus, moderate- and vigorous-intensity PA, motor ability, lower limbs strength and self-confidence should be included into screening routines to identify older adults with functional impairments. This study was supported by Portuguese Foundation for Science and Technology (EXPL/DTP-DES/1915/2013 & PTDC/DES/72946/2006).

## THE IMPACT OF VALVULAR HEART DISEASE ON MORTALITY IN THE OLDEST OLD: INSIGHTS FROM THE BELFRAIL STUDY

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**Aims** To describe the clinical presentation of subjects aged 80 and older with valvular heart disease (VHD) and to determine the risk of VHD for all-cause and cardiovascular mortality, independent from other echocardiographic parameters and other morbidities. **Methods** The BELFRAIL (BFC80+) study is a prospective, observational, population-based cohort study of 567 subjects aged 80 years and older in Belgium. Echocardiograms were performed at baseline in 556 (98%) participants. Subjects were followed up for an average time of 2.9 ± 0.25 years. Cause specific mortality was registered by the participant's general practitioner. **Results** The prevalence of clinically relevant VHD was 11% (n = 60). Mitral stenosis was more prevalent in women and an age-dependent increase of the prevalence of severe aortic stenosis was seen. The global disease burden was higher in participants with VHD (median of 2 morbidities [IQR 1-4] vs 1 morbidity [IQR 0-3] (P = 0.027)). VHD, and more specifically mitral stenosis and aortic stenosis, was found to be an independent predictor for both all-cause (HR 1.9 (95% CI 1.1-3.1)) and cardiovascular mortality (HR 2.7 (95% CI 1.3-5.3)). Left ventricular ejection fraction remained an independent risk factor for cardiovascular mortality (HR 0.95 (95% CI 0.90-1.0)). **Conclusion** In this large representative population-based sample of subjects aged 80 and older a high prevalence of clinically relevant VHD was found. VHD was identified as a strong risk factor for all-cause and cardiovascular mortality, independent of other structural cardiac

abnormalities, systolic function and diastolic function at baseline and concomitant diseases.

## FOXO3 GENOTYPE AND HUMAN LONGEVITY. WHAT IS THE CLINICAL MECHANISM?

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**BACKGROUND:** The FOXO3 gene is among the most replicated genetic associations with human longevity. Little is known, however, about how carriers of the longevity-associated allele achieve protection against mortality. **HYPOTHESIS:** The longevity-associated allele of FOXO3 protects against one or more major age-related causes of death, such as coronary heart disease (CHD), cancer or stroke. **METHODS:** 3,584 elderly (mean age 78 years) American men of Japanese ancestry from the Kuakini Hawaii Lifespan Study, an embedded cohort of aging men within the Kuakini Honolulu Heart Program, were studied. Cause-specific mortality was assessed over a 9 year follow-up period in carriers versus non-carriers of the longevity-associated allele of the FOXO3 gene (rs2802292:G allele) using a multivariable Cox proportional hazards model. **RESULTS:** Over the 9 year follow-up period, carriers had 16% risk reduction (RR: 0.84; CI: 0.74-0.95; p < 0.008) for all-cause mortality, 41% risk reduction (RR: 0.59; CI: 0.43-0.80; p < 0.001) for CHD mortality, and 28% risk reduction (RR: 0.72; CI: 0.58-0.88; p < 0.002) for all other combined mortality (mainly infectious, inflammatory and multi-morbidity-related mortality), independent of major known risk factors. **CONCLUSIONS:** These data support further research to uncover molecular mechanisms for FOXO3's protection against these, mainly inflammation-linked, age-related diseases. Supported by NIA grants 2R01AG027060 and 1R01AG038707.

## STEPS PER DAY AS A MARKER OF PHYSICAL FUNCTION IN COMMUNITY-DWELLING ELDERLY PEOPLE

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The purpose of this work was to evaluate the diagnostic-accuracy of habitual ambulatory activity to distinguish people with and without low physical function (LPF). Participants were 464 community-dwelling old adults (157 males). Measures of physical activity (PA) evaluated with accelerometry included time spent in low-, moderate-, vigorous-, moderate plus vigorous- intensity, total PA, steps/day, 1-minute, and 30-minute peak stepping cadence. LPF was determined through self-report using the Composite Physical Function (Rikly and Jones, 1998). Forward stepwise logistic regression analysis revealed that steps/day, gender, and age group had a significant effect on the probability of having LPF. The likelihood of having LPF increased exponentially for those accumulating < 3290 steps/day; the odds ratio of having LPF decreased 10 % for every 100 steps less than this benchmark. The probability of LPF was 81% lower in men compare with similarly aged women taking the same number of steps/day. The probability was 213% lower in adults aged 65-74 yrs than in those aged 75+ yrs. The percentage of correct classifications was 90%, demonstrating the utility of the model to classify new observations. The adjusted multifactorial model (steps/day, gender, age group) showed a high sensitivity (88.7 %) and specificity (89.2 %), as well an excellent discriminant ability to identify older adults with LPF (ROC c = 0.955, 95% CI: 0.936-0.973; p < 0.001). Of all accelerometer-derived outputs, steps/day appears to be most useful for identifying community-dwelling elderly people with LPF and thus at

risk for loss of physical independence. Funded by Portuguese Science and Technology Foundation EXPL/DTP-DES/1915/2013.

### **BIODEMOGRAPHY OF LONGEVITY: EFFECTS OF PARENTAL LONGEVITY, EARLY-LIFE AND MIDLIFE CONDITIONS**

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Earlier studies found that parental characteristics as well as early-life conditions and mid-life environment play a significant role in survival to advanced ages. However, little is known about simultaneous effects of all these three factors on longevity. This ongoing study attempts to fill this gap by comparing 836 American centenarians born in 1890-1891 with their 841 shorter-lived peers born in same years and died at age 65 years. The records are taken from computerized family histories, which are then linked to 1900 and 1930 U.S. censuses with over 90% linkage success. The 1900 U.S. census provided us with information on childhood conditions when centenarians and controls were 9 to 10 years old while 1930 census described midlife characteristics. Centenarians and controls were compared using multivariate logistic regression model with sequential inclusion of different groups of variables. The study found a significant independent effect of parental longevity on survival to age 100. Some mid-life characteristics (farmer occupation for men, radio in household in 1930 for women) and early-life conditions (birth in the second half of year) also proved to be significant predictors of longevity. The results of this study suggest that both familial background, mid-life and early-life characteristics play an important role in longevity and that these effects may be gender-specific. Supported by the U.S. National Institute on Aging (R01 AG028620).

### **BLOOD-BRAIN BARRIER BREAKDOWN: A COMMON TRIGGER FOR CNS DISEASES**

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The blood-brain barrier (BBB) prevents the influx of plasma components into the brain tissue and facilitates strict maintenance of brain homeostasis. BBB breakdown allows plasma components to enter into the brain interstitium. Some of these (e.g., amyloid peptides, autoantibodies and complement) interact with cell surfaces, disturb neuronal function and may contribute to long-term progression of CNS diseases such as Alzheimer's disease (AD). In the present study, immunohistochemistry (IHC) showed that BBB breakdown is ubiquitous in regions of AD pathology. This allows blood-borne, brain-reactive autoantibodies to bind selectively to pyramidal neurons and trigger pathological changes including intraneuronal accumulation of amyloid-beta peptides, a hallmark feature of AD, and expansion of the lysosomal compartment. Western analysis and human protein microarrays confirmed the presence of AD-specific autoantibodies in human sera. IHC revealed that brain-reactive autoantibodies bind to the same neurons that accumulate amyloid. Autoantibodies targeting neuronal surface proteins dramatically increased the rate and extent of intraneuronal amyloid deposition in the cerebral cortex and hippocampus in mouse brain slice cultures. Autoantibodies showing the most robust neuronal binding were also the most potent inducers of intraneuronal amyloid deposition. Results suggest that BBB breakdown and brain-reactive autoantibodies act together to drive CNS diseases such as AD. Further, we propose that the type of CNS disease and its severity are determined in part by the specific brain location, the type of local neurons that populate this region, the extent of BBB breakdown and the identities and titers of blood-borne brain-reactive autoantibodies. Supported by the Osteopathic Heritage Foundation.

### **AGE DIFFERENCES IN BIOMARKERS RELATED TO CNS PAIN MECHANISMS**

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Older adults experience greater clinical pain and are at a greater risk of developing chronic pain compared to younger adults. Potential contributors to this increased risk for chronic pain include the age-related deterioration of the immune and neuroendocrine systems. However, no studies have characterized immune and neuroendocrine biomarkers in response to experimental pain in healthy older adults without chronic pain. The aim of our study was to quantify the pain-evoked changes in several biomarkers in the context of experimental pain stimulation. Healthy younger and older adults (n=22) participated in 3 randomized laboratory sessions where experimental heat and cold pain and a control warm stimuli were administered over four minutes on separate days. Blood samples were collected before and after stimulation (3, 15, 30, 45, 60, 90, and 120 minutes) and were assayed using Multiplex high sensitivity kits. Older adults had significantly higher biomarker concentrations at baseline ( $\beta$ -endorphin, Cortisol, Substance P, TNF- $\alpha$ , IL-6, IL-8, IL-4, IL-10,  $p$ 's<0.05). Most significantly, older adults had an earlier induction and delayed recovery of biomarkers compared to younger adults in response to pain ( $p$ 's<0.05), but not warm. There were similar age-related differences in cytokines after monocyte LPS stimulation ( $p$ <0.05). Our study is the first to show that even in healthy older adults; the immune and neuroendocrine response to pain is similar to chronic pain patients. Our results also suggest that pain experiences, which are cumulative in aging, may be important contributors to the age-related imbalance in pro- and anti-inflammatory networks providing additional avenues for potential interventions.

### **VENULAR DENSITY BY 7TESLA MRI CORRELATES WITH COGNITIVE FUNCTION IN MOBILITY LIMITED OLDER ADULTS**

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Study: Brain small vessel disease (SVD) including lower vessel density and microbleeds are emerging as pathognomonic markers of cerebral arterial angiopathy, and are related to diminished brain function in older adults without neurological disorders. Brain SVD can remain clinically silent for several years before manifesting as stroke or dementia. Although difficult to quantify on conventional neuroimaging, recent advances in ultra-high field (UHF) neuroimaging can more accurately identify SVD markers. Methods: We applied 7Tesla to quantify SVD severity and to explore the correlations with cognition. Participants of Lifestyle Interventions and Independence for Elders received UHF at study entry (N=58, 76yo, 43 Female). Susceptibility-weighted MR Images were rated by 2 independent raters (ICC >0.8). Post-capillary venules (length 9-10mm) were traced in predetermined 10cm<sup>2</sup> periventricular areas. Dilated perivascular spaces, microbleeds, and white matter edema were also measured. Tests of processing speed (DSST) and memory (HVLt-R) were administered. Results: Lower venular density was associated with significantly lower performance on DSST (spearman rho: -0.28,  $p$ = 0.045) and on HVLt-R (more false positive responses on recognition memory, spearman rho: -0.40,  $p$ = 0.003). Perivascular spaces and edema in the white matter were identified in more than half of the participants but were not related to cognition. Conclusion: UHF can uncover early signs of SVD that are not readily visible using low-field MRI and that are related to lower processing speed and memory. Significance: UHF can help early identification of older adults at greatest risk of SVD and may provide biomarkers to closely monitor brain vascular health.

## THE ROLE OF THE APOLIPOPROTEIN E E2 ALLELE IN BIOMARKERS, GERIATRIC DISEASES, AND LIFESPAN: INSIGHTS FROM THE LONG LIFE FAMILY STUDY

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Apolipoprotein E e2 allele shows favorable effects on lipids, various geriatric diseases, and lifespan in some studies but not in the others. This inconsistency may reflect inherent complexity of mechanisms linking genes with phenotypes characteristic for post-reproductive life. We focused on Long Life Family Study whose participants were selected for their chances to live long lives and were comprised of long-living parents, their offspring, and spouses of parents and offspring (N=4,659). We used the Cox and mixed effects regression models to examine associations of e2 (contrasted by e3/3 genotype) with diseases of heart (HD), stroke, pneumonia, asthma, macular degeneration, bronchitis, lifespan, and the levels of lipids and creatinine. No associations of e2 with macular degeneration, asthma, and bronchitis were detected. Marginally significant protective associations were seen for lifespan, pneumonia, stroke, and creatinine levels in some family groups. Strong protective effects were seen for low density lipoprotein cholesterol (LDL-C) and HD. The association with LDL-C was not family-group specific ( $\beta=-0.063$ ,  $p=6.0E-31$ ) whereas that with HD was observed in long-living parents and offspring (RR=0.74,  $p=4.2E-3$ ) but not in spouses (RR=1.28,  $p=0.28$ ). We found that the associations of e2 with HD and lifespan were strongly modulated by LDL-C that substantially improved the effects for HD, RR=0.60,  $p=3.1E-6$ . P-value for lifespan was improved by one-order of magnitude; the effect was limited to women with longer lifespan (RR>93years=0.60,  $p=1.6E-3$ ). Unlike LDL-C, HD did not affect this association. Our results suggest that e2 allele may show favorable effects on biomarkers, diseases, and lifespan through different mechanisms.

## PERINATAL COMPLICATIONS PREDICT SUBJECTIVE AND OBJECTIVE AGING INDICATORS BY MIDLIFE

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Background: The model of the developmental origins of health and disease suggests that impaired growth in utero may permanently change the body's function and metabolism, leading to accelerated aging. Evidence of perinatal programming of adult mortality raises the question of what mechanisms embed this long-term effect. We tested the hypothesis that perinatal complications are associated with biomarkers of accelerated aging already at midlife, before onset of aging-related diseases. Methods: In the first prospective-longitudinal study we tested the association between perinatal complications (assessed at birth) and two aging indicators assessed at age 38 years—objectively by leukocyte telomere length and subjectively by perceived facial age—in the representative Dunedin birth cohort (N=1037). Results: Perinatal complications predicted both leukocyte telomere length ( $\beta=-.101$ ,  $p=.004$ ) and perceived age ( $\beta=.097$ ,  $p=.005$ ) by midlife. We repeated analyses with controls for measures of genetic and social risk that could predispose to perinatal complications and accelerated aging, and for measures of poor health taken in between birth and age-38 follow-up. These covariates attenuated, but did not fully explain, the associations observed between perinatal complications and aging indicators. Conclusions: Our findings provide support for early-life developmental programming by linking newborns' perinatal complications to accelerated aging at midlife. We observed indications of accelerated aging 'inside', as measured by leukocyte telomere length—an indicator of cellular aging—and 'outside', as measured by perceived age—an indicator of declining integrity of tissues. A better understanding of mechanisms underlying perinatal programming of adult aging is needed.

## EFFECTS OF DEPRESSIVE SYMPTOMS ON NON-LESION AND ISCHEMIC LESION BRAIN VOLUMES IN ELDERLY WOMEN: WHIMS-MRI2 STUDY

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Background. The cross sectional and longitudinal associations of subclinical depressive symptoms (DS) (Aim 1) and DS severity scores (Aim 2) with non-lesion and ischemic lesion brain volumes in elderly women were examined. Methods. DS (measured by the 15-item Yesavage Geriatric Depression Scale [GDS]) that were measured within one year prior to the first WHIMS-MRI scan were available for a total of 765 women free of mild cognitive impairment and probable dementia. 397(51.8%) women whose GDS were available were rescanned an average of 4.7 years after the initial MRI. MRI outcomes of interest included non-lesion and ischemic lesion volumes in the total brain, gray matter (GM), white matter, and frontal, parietal, temporal and occipital lobes. General linear models were used to determine cross-sectional differences and mean rates of longitudinal changes in MRI measures, after adjusting for relevant covariates. Results. 62 (8%) women at baseline and 26 (7%) at second MRI met DS cut-off. After covariate adjustment, depressed women had lower non-lesion volumes for total brain, frontal and parietal lobe ( $p<0.05$ ); and higher mean lesion burden for total brain, GM and parietal lobes ( $p<0.05$ ). Longitudinally, only greater GM and frontal lobe ischemic lesion load increases were associated with DS. Greater DS severity was associated with lower GM and frontal lobe non-lesion volumes, and higher GM and parietal lobe lesion load ( $p<0.05$ ). Conclusion. These findings of volume loss and higher ischemic lesion burden in the fronto-parietal areas may provide novel insights into the disrupted executive control neural circuitry in subclinically depressed older women.

## THE RELATIONSHIP BETWEEN PEAK ALPHA FREQUENCY AND COGNITIVE ABILITY IN NORMAL ADULTS

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Reductions in peak alpha frequency have been observed in individuals with AD and MCI, when compared to older adults experiencing healthy aging. This slowing of electrical activity has been linked to neurodegeneration in the brain (e.g. reduced hippocampal volume). We compared peak alpha frequency in normal adults with no prior diagnosis of dementia or MCI. Eyes-closed resting-state EEGs were recorded from 74 participants, between the ages of 50 and 85 years (M = 67.31). Participants also completed neuropsychological assessments of memory (Digit Span, CVLT-II), executive function (Trails A and B, Letter and Category Fluency), and global cognition (MMSE-II). Participants were divided into high and low cognitive ability groups using a composite of neuropsychological assessment scores. Because peak alpha levels decline with age, age was used as a covariate in all analyses. Participants in the high cognitive ability group exhibited higher peak alpha frequencies than did participants in the low cognitive ability group. Mean peak alpha values, calculated across the 19 electrodes in the International 10-20 Electrode System, were positively correlated with Digit Span scores, and negatively correlated with completion times on Trails A and B. In sum, these findings reveal a slowing of brain electrical rhythms in normal adults and link the reduction in peak alpha frequency to weaker performance on measures of cognitive ability. We discuss EEG as an important tool in the early detection of cognitive decline.

## IDENTIFICATION OF INHERITED AND ACQUIRED MITOCHONDRIAL DNA MUTATIONS LEADING TO AGE-RELATED COGNITIVE AND SENSORY DECLINE

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Mitochondrial dysfunction is an especially important characteristic of most late-onset neurodegenerative diseases. Early alterations to mitochondria may present more desirable therapeutic targets than the reversal of the individual pathologies that occur later in the neurodegenerative process. We assessed the influence of inherited and acquired (heteroplasmy) mtDNA sequence variation on cognitive function, vision and hearing in 1,000 European- and African-Americans from the population-based Health, Aging, and Body Composition Study. The entire 16.5kb of mtDNA was sequenced using array based and next generation sequencing technologies and we examined the role of individual and aggregated mtDNA sequence variants for associations. Heteroplasmy, a mixture of normal and mutant mtDNA molecules, was also measured and analyzed for associations. Individual and aggregate inherited mtDNA mutations were significantly associated with cognitive function, vision and hearing. Higher heteroplasmy levels detected at specific mtDNA mutations previously linked to mitochondrial diseases was significantly associated with decreased cognitive function, contrast sensitivity, and high frequency hearing. Identifying inherited and acquired mitochondrial genetic variants that influence cognitive and sensory decline might lead to the development of interventions or new clinical strategies for improving mitochondrial function and delaying the onset of neurodegeneration. Circulating mtDNA heteroplasmy may represent a useful peripheral bio-marker for identifying those at risk of developing cognitive and sensory impairment and for monitoring persons who are receiving pharmacologic and behavioral treatments that target the mitochondria.

## SESSION 970 (POSTER)

### SOCIAL ISOLATION, NETWORKS AND SUPPORT

#### RELIABILITY & VALIDITY OF SELF-EFFICACY SCALE FOR PREVENTING SOCIAL ISOLATION OF ELDERS IN RESIDENTS

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We have previously tested the Self-Efficacy Scale for Preventing and Alleviating Social isolation among community-dwelling elderly people (SES-PAS) in a dataset of community volunteers. The aim of the present study was to test the SES-PAS in a dataset drawn from general residents and demonstrate the internal consistency and concurrent validity of the SES-PAS. The SES-PAS, based on 12 items and a 4-point Likert-type scale, was developed using self-reported questionnaires administered to 3,484 randomly sampled general residents (age:  $\geq 55$  years) living in urban areas in Japan. Data were collected using the subscale "offering" of the revised Generative Concern Scale (GCS-R; Marushima, et al. 2007) and the Community Commitment Scale (CCS; Kono, et al. 2012) to assess concurrent validity. Item analysis and factor analysis identified 8 items, which were classified under the domains "community networking" and "neighborhood watching", for the residents (cumulative contribution 0.52). The Cronbach's alpha index of the SES-PAS was 0.90, that of the subscale for "community networking" was 0.88, and that of the subscale for "neighborhood watching" was 0.84. The correlation coefficients were 0.54 ( $p < 0.001$ ) for the scores of the SES-BRCE and "offering" of the GCS-R and 0.52 ( $p < 0.001$ ) for

those of the SES-PAS and CCS. These results demonstrated that there was sufficient internal consistency and acceptable concurrent validity for the SES-PAS with respect to general residents. Thus, it would appear that the SES-PAS could be utilized in general residents aged 55 years or older living in urban areas.

#### SOCIAL EXCHANGE OF COMMUNITY-DWELLING OLDER MEN THROUGH PARTICIPATION IN COOKING CLASSES FOR MEN

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This study examined the effect of encouraging social exchanges in older men by participating in cooking classes for men. Cooking classes that targeted community-dwelling men were held six times, from June 2012 to November 2013, in Hino City, Tokyo, Japan. The cooking consisted of collaboration in groups, and participants ate all the dishes they made for lunch. A questionnaire survey was administered to the participants after the end of each class, to examine the effects of encouraging social exchange, the questionnaire asked about the age of the participants, the number of times they participated, and whether this was their class. Participants of all six cooking classes were 66 men (mean age = 71.4, SD = 14.4). The majority were elderly adults, but there was also a middle-aged man. Repeat participants and first-time participants were mixed in each class. The classes were an opportunity to increase participation in social activities and promote the ongoing expansion of social exchanges in the region for the older -men. In addition, 80.6% of the first-time participants had an opportunity to be introduced to the neighborhood association, a percentage that was higher than that of the repeat participants. Cooking provides the opportunity for an exchange of conversation, which inevitably occurs in a group activity. Expansion of the group through new participants is required to support the continuation of participant invites. By increasing the independence of older men, this cooking-based intervention can be expected to further promote exchanges.

#### BABY BOOMERS' VOLUNTEERING INTENTION AND RESOURCES

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Objective: There have been, in North America, much debates on how many baby boomers will engage in volunteerism in their retirement years, compared to their older generations. The underlying assumption is that baby boomers are huge in size so that they are valuable resources for communities and countries. An aim of this investigation is to explore future volunteering participation for Korean baby boomers (1955 to 1963 birth cohorts), in which the paper uses future volunteering intention as a proxy measure of civic engagement in retirement years. Method: The data come from 2009 Korean Social Survey by Statistics Korea which is nationally representative and executed biannually. The volunteering intention is measured by a 3 point Likert scale. An ordered multinomial logistic regression is performed to estimate parameters of regression coefficients for 19 resource variables, controlling for other 10 variables ( $N=6,903$ ). Findings: All variables in equation appeared to be statistically significant ( $p < .001$ ). A high education increased the volunteering intention ( $B=.103$ ), but long work hours reduced the volunteering intention ( $B=-.001$ ). Many numbers of associations registered increased the intention ( $B=.297$ ), but having spouses reduced the intention, as opposite to our expectations ( $B=-.019$ ). Having religion increased the intention ( $B=.306$ ) and many frequencies of enjoying exhibits and culture performances increased the volunteering intention, too. In sum, the findings give some supports to resource approaches to volunteer intention studies. Implications: Selective resource enhancement strategies may be true in order for Korean baby boomers to engage in volunteering, even though intention and participation behaviors are not

necessarily in agreement. Also, adequate incentive systems need to be complemented.

#### **CONTINUITY AND CHANGES IN SOCIAL CONVOYS : A CASE OF BEREAVED OLDER ADULTS IN RURAL JAPAN**

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Guided by social convoy theory, our aim in this study was to examine whether and how the social relationships of Japanese rural older adults were reconstructed after the death of their family members they had cared for. The theory posits that one's personal network (i.e., social convoy) can be reorganized accompanying changes in the role this person assumes. We thus sought to identify whether and how loss of caregiver role might influence the structure and functions of these older adults' social convoys. We used semistructured interview data from 13 rural older adults (77% women; mean age = 67.3). They spent, on average, 26 months after they lost their care recipients. We qualitatively analyzed these data with particular attention to participants' accounts of their support sources. Our analysis revealed both continuity and changes in the social convoys of bereaved older adults. There was little difference in the composition of their convoys before and after the death of their care recipients. Changes were found in how convoy members helped these older adults. Participants maintained contacts with those who had helped them with their caregiving (e.g., care service staff members), from whom they then received assistance in adjusting to their post-caregiving lives. For example, some participants found a paid job with help from staff members of day care facilities that their family members had used when alive. These findings suggest that social ties built in the process of caregiving may promote former caregivers' adjustment to bereavement.

#### **FEASIBILITY OF AN ANALYTIC FRAMEWORK TO EXAMINE PERSON-CENTERED INTERACTION AND BEHAVIORAL SYMPTOMS**

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Dementia-related behavioral symptoms pose a major challenge during mealtimes, compromising nursing home (NH) residents' nutritional status, which is central to maintaining function and quality of life. Research suggests that the quality of interactions during meals may influence nutritional intake, but little is known about what types of interactions most effectively reduce common mealtime difficulties such as behavioral symptoms. Person-centered interactions have been found to be effective at reducing behavioral symptoms during other care processes, such as bathing. Past research on person-centered interactions and mealtime care among NH residents has relied heavily on static observational methods, limiting our ability to quantify sequences of temporality between various person-centered interactions and behaviors. No research has examined the time-sensitive relationship between person-centered mealtime interactions and behavioral symptoms. The purpose of this video-recorded observational study was to examine the feasibility and clinical utility of a computer-assisted analytic framework for documenting patterns of person-centered mealtime interaction and behavioral symptoms. Twenty-five video-observations of provider-resident mealtime interactions in 2 memory care units in Wisconsin (N=9 residents, N=6 providers) were conducted. Interactions were coded

using the Person-Centered Behavior Inventory and Pittsburgh Agitation Scale which were adapted for use with the Noldus Observer® XT. The framework proved to be feasible and effective in capturing clinically-relevant interaction-related antecedents to mealtime behavioral symptoms. The framework yielded acceptable inter-coder agreement ratings (94 percent agreement,  $\kappa = .78$ ). Feasibility issues related to training of coders, challenges with addressing reciprocation of person-centered provider actions and clustering strategies for non-dyadic interactions will be presented.

#### **RELATIONSHIP OF LONELINESS, SOCIAL ISOLATION, AND MORTALITY OF JAPANESE OLDER ADULTS**

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We investigated how Japanese older adults' feeling of loneliness and social isolation are related to mortality respectively. Our analyses used five waves of data in the Nihon University Longitudinal Study of Aging (NUJLSOA) collected from the nationally representative Japanese older adults of 65 years and older (n=4997) between the years of 1999 and 2009. For this study, we pooled two or three-year interval observations and conducted analyses of logistic regression with older respondent's death at the end of the interval as outcome. The results indicated that most of the variables related to social isolation, such as living alone, living with a child, and frequencies of contact with children were not directly related to mortality. On the other hand, one variable that reported older adults' affiliations with community groups and organizations was associated with a lower level of mortality. We also identified a moderate association between older adults' feeling of loneliness and a higher level of mortality. This seems to confirm results of past studies in other national contexts that indicated significant associations between loneliness and negative physical health problems. Our results suggest that feeling of loneliness has potentially a significant impact on physical well-being of older adults in Japan; and that its relationship with health, social isolation, family support, and ties with surrounding communities need to be carefully examined.

#### **IS BEING MARRIED ASSOCIATED TO THE FUNCTIONAL STATUS OF OLDER ADULTS? A LONGITUDINAL STUDY IN A MIDDLE INCOME COUNTRY**

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**Introduction:** One of the most important sources of emotional support during old age is the presence of partner/spouse. Few studies have used longitudinal data in Latin American to associate functionality with emotional support. **Methods:** The data source is a 5-years longitudinal study (2000-2005) of the SABE cohort, a probabilistic and representative sample of 1019 adults aged 60+y (75.6% women; 72.2±8,2) living in Santiago-Chile. Functional limitation was defined from a combination of 6 ADL, 7 IADL, and 7 mobility activities (non-limited; and limited). Marital status (married vs. not married) was used as a proxy for emotional support. **Aim:** To estimate the prognostic role of emotional support to functional status of elderly in a middle-income country. **Results:** The initial prevalence of functional limitation was 47.3%(95%CI:44.2;50.4), and after 5 years 17% died and 8% was lost to follow up. 71.5% of men (95%CI:66.4;76.1) and 31.3% of women are married (95%CI:27.7;34.9). The logistic regression model of functional limitation after 5year follow up, adjusted for age, functional limitation in baseline, schooling, and number of morbidities (none, 1 or >=2), show interaction between emotional support and gender. Compared with non-married men, being married in the baseline was a protective factor of functional limitation for men (OR:0.45; 95%CI:0.2-0.99) but not for women (OR:0.9; 95%CI:0.39-2.13). **Conclusion:** There is a differential effect of emotional support on functionality by gender. Mar-

riage protection for health seems to be related to gender traditional roles in this cohort. These findings indicate gender differences in the process of ageing, and the importance of the social context of disablement.

### **GENDER, CONFIDANT RELATIONSHIPS, AND DEPRESSIVE SYMPTOMS IN LATE LIFE**

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Data from 4,923 older adults (mean age=64.3; 55% female) who participated in the Wisconsin Longitudinal Study were used to test gender differences in the prevalence of family and friend confidants and the role of such relationships in emotional well-being. Participants indicated whether or not they had available two types of confidant relationships (with a family member and a friend) and completed the CES-D to measure depressed affect. Having a family member as confidant was common for both women and men (90% vs. 87%) but a friend as confidant was more common among women than men (83% vs. 62%). 2-way ANCOVAs showed those who had a family member as confidant reported significantly lower depressive symptoms than those did ( $F[1,4913]=120.94, p<.001; Ms= 12.64$  vs.  $17.35$ , respectively) and women reported more depressive symptoms than men obtained ( $F[1,4913]=8.51, p<.05; Ms= 14.72$  vs.  $16.22$ , respectively); however, no significant gender x family confidant interaction was obtained. In comparison, a significant gender x friend confidant interaction was seen ( $F[1,4913]=7.21, p<.01$ ) in addition to the main effects seen with having a family member as confidant. Simple effects analyses showed that, although the unavailability of a friend as confidant was linked to more depressive symptoms for both women and men, this negative effect was substantially stronger for women. These results show that friend confidants are especially important for women's emotional well-being. Interventions that can promote the development and maintenance of confiding friendships may be especially effective in promoting emotional well-being in late life.

### **LINKING RESOURCES AND SOCIAL SUPPORT AT 65+: FINDINGS FROM THE KOREAN LONGITUDINAL STUDY OF AGEING**

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There is strong evidence that social support is an important resource to boost psychological wellbeing and physical health conditions. However, relatively little attention has been paid to the exchange of social support within the generation of older adults (intragenerational support potential), especially in Asia. Social support resources include both emotional and/or instrumental assistance. We measured social support potential/resources on two measurement occasions of the Korean Longitudinal Study of Ageing (KLoSA;  $N = 3,384$  adults aged 65+ years), assessed two years apart. In the first step, we examined a variety of resources as proxies for social support potential, including aid (physical ability; K-IADL) and affect (emotional ability; K-CES-D10). The results indicated a mean-level decrease in everyday competence as well as a mean-level increase in depressive symptoms. They also showed individual cases with stable or improved (decreased) levels of competence (depression) over time. In the next step, we examined the relationship between available resources and change therein and actual social support behavior over time (a) to examine if social support behavior depends on the level of functioning, especially with regards to individuals who show high or very low functioning and thus potential for support over time, and (b) to investigate the moderating effect of objective and subjective social network characteristics on the actual social support behavior. The findings provide an interesting glance into

aging in Asia. In addition, the results suggest effective ways of promoting the intragenerational exchange of social support in future studies.

### **ASSOCIATION BETWEEN FAMILY STRUCTURE AND FUNCTIONING AMONG THE OLDEST OLD**

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This study explored the effect of family structure on functioning among oldest old adults. Based on the Georgia Centenarians Study, this research consisted of 82 octogenarians and 239 centenarians. Family structure was assessed by number of children, living brothers or sisters, number of living brothers or sisters, number of deceased siblings, and number of living children. Functioning was assessed by the following four dimensions: cognition, mental health (i.e., depression and loneliness), activities of daily living (ADL), and subjective physical health. Results indicated that family structure had an effect on all four aspects of functioning in extreme late life. The more children the oldest old had, the lower their cognitive level and the lower their level of loneliness. The more living children the centenarians had, the lower they rated their physical health. Having living siblings was associated with better daily functioning for octogenarians. The more deceased siblings octogenarians had, the less likely they were to feel depressed. Future research needs to address social comparison aspects of these findings and explain some of the disparate findings about beneficial and detrimental aspects of family support.

### **SOCIAL ENGAGEMENT OF THE OLDEST-OLD: FINDINGS FROM THE 2010 HEALTH AND RETIREMENT STUDY**

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Social engagement is an integral component of healthy aging. In this cross-sectional study, we describe and compare social activity of the very old (VO) and centenarians (CE) and explore factors associated with involvement. Data from participants 85 and older ( $N=2321$ ) from the 2010 wave of the HRS were analyzed. Demographic characteristics: mean age was 89.71 years (85-109 range) and 63% were female (84% for CE), 80.6% were non-Hispanic Whites (72.7% for CE), and the mean number of years of education was 11.55 (10.93 for CE). About 28% of VO were married and 64% were widowed, whereas for the 11 CE respondents, all were widowed. Nearly 42% of VO attend religious services frequently, but only 18.18% attend frequently. About 18% of VO report volunteerism and 19% report helping others; no CE responded positively for volunteering or helping others. The VO rarely use email for communication (11.3%); few met with friends daily (17%) or weekly (33.83%). No CE reported using email or the Internet for communication but 3 respondents met daily with friends or family and 2 met weekly with others. A small number of VO still participate in paid work (2%) and no CE reported paid work. In a logistic regression analysis for a combined group of oldest-old (VO and CE;  $N=1097$ ), those who identified religion as very important ( $OR=4.74; p\text{-val}\leq.01$ ), who are cognitively stable ( $OR=1.05; p\text{-val}\leq.05$ ), those who still drive ( $OR=1.92; p\text{-val}\leq.01$ ), and those who live near friends ( $OR=4.02; p\text{-val}\leq.01$ ) are more likely to participate in one or more social activity.

### **THE EFFECT OF SHORTENED FUTURE-TIME PERSPECTIVE ON SOCIAL RELATIONSHIPS AND EMOTION REGULATION**

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Carstensen's well-known theory of Socioemotional Selectivity Theory (SST) holds that, when time is perceived as constrained, both younger and older persons focus more on the emotional aspects of

situations, favor emotion-focused coping strategies over problem-focused ones, and prioritize emotionally rewarding relationships over novel social ones. In addition, SST posits that persons with a shortened future-time perspective become more adept at emotion regulation in general, as this becomes a higher priority than knowledge acquisition. The majority of research on SST concepts has been conducted in the field of cognitive psychology, whereas the present study directly and explicitly examined the effects of changing future-time perspective on relationship or social network shifts and emotion regulation in older adults using data from the Aging, Status, and Sense of Control (ASOC) survey (Mirowsky & Ross, 1995; 1998; 2001). Only those participants who provided data for all of the aforementioned relevant variables at both baseline and the 2001 follow-up were included in the analyses ( $n = 592$ ). Ordinary least-squares regression analyses found that a) marital happiness increased as perceived percentage of life left decreased, b) less constrained future-time resulted in an increase in socialization, and c) emotion regulation increased as perceived future-time decreased. The present study provides one of the first direct assessments of the implications of future-time perspective on relationships and emotion regulation, and several findings provide empirical support for socio-emotional selectivity theory.

### **SINGLE AND SEARCHING: HOW OLDER AND YOUNGER ADULTS SEEK ROMANTIC PARTNERS ONLINE**

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Despite a growing population of single older adults, past research and theory on romantic partnership has primarily focused on younger adults. Online dating has become an increasingly prevalent context for both older and younger adults to form romantic relationships. Nonetheless, adults of different ages may have different motivations for seeking dating partners. Older adults are likely to present a communal orientation in their dating profiles, emphasizing connections with others and a desire for companionship. Conversely, younger adults are likely to present an agentic orientation, emphasizing their own attributes and achievements. The current study sampled 4,000 profiles from two popular online dating websites. Themes in these profiles were identified using Linguistic Inquiry and Word Count (LIWC; Pennebaker, Booth & Francis, 2007). Regression analyses revealed significant associations between age and word use. Older adults were more likely to use words associated with positive emotion ( $\beta = .15$ ) and friends ( $\beta = .04$ ) as well as first person plural pronouns (e.g. we, us, our), reflecting a focus on connectedness ( $\beta = .13$ ). Younger adults were more likely to use words associated with work and achievement ( $\beta = -.03$  and  $\beta = -.08$ ) and were more likely to emphasize the self ( $\beta = -.27$ ), using more first person singular pronouns (e.g. I, me, my). Results suggest younger adults focus on enhancing the “self” when seeking romantic partnership. Consistent with theories of adult development, older adults view romantic partners as an addition to an existing network of friends and family.

### **FACTORS PREDICTING RELATIONAL CLOSENESS IN LONG-TERM CARE RELATIONSHIPS**

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Relationships between staff and residents have increasingly been recognized as an important component of person-centered care and residents' quality of life. (White et al., 2008, Schenk et al., 2013). The Mutuality Scale, taken from the family caregiving literature, shows promise for measuring the closeness of relationships in long-term care (LTC) (Archbold et al., 1990, Heliker, 2010, Coleman & Medvene, 2013). This study examines factors related to mutuality in LTC in order to understand how these relationships differ from family caregiving relationships. As part of a larger intervention study aimed at increasing communication skills in LTC caregivers, staff participants ( $N=94$ )

paired with residents with which they regularly work were surveyed. Caregiver's age, confidence level, and mutuality score were collected as well as the resident's Functional Assessment Staging Test (FAST), Modified Cumulative Illness Rating Scale (MCIS), and level of ADL support. A standard multiple regression analyses was significant,  $R = .58$ , adjusted  $R^2 = .34$ ,  $F(4, 54) = 6.95$ ,  $p < .001$ , indicating that a third of the variability in mutuality is predicted by the caregiver's confidence ( $\beta=.49$ ), caregiver age ( $\beta=.26$ ), required level of ADL assistance ( $\beta=-.23$ ), and comorbidities ( $\beta=-.14$ ). Feelings of closeness to the resident increased with caregiver confidence and age. Mutuality decreased with greater levels of functional disability and illness. The FAST score did not contribute to the equation indicating that level of dementia did not impact mutuality. These findings are similar to the findings in the family caregiving literature.

### **SUBJECTIVE VS. STRUCTURAL ASPECTS OF SOCIAL CAPITAL AND MENTAL HEALTH: DOES AGE MATTER?**

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Although social capital is associated with mental health in late life, there is little agreement as to what accounts for this association. An underexplored area is the relative contribution of structural and subjective aspects of social capital. Specifically, is it the structure of the social network or one's subjective interpretation of these ties which matters most? Moreover, do the relative contributions of social capital measures vary by age? The current study examined these questions among respondents aged 65+ from the 4th wave of the Survey of Health, Ageing and Retirement in Europe (SHARE), using data retrieved by a name generating social network inventory ( $N=26,784$ ). Structural capital features included network size and percent of the network: a) in close proximity, b) in frequent contact, and c) with close emotional attachment. Subjective social capital adequacy was measured by satisfaction with the network (0-10). The mental health outcome, depressive symptoms (EURO-D), was regressed on the social capital variables controlling for background demographics (age, gender, country, education, marital status, number of children) and health (physical symptoms, ADL limitations, mobility limitations, cognition). Age interaction terms were employed for each of the social capital variables. The results revealed that among those aged 65-79, greater satisfaction with ties was associated with fewer depressive symptoms, as were, to a lesser degree, network size and greater emotional attachment. In contrast, only network size was negatively related to depressive symptoms for those aged 80+, while close proximity was positively related.

### **CRITERION-RELATED VALIDITY OF A COMMUNITY COMMITMENT SCALE AMONG OLDER PEOPLE**

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We developed the Community Commitment Scale (CCS) to measure the psychological sense of belonging and socialization in the community among older people and verified that it has sufficient internal consistency and concurrent validity. We hypothesized that local volunteers who help elderly neighbors would have a high level of community commitment. The purpose of the present study was to compare the community commitment of local volunteers to that of general residents, and to confirm the criteria-related validity of the CCS among older adults. Based on a self-report questionnaire survey administered to 859 local volunteers and to 3484 randomly sampled general residents, we formulated a matching dataset stratified by gender and age and selected subjects aged from 60 to 80 years. The subject population consisted of 614 local volunteers and 614 general residents. According to bivariate analysis, the CCS scores for local volunteers were signifi-



cantly higher than those for general residents ( $p < 0.0001$ ). A multiple stepwise regression model showed that there was a strong correlation between community commitment and being local volunteers ( $\beta = 3.2$ ,  $p < 0.0001$ , partial  $R^2 = 0.16$ ), adjusted for variables for which there was a significant correlation by bivariate analysis, including owning a house ( $\beta = 0.9$ ,  $p < 0.0001$ , partial  $R^2 = 0.01$ ), living in the area for 30 years or longer ( $\beta = 1.0$ ,  $p < 0.01$ , partial  $R^2 = 0.01$ ), and living in a family of three generations ( $\beta = 0.9$ ,  $p < 0.01$ , partial  $R^2 = 0.01$ ). The results demonstrate that local volunteers were more likely to commit to their community than general residents, and the criterion-related validity of the CCS was confirmed.

### **LEVERAGING SOCIAL NETWORKS TO PROMOTE CANCER SCREENING AMONG MIDDLE AGED AND OLDER ADULTS: PERSPECTIVES FROM KEY PLAYERS**

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**Abstract:** Social networks (SN) influence health behavior and health status. “Key players” or individuals identified as influential by multiple people within the SN often serve as opinion leaders, having taken the pulse of the community and possessing novel and relevant insights. To better understand cancer screening patterns within SN of a health disparities population (rural Appalachia), we first conducted a SN analysis of sixteen egos and 125 alters. Within the SN, we identified individuals according to their centrality and interviewed these ten key players (KP) to determine the nature of their role in their SN, their cancer screening patterns compared with those in their SN, and how KP might be leveraged to increase cancer screening. In this presentation, we first present our SN maps and explain how we identified the KP. Our findings suggest that KP have the following attributes: (1) they occupy highly relevant positions in the community (health care professional, community helper); (2) they maintain positive personal characteristics (helpful, but not coercive; knowledgeable about health issues; good communicators); and (3) they tend to maintain positive health behaviors, including current cancer screening status. KP may be leveraged to promote cancer screening through (1) their insights into what constitutes barriers and facilitators of cancer screening uptake; (2) their awareness of what comprises appropriate and needed informational support to non-screened members of their SN; and (3) their creative ideas on improving navigation of the health care environment in medical underserved rural communities.

### **SOCIAL SUPPORT BUFFERS THE NEGATIVE EFFECTS OF MULTIPLE LOSSES IN LATE LIFE IN DEPRESSION**

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**Social Support Buffers the Negative Effects of Multiple Losses in Late Life in Depression**  
Ilung Nam Background: A grieving individual in late life can confront multiple losses simultaneously or in rapid succession. Depressed mood is a common response to this seemingly relentless progression, especially for older adults who are themselves in failing health or who suffer from social isolation. Understanding the level of distress post-death of those with multiple losses and their coping resources with a loss will advance knowledge, which can inform practice. Method: Data from the Changing Lives of Older Couples (CLOC) project provide a unique opportunity to further understanding of the pattern of depressive symptoms over time. Participating caregivers completed the Center for Epidemiologic Studies Depression inventory, measures related positive social support from others. Of the 210 participants in baseline, 92 individuals followed over a period of 48 months were analyzed for bereaved caregivers [Spousal loss only ( $n = 61$ ), Additional losses ( $n = 38$ )]. Result: A  $4 \times 2 \times 2$  repeated-measures analysis of variance was performed on depressive symptomatology as a function of loss status (spousal, spouse and additional) and social

support (high, low). There was a marginally significant difference on the depressive symptomatology between single and multiple losses,  $F(1, 85) = 2.99$ ,  $p = .08$ ,  $\eta^2 = .03$ . There was a significant time and time X social support effect,  $[F(2.64, 152.76) = 6.21$ ,  $p = .01$ ,  $\eta^2 = .07$ ;  $F(2.64, 152.76) = 2.80$ ,  $p = .03$ ,  $\eta^2 = .004$ ]. Depression of the bereaved decreased over time and there was a different pattern of the decrease in depression over time by the social support level. At the high level of social support, both spousal loss and multiple losses groups showed a similar decreasing pattern, whereas multiple losses group at the low level social support repeated decrease and increase over time as opposed to continuing decreasing pattern of spousal loss group with high level of social support. Conclusion: The current study revealed a significant buffering effect of social support on depressive symptomatology. This analysis provides an insight into the ways that individuals experienced multiple losses and received low social support at baseline are a high risk population for chronic depressive symptomatology. These findings can advance practice knowledge by helping better understand the importance of pre widowhood contextual factors such as preloss availability of support to those with multiple losses in late life.

### **EVIDENCE-BASED PSYCHOSOCIAL TREATMENTS FOR PAIN IN OLDER ADULTS**

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Pain is a common concern for older adults, resulting in a poorer quality of life. Outside of pharmacological pain treatments, clinicians have little guidance as to the efficacy of psychosocial pain management approaches. Criteria suggested by Weisz and Hawley (2001) was used to identify evidence based treatments. To be considered evidence-based, there needed to be two controlled studies in which the treatment was shown to be significantly better than a control condition. Articles were included if the mean age of the participants was 50. Two reviewers conducted searches in Psycinfo, PubMed, and CINAHL databases using the search terms chronic pain, pain, older adults, geriatric, elderly, aged, psychotherapy, pain management, nonpharmacological pain management, and intervention. Initially, abstracts and titles were examined. Articles whose abstracts seemed to fit search criteria were reviewed in greater detail. In addition, we reviewed other pain review articles. The studies that met our stringent criteria evaluated the following types of psychotherapies; guided imagery, relaxation training, cognitive behavioral therapy, self-management, mindfulness meditation, pain coping skills training, problem focused therapy, emotion focused therapy, educational training, and spouse assisted training. Cognitive behavioral therapy, pain self-management interventions, pain coping skills training, and guided Imagery seemed to have the most support for use in older adults.

### **WHY DON'T OLDER PEOPLE TALK ABOUT LONELINESS?**

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We have an extensive body of evidence documenting the prevalence of loneliness in later and identifying the key risk factors. For example in Britain approximately 10% of those aged 65+ report that they are often/always lonely and this prevalence rate has remained stable over the last 6 decades. In addition one third of those aged 65 and over perceive loneliness as a part of ‘normal’ ageing and half expect to become lonelier as they grow older. However it remains the case that we have limited intervention with proven effectiveness and we remain uncertain as to how best to support those vulnerable to loneliness in later life. One dimension lacking from our evidence base are the voices of older people themselves about who they talk to about loneliness, what factors, if any, stop them talking about loneliness to their family and what interventions they think would help combat loneliness. We examine these questions using a telephone survey of 1126 British people aged 55+ undertaken in

October 2013 commissioned by the SilverLine helpline for older people to mark their launch. Overall 15% reported that they very/quite often lonely, of whom 60% have not discussed their feelings of loneliness with their family. Almost a half of this group, 47%, report that this was because they did not want to be a burden to their family. Chats over a meal and/or over the phone were reported as being helpful activities to combat loneliness.

### LATE MIDLIFE PURPOSE IN LIFE: DISTINCT PATTERNS OF TRAJECTORIES AND PSYCHOSOCIAL PREDICTORS

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Research has indicated a significant age difference in purpose in life in which older adults showed lower scores than young and middle-aged adults (Ryff & Singer, 2008), but patterns of purpose in life trajectories during late midlife are unknown. Knowledge of such patterns could enhance understanding of purposeful development in later life. We examined purpose in life trajectories over five years and the significance of baseline psychosocial characteristics in predicting such trajectories. Data were from the Foley Longitudinal Study of Adulthood, a longitudinal study of personality and life stories in late midlife among White and African American middle-class adults. There were 151 participants aged 55-58 at baseline. Purpose in life was assessed each year with the PIL subscale of the Psychological Well-Being scale from 2008 to 2013. Growth mixture modeling results indicated two classes of PIL trajectories (LRT = 111.06,  $p=.003$ ; BLRT= 113.07,  $p<.001$ ; Entropy= .873. The majority (75%) started higher and then showed a decreasing PIL trajectory (intercept= 4.29; slope= -.10,  $p=.04$ ); the other class (25%) started lower and remained stable (intercept= 2.98; slope= -.02,  $p=.85$ ). The odds ratio of being in the higher-decreasing versus low-stable class is 1.439 ( $p=.04$ ) for one-unit increase in conscientiousness, adjusting for gender, race, neuroticism, extraversion, and generativity. However, contrary to the theoretical importance of generativity in midlife (Erikson, 1963; McAdams & de St. Aubin, 1992), generativity and related personality traits did not significantly predict class membership. The importance of conscientiousness in contributing to the higher-decreasing pattern of PIL trajectory will be discussed.

### AN EXPLORATORY DISCRETE-TIME MULTILEVEL ANALYSIS OF THE EFFECT OF SOCIAL SUPPORT ON THE SURVIVAL OF ELDERLY PEOPLE IN CHINA

Z. Feng, *Centre for Research on Ageing, University of Southampton, Southampton, United Kingdom*

This study undertakes a survival analysis of elderly individuals in China using the Chinese Longitudinal Healthy Longevity Survey 2002-2008. Employing discrete-time multilevel models, we explore the effect of social support on the survival of elderly persons in China. The study finds that living arrangements, perceived and received social support, family income, health status and the level of the province's economic development are associated with older people's survival after controlling for their demographic characteristics and social-economic status. Being more specific, elderly individuals who are younger, female, living with spouse, perceiving care support from family, social service and live-in care givers, covering for finance and medical expenses themselves, with higher family income and good health status have higher odds of survival. When the analysis is conducted separately for elderly persons in urban and rural areas, the results are broadly similar. There is a larger difference between those perceiving care support from family or social service and not perceiving care support in urban areas comparing to those in rural areas. Those who cannot pay medical expenses are the least likely to survive. The higher level of economic development in province has no significant effect on the survival of elderly persons for the whole sample model and for the model including only elderly persons in urban areas; however, there is a negative influence on the survival of elderly people in rural areas.

### CONTINUING CARE RESIDENTS' CONNECTIONS TO SOCIAL SUPPORT AND NETWORKS BEFORE AND AFTER FACILITY LIFE

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As successive birth cohorts reach older adulthood, the number of individuals seeking residential continuing care will grow accordingly. As a result, the resources offered by continuing care facilities will need to grow and develop accordingly. Furthermore, because residential care by its nature creates an encapsulated living system with the propensity to seclude its residents from life outside of the facility, the social needs of residents will require specific attention. How people relate to society and to their social networks is key to the human condition and to successful aging. Unfortunately, the existing literature regarding continuing care residents' connections to social networks is lacking. This study aims to provide a qualitative assessment of continuing care residents' attitudes toward and perceptions of their connections to social networks, and of how those connections have changed since they have moved into a facility setting. Fifteen women were interviewed in order to measure their attitudes about social connections and residential life. Residents overall reported that, while their connections may have diminished overall, the manner in which they define and experience these connections has changed as well.

### POSITIVE AND NEGATIVE SOCIAL INFLUENCES OF FRIENDS ON THE PHYSICAL ACTIVITY LEVELS OF MIDDLE-AGED AND OLDER ADULTS

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Support from family members is an important predictor of physical activity among middle-aged and older adults. However, less is known about how support from friends is related to physical activity levels. The current study examined the association of physical activity with positive and negative social influence from friends. Data on physical health, positive and negative social influence from family members, positive and negative social influence from friends, and physical activity were collected from 232 middle-aged and older adults (Mage = 58.86, SD = 7.10). A hierarchical linear regression controlling for age, physical health, education, and self-reported positive/negative influence from family members found that positive support from friends was related to higher levels of physical activity. Negative social influence from friends, on the other hand, was not related to physical activity levels. Further analyses examined the potential moderating role of sex. Results indicated that positive support from friends was related to increased physical activity for both males and females. Negative social influence was related to lower levels of physical activity among males and females, but this relationship was stronger among females. Overall, this model accounted for 45% of the variance in physical activity levels. Findings are discussed in terms of the need for physical activity interventions to account for social influences from multiple sources.

### IS IT BETTER TO GIVE OR TO RECEIVE? AFFECTIVE WELL-BEING CORRELATES OF SOCIAL SUPPORT

D. Wang, T.L. Gruenewald, *University of Southern California, Los Angeles, California*

Research on the connections between social support and health has primarily focused on the psychological and physical well-being benefits of receiving social support. However, emerging evidence suggests that giving support to others may also benefit health. This study investigates the links between giving and receiving support and affective well-being. We examined a subset of adults 25-74 ( $n=5,999$ ) from the first wave of the National Survey of Midlife Development in the United States (MIDUS). Provision of emotional and instrumental social support was measured in hours per month. Positive and negative affect was measured with a brief version of the Positive and Negative Affect Scale (PANAS).

OLS regression analyses, adjusting for sex, race, and education, indicated that both giving instrumental and emotional support to others were negatively associated with positive affect ( $\beta = -.05$ ,  $p = .028$ ;  $\beta = -.08$ ,  $p = .001$ ) while both receiving instrumental and emotional support from others were positively associated with positive affect ( $\beta = .103$ ,  $p = .000$ ;  $\beta = .050$ ,  $p = .020$ ). Those who gave more instrumental support to others had more negative affect ( $\beta = .098$ ,  $p = .000$ ) while those who received more instrumental support had less negative affect ( $\beta = -.069$ ,  $p = .001$ ). Additional analyses of the ratio of support given to received indicated that those who gave more than they received had more negative and less positive affect. Consistent with previous research, findings suggest affective well-being benefits of receiving support. However, greater levels of support provision are associated with poorer affective well-being. Further analyses will explore the factors that may underlie less favorable well-being in those who give more than they receive.

## SESSION 975 (POSTER)

### TRANSPORTATION AND AGING

#### THE INFLUENCE OF INTERPERSONAL PARTNERS ON SELF-REGULATORY DRIVING BEHAVIORS BY OLDER ADULT DRIVERS WITH A VISUAL IMPAIRMENT

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The goal of the current research is to examine the role played by close interpersonal partners on older adults' decisions to regulate their driving behavior in response to age-related changes in visual functioning. As part of a larger longitudinal study, a sample of 381 drivers aged 55 to 95 with a diagnosed visual impairment, together with a close interpersonal contact (i.e. spouse, friend, adult child) were interviewed about the older adults' driving behaviors both at baseline and again after 12 months. Contacts' level of stress positively predicted changes in the driver's use of self-regulatory driving strategies (e.g. not driving at night). Contacts' perceptions of the negative consequences of driving cessation (for themselves), in contrast, negatively predicted drivers' use of self-regulation strategies over the time period. These results suggest that drivers are sensitive to and adjust their self-regulatory strategies over time in response to the emotional reactions and instrumental well-being of close relationship partners.

#### A COMPARISON OF BRAKE REACTION TIMES ACROSS THE LIFESPAN

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When an individual recovers from medical condition, there should always be a discussion about fitness to drive. Although the individual may have impairment, it should not be assumed that, with recover, the individual can return to driving or should cease driving. In many cases, evaluation or intervention is needed. Although simple brake reaction timers (SBRT) have not shown to be related to driving outcomes and should never be used as a single tool for determining fitness to drive, SBRT do have good face validity with older adults. Thus, it may be appropriate to use as a screening tool and/or one method of obtaining a functional evaluation of cognitive impairment (e.g., following instructions, generalization of the task). SBRT also have the advantage of being relatively inexpensive and portable. This poster will illustrate the results of a study on SBRT with data from over 800 healthy drivers across the life span. Results demonstrated significant differences in reaction times between age groups ( $F = 9.31$ ,  $p < .001$ ). Reaction times for those over 70 yrs of age were significantly different from all other age groups, except for those 19 yrs and younger. The young group only demonstrated differences with the 70-79 yrs; those over 80 yrs of age

were significantly different from all groups. The results confirm the slowing of reaction speed with age. However, even in the oldest group, the mean (Mean = .64) demonstrates reaction speed well within an appropriate range, reinforcing fitness to drive is related to function, not age.

#### INVESTIGATION OF THE CARS INSTRUMENT AS A BRIEF DRIVING SAFETY SCREENING TOOL

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Driving is critical to mobility, autonomy, freedom of choice, and engagement for older adults, but it is normative to eventually stop driving. Poor health often eventually leads to driving cessation, yet some drivers do not realize that their driving is impaired while others continue driving despite recognized impairments. Health professionals (e.g., physicians, social workers, occupational therapists) tend to interact frequently with older adults and are able to promote optimal aging and public health by helping older adults preserve driving skills and easing the transition of driving cessation when necessary. This role necessitates driving assessments to ascertain whether individuals are at greater risk of crashes. However, questions about driving status and ability are rarely addressed with older adults unless the issue is raised by others (e.g., family members, law enforcement). There is a need for a brief self-report measure about driving safety that could be used as a screening tool by health professionals during assessments and routine appointments. Therefore, a 4-item screening tool was developed using the acronym of "CARS" (to increase memorability): confusion while driving, accidents, refusal of others to accept rides, and encouragement to stop driving. This instrument was pilot tested with a sample of health professionals and experts in driving cessation. Respondents ( $N = 8$ ) were asked to review the instrument for length, errors, clarity of instructions, recommended cut-off level, item weighting, length of time asked about, and utility as a screening tool. Results suggest that "CARS" is a useful, brief, self-report measure, warranting further psychometric validation and investigation.

#### ASSESSING THE ASSOCIATIONS BETWEEN SIMULATED DRIVING AND THE USEFUL FIELD OF VIEW AND THE ATTENTION NETWORK TEST

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We examined associations between two measures of cognition (the Useful Field Of View [UFOV] and the Attention Network Test [ANT]) and results from three distinct driving tasks on a driving simulator. Sixty-seven participants between the ages of 18 and 92 completed the UFOV and the Centre for Research on Safe Driving version of the ANT (CRSD-ANT), followed by three driving simulator tasks (driving through a construction zone, turning left at an intersection with oncoming vehicles, and merging on a highway). We calculated correlations between performance measures from the simulator and the cognitive tests. For both tests, lower values indicate better performance – hence correlations should be in the same direction. For the construction zone task, we expected negative correlations, and observed correlations ranging from  $-.294$  to  $-.159$  for the UFOV and from  $-.421$  to  $-.331$  for the CRSD-ANT. For the left turn task, we expected positive correlations, and correlations ranged from  $-.118$  to  $.047$  for the UFOV and  $.077$  to  $.539$  for the CRSD-ANT. Positive correlations were also expected for the merging task, and the correlations ranged from  $.225$  to  $.037$  and  $.016$  to  $.243$  for the UFOV and CRSD-ANT respectively. Neither test of cognition was strongly correlated with measures of performance in our simulated driving environment. However, some of the correlations obtained with the CRSD-ANT suggest it may have potential as a tool

to study driving performance. On the basis of these findings further examination of the CRSD-ANT and its sub-components is warranted.

### **DRIVING REHABILITATION PROGRAMS FOR OLDER DRIVERS IN THE UNITED STATES**

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**OBJECTIVE.** Comprehensive evaluations at driving rehabilitation programs (DRPs) are the most accurate assessment of driving ability but may be underutilized by older drivers. To enhance older driver safety and mobility, it is critical to understand current DRP practices and identify barriers to use. We sought to describe older driver DRPs in terms of services offered, referral and reporting practices, and barriers to utilization. **DESIGN & METHODS.** DRPs providing older driver evaluations were identified from the combined databases of two national associations; one staff member from each DRP completed a confidential online survey. **RESULTS.** 204 DRPs participated (62% response rate). DRP program availability varies across the United States; each DRP serves a median of 64,151 older adults (range: 1,006 to 676,981). The median cost for a 2-3 hour complete evaluation was \$400 (interquartile range: \$298-\$478), and 36% of programs reported not receiving any third-party reimbursement. Physicians were the most common source of referrals, and 59% of programs could schedule an appointment within 2 weeks. Participants thought barriers to program use include cost/reimbursement, lack of awareness of program services, and issues with evaluator training **CONCLUSION.** DRP program availability varies. A major barrier appears to be inadequate reimbursement through third-party payers, as fees commensurate with DRP evaluator training may be too high for many older adults to pay themselves. Increased awareness of program benefits by healthcare providers and older drivers, as well as models for program sustainability and reimbursement, could enhance utilization.

### **RISK FACTORS FOR DRIVING CESSATION IN OLDER BLACK AMERICANS: FINDINGS FROM THE HEALTH AND RETIREMENT STUDY**

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The population of senior drivers is older and more diverse than in previous cohorts and this trend is expected to continue. Most older adults live in areas under-served by alternative transportation options so reliance on driving is high. Our previous research found an association between minority race and ethnicity and driving cessation. In this research we seek to better understand factors related to driving cessation in older Black Americans. Data from six waves of the HRS (1998-2008) were pooled. The analytic sample included Black adults age 65 or older with complete data on variables of interest (N=2,350). The mean age was 74.38 years (65-108 range), and 64% reported being current drivers. 39% of the sample was male, 41% were married, and the average number of years of education was 10.49 (SD 3.66). 35% reported having fair or poor vision, 30% had diabetes, 74% had hypertension, and 69% had arthritis. Logistic regression analyses identified demographic, functional, and psychological risks for cessation. Specifically: age (OR 0.96), gender (OR 6.31), education (OR 1.09), marital status (OR 0.55), income (OR 3.43), cognition (OR 1.05), ADL (OR 0.83) and IADL (OR 0.58) limits, and poor vision (OR 0.64), cancer (OR 0.65), and stroke (OR 0.04), pseudo R sq=0.32. This study of older Black adults highlights the social determinants (e.g., gender, age, education, income) of driving status in addition to expected biomedical

factors (e.g., vision, cognition). Better understanding of the strengths and challenges related to senior mobility is needed. Such study will inform intervention development.

### **RISK FACTORS FOR DRIVING CESSATION IN OLDER HISPANICS: FINDINGS FROM THE HEALTH AND RETIREMENT STUDY**

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Driving is a preferred means of mobility for many older adults. Our previous research detected an association between driving status and race/ethnicity. Only a few senior transportation studies have considered cultural factors related to mobility despite the potential impact of traditions, values, and opportunities associated with culture. In this cross-sectional study we explore the risk factors for driving cessation in older Hispanic adults. Data from six waves of the HRS (1998-2008) were pooled. The analytic sample (N=1,341) included adults age 65 or older reporting Hispanic ethnicity with complete data on variables of interest. The mean age was 74.26 years (65-107 range), and 57% reported being current drivers. 43% of the sample was male, 56% were married, and the average number of years of education was 7.75. 40% reported having fair or poor vision, 31% had diabetes, 62% had hypertension, and 63% had arthritis. Logistic regression analyses identified demographic, functional, and psychological risks for cessation. Specifically, driving cessation was associated with: age (OR 0.93), gender (OR 8.69), education (OR 1.13), marital status (OR 0.30), income (OR 2.45), cognitive scores (OR 1.06), functional status (ADL, OR 0.82; IADL, OR 0.65), and vision (OR 0.67), pseudo R sq=0.37. The impact of gender on risk for driving cessation is large and may reflect culturally determined gender roles. Further study is warranted, especially if older Hispanic women are prematurely stopping driving. This study of older Hispanics provides a glimpse of factors contributing or detracting from mobility in a rapidly growing and important ethnic group.

### **CAN WE SCREEN MEDICALLY AT RISK OLDER ADULTS FOR DRIVING FITNESS USING BRAKE REACTION IN A FUNCTIONAL ACTIVITY?**

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When an individual recovers from medical condition, there should always be a discussion about fitness to drive. Upon recover, it should not be assumed the individual can return to driving or should cease driving. In many cases, evaluation and/or intervention is needed. This study compared three age groups (young 18-40 yrs, n=16; middle 41-64 yrs., n=13; old 65-78, n=31) using three different brake reaction timers. Results indicated no significant difference between a foot model and hand model (simple) brake reaction timers. However, using a "choice" model (using a yellow/caution light with directions to make a choice), there was a significant difference in reaction times. The "choice" model had longer reaction times for all participants. Between groups, there was no difference between ages on either of the two simple brake reaction timers, supporting the fact age does not make a difference with simple reaction. However, when reaction time required processing time to make a choice, there was a significant difference between the groups (F=3.93, p<.03). Post hoc results indicated the differences were between the young and old groups and the middle and old groups; demonstrating slower processing with increased age. This presentation will discuss the results and implications of this study. In examining functional processing time with a brake reaction timer that has a mechanism to add complexity over a simple device of red and green lights (an added yellow caution light), it may be useful as a functional screening tool or intervention strategy that has face validity for older adults.

HEALTH BEHAVIORS

**PATHWAY TO COMMUNITY SELF-MANAGEMENT OF DIABETES FOR LOW-INCOME OLDER FILIPINO AMERICANS**

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Background: The Community Health Worker (CHW) model was adapted for health improvement of older Filipino American (OFA) residents in/around the Los Angeles Historic Filipino Town. A 2006 community health screening found 47% of 127 low-income immigrant OFAs had elevated blood glucose levels; none reported diabetes. Purpose: The Filipino American Service Group, Inc. (FASGI), a non-profit organization provided an 8-week holistic health promotion (HP) program, infused with Filipino cultural values/practices for volunteer OFAs to create a cadre of CHWs. Method: OFA volunteers, age 60+ with diabetes or under pre-diabetes care were recruited from Filipino organizations. The Open Health Diabetes (OHD) project involved: learning health content, changing behaviors, performing kali- martial arts exercises, monitoring health indicators (BP, HR, WT, BMI, WC) and skill building to disseminate HP information to community-living OFAs. These senior peer educators (SPEs) received guidance in sharing information and empowered to use English, Tagalog, other Pilipino languages, or Tagalog-English hybrid (Tag-Lish). Evaluations included pre/post knowledge tests, focus group, weekly health indicator measurements, and observations of dissemination sessions. Results: Twenty three OFAs (pre-diabetic and diabetic), age 61-87 years, 74% well-educated, received training. Outcomes were: 18% increased knowledge, 32% improved self-confidence, 21% improved food selection/intake and exercise frequency. Mean health measures indicated: 2.6% and 2.5% decrease in systolic and diastolic pressures, respectively; 1.2% decrease body weight; and 5.1% decreased girth. SPEs Information-sharing reached 206 unduplicated OFAs. Conclusions: Overall positive effects of a holistic HP curriculum on knowledge, self-concept, skills, and health status empowered OFAs to function as SPEs/CHWs and improve personal health.

**FRUIT AND VEGETABLE CONSUMPTION AMONG ADULTS IN NORTH CAROLINA: RACIAL AND AGE DIFFERENCES IN TRENDS**

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Introduction: Research evidence establishes the importance of fruits and vegetables consumption in the reduction of risks for the development of several chronic diseases. This is especially crucial for the aging population. Objective(s): The objective of this study was to determine the trend in daily fruit and vegetable (F&V) intake among adults in North Carolina (NC) and if this differs by age and race/ethnicity. Method: Cross sectional study using 2002-2009 NC Behavioral Risk Factors Surveillance System (BRFSS) data. Participants were a total of 38,081 adults. Trends and difference in daily consumption of F&V by age category and ethnicity were established using descriptive statistics and confidence intervals (CI). Results: Trend shows percent of NC adults consuming  $\geq 3$  servings of F&V daily decreased in the general adult population over time. Consumption decreased from 69% (95% CI=65.44-71.93) in 2002 to 62% (95% CI=59.97-63.97) in 2009 in older adults  $\geq 60$  years, and for adults  $< 60$  years from 59% (95% CI=56.32-60.72) to 56% (95% CI=54.28-58.24) respectively. When stratified by race, intake ( $\geq 3$  daily servings of F&V) in adults  $< 60$  years increased in all ethnic/racial groups except for non-Hispanic White, while for adults'  $\geq 60$  years' consumption decreased over time regardless of race/ethnicity. Non-Hispanic Black had the lowest intake (52%) compared

to 58% in Hispanic and 64% in non-Hispanic White. Conclusion: F&V consumption is essential for healthy aging. These findings support the need for nutrition education efforts to improve F&V intake for the reduction of risks, and management of chronic diseases among older adults, particularly minorities.

**THE DYNAMICS OF HEALTH AND ITS DETERMINANTS AMONG OLDER ADULTS**

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This paper examines the determinants of chronic health conditions and explains their persistence, using a panel data set from the Indonesian Family Life Survey (IFLS). I incorporate dynamics into a health demand function, finding strong correlations between lagged and current health measures when nothing else is controlled. This could represent the influence of lagged health or fixed unobserved factors such as genetic endowments and childhood health. To disentangle these, I estimate the influence of lagged health by using first-difference two-step generalized method of moments (FD-GMM), where the first-differencing removes fixed unobserved factors and keeps only lagged health. I found that it is this fixed effect, representing both genetic endowments and childhood health, that is most important in explaining later life chronic conditions. The impact of past health conditioning on the fixed effect, captured by the coefficients on lagged health measures, is weak, with estimated coefficients relatively close to zero. These results are robust to potential measurement errors in health and to sample attrition. Socio-economic status also has very little influence on current health, again conditioning on the fixed effect and on the influence of lagged health. In order to investigate if past health has different impacts across demographic or economic groups, I disaggregate the sample across age, household per capita expenditure level (PCE), and years of education. The results show that those with less education tend to show more persistence, compared to those with higher education.

**PREDICTORS OF SLEEP SYMPTOMS AND QUALITY OF LIFE AMONG RURAL OLDER ADULTS**

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It is well established that older adults often suffer from poor sleep and low overall quality of life, and rural older adults often lack health-care access to remedy these issues. The current study examined the role of depression symptoms and self-rated health in predicting quality of life and sleep difficulties among rural older adults (n = 54). Depression was measured using the Hamilton Rating Scale for Depression (HAM-D; Hamilton, 1980), and self-rated health consisted of a simple rating of overall health (1 = poor; 6 = excellent). Quality of life was measured using the Quality of Life Inventory (QoLI; Frisch, 1994), consisting of 16 domains measuring overall quality of life, and sleep difficulty was measured using the Insomnia Severity Index (ISI; Morin, 1993). Analysis consisted of hierarchical multiple regression controlling for age, race, and sex. Greater self-rated health and lower depressive symptoms significantly predicted quality of life (p < .01; p < .001, respectively), and greater depressive symptoms also predicted sleep difficulty (p < .001). Moreover, in a separate analysis, self-rated health moderated the role of depression in predicting sleep symptoms (p < .01). Specifically, depressive symptoms were most predictive of sleep difficulty among those with lowest self-rated health. These results suggest that attention to health and mood symptoms among rural older adults will benefit their sleep and overall quality of life.

## PERCEIVED BARRIERS TO EXERCISE IN PERSONS WITH PARKINSON'S DISEASE

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With the increasing number of older adults in the US population, the prevalence of Parkinson's disease (PD) is expected to increase. Accordingly, the search for interventions that may delay or obstruct the progression of PD has intensified. There is increasing empirical evidence indicating that exercise can decrease disability and improve quality of life among persons with Parkinson's disease (PwP). Despite the vast benefits exercise has been shown to offer, many PwP do not engage in regular exercise. Few studies have examined barriers to exercise in PwP, and very little is known about these barriers from a qualitative standpoint. In order to gain a deep and more nuanced understanding of barriers to exercise, in-depth interviews were conducted with PwP. Inductive content analysis of preliminary data (N=8) revealed several barrier themes including: (a) apathy's role in decreased motivation, (b) safety concerns, (c) time constraints, and (d) transportation problems. Findings from this pilot study can inform future PD research, improve exercise intervention designs, and contributes rich narrative detail on how PwP conceptualize impediments to exercise.

## THE MODERATING EFFECT OF SLEEP QUALITY ON THE ASSOCIATION BETWEEN PSYCHOLOGICAL DISTRESS AND SELF-RATED HEALTH

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Purpose: Given the importance of an individual's subjective assessment of personal health status in health research and practice, the study examined predictors of self-rated health (SRH) in older adults by considering the direct and interactive effects of physical/mental health indicators and sleep quality. Methods: The data were drawn from the National Health and Aging Trends Study (NHATS) Round 1. Older adults aged 65 and older (n=8245) were included in the analyses. Linear regression models of SRH were estimated using the sets of predictors: (a) demographic information (age, gender, marital status, and education), (b) physical/mental health indicators (chronic conditions, physical pain, and psychological distress), (c) sleep quality, and (d) interactions between each health indicator and sleep quality. Results: Health indicators and sleep quality were found to make a significant contribution to the predictive model even after controlling for demographic information. Multivariate analyses only identified a significant interaction between psychological distress and sleep quality on SRH. Further analysis indicated that older adults having low levels of sleep quality were more likely to have negative rating of SRH when they had great levels of psychological distress compared to their counterparts having high levels of sleep quality. The entry of each block made a significant contribution, and the total amount of the variance explained was 34% ( $F(9, 5153)=294.1, p < .001$ ). Implications: Findings highlight the importance of considering sleep quality in the assessment of SRH. Findings recommend that sleep quality among older adults with psychological distress should be closely monitored by healthcare providers.

## SOCIAL FACTORS OF PROBLEMATIC DRINKING AMONG KOREAN MIDDLE-AGED AND OLDER MEN: FINDINGS FROM THE BASELINE SURVEY OF THE KOREAN LONGITUDINAL STUDY ON AGING

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This study examined the social factors of problematic drinking by comparing such drinking among middle-aged and older men in South Korea. The data were generated from the 2006 baseline survey of the Korean Longitudinal Study on Aging, and the sample consisted of 3,631 men between 45 and 64 years of age and 1,173 men aged 65 or older. This study employed variables identifying various socioeconomic features, social ties, and health-related factors. Logistic regressions were used to compare the factors related to problematic drinking among middle-aged men and older men. Frequent contact with close persons was related to problematic drinking for both groups. Lower education, unemployment, frequent contact with others, poor health, smoking, and depression were associated with problematic drinking with middle-aged men but not with older men. Frequent contact with friends was the only predictor of problematic drinking among older men. Our findings suggest that further research is required to investigate the various social processes that occur in different age groups to prevent problematic drinking.

## THE RELATION BETWEEN RACE/ETHNICITY, REGION OF RESIDENCE, AND ALCOHOL CONSUMPTION AMONG OLDER ADULTS

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Given the reported role of race/ethnicity and geographic location in alcohol use, this study examined the influence of race/ethnicity, region, and the interaction of these two variables on average monthly alcohol consumption among older adults. Data were obtained from the 2010 Behavioral Risk Factor Surveillance System (BRFSS). A two-way ANCOVA was conducted to examine both the main effects and the interaction of the variables of interest. A significant main effect of race/ethnicity was found [ $F(3,185170)=206.06, p < .001$ ]. More specifically, post hoc testing relying on a Bonferroni adjustment revealed that Whites had significantly higher average monthly alcohol consumption than other racial/ethnic groups. A significant main effect was also found for region [ $F(3,185170)=16.32, p < .001$ ]. Post hoc testing relying on a Bonferroni adjustment revealed the following significant pairwise comparisons: average monthly alcohol consumption was significantly higher in the Northeast than the South. Additionally, average monthly alcohol consumption was significantly higher in the West than the Midwest and the South. Lastly, there was a significant race/ethnicity by region interaction [ $F(12,185170)=16.32, p < .001$ ], indicating that racial/ethnic alcohol consumption patterns vary by region of residence among older adults. For instance, among both the Black and White sample past month alcohol consumption was significantly greater in the West as compared to the Midwest and South. Having a better understanding of how and where alcohol is used is an important first step for identifying potential alcohol related problems and benefits on both an individual and community wide level.

## VOLUNTEER ACTIVITY AND SELF-RATED HEALTH OF OLDER ADULTS: THE MORE THE BETTER?

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While past research has examined the health benefits of volunteering, the debate about whether the amount of time spent volunteering

moderates the benefits is resolved. The purpose of this study was to understand if the relationship between volunteering and self-rated health varies with annual volunteering hours. A sample of 17,058 respondents age 50 and over was drawn from 2010 Health and Retirement Study (HRS) data. The majority of the sample was female (58%), and the mean age was 66 years old. More than one third of people volunteered (36%), and among volunteers, 40% volunteered less than 50 hours. Logistic regression was used to estimate the effects of volunteer hours, while controlling for demographic variables, psychological factors, physical limitations, and employment status. A non-linear, inverted U-shaped relationship was found between the annual number of hours of volunteering and self-rated health ( $R^2=0.30$ ). Compared to non-volunteers, all volunteers had significantly better self-rated health. Respondents who volunteered between 100 to 199 hours a year benefited the most ( $OR=0.67$ ) in terms of self-rated health when compared to those who volunteered 1-49, 50-99, 100-199, or 200 or more hours a year. Results showed that volunteering had a protective effect on subjective health. However, the benefits varied by number of hours. Volunteering excessively seems to be a burden on health for some older adults and have a less protective effect. These findings may provide both volunteering organizations and volunteers with information that will help them best maximize the beneficial effects of time spent volunteering.

### **NUTRITION, EXERCISE AND OSTEOPOROSIS IN CHINESE IMMIGRANTS**

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**Background:** Recent Chinese Immigrants With Low Educational And Income Levels And Older At The Time Of Immigration, Have Been Found To Have Low Bone Mineral Density And A High Risk For Osteoporosis. The Benefits Of Lifestyle Modifications Are Not Widely Recognized By Them Due To Barriers Including Language And Limited Access To Care. Interventions Targeting Chinese Immigrants And Tailored To Chinese Culture, Language, And Specific Needs That May Increase Adherence To Osteoporosis Prevention Behaviors Are Critically Needed To Effectively Reduce Racial, Ethnic, And Socio-economic Health Disparities Related To Osteoporosis And Fracture. **Purpose:** Test The Efficacy Of A Social Ecological Model Based Osteoporosis Behavior Change Intervention Aimed At Increasing Adoption And Adherence To Exercise, Calcium-Rich Diet And Osteoporosis Medication Use At 3-, 6-, And 12-Month After The Intervention Started. **Design:** A Quasi-Experimental Design With A Repeated Measure Pre-And Post-Test, Experimental Vs. Attention Control Group With Randomization Of Treatment Sites. **Method:** Participants Were Eligible If They Were 55 Years Old Or Older; Foreign-Born Chinese, Without Reading, Hearing, Communication, Or Comprehension Problems, Who Understand Mandarin Or Cantonese; Had A Mini Mental State Exam Score Of 26 Or Greater; Had No Medical Problems. Both Groups Met Twice A Week For 14 Weeks And Once A Month For 3-6 Month. The Experimental Group Received The SEOP-NEW Intervention Including Supervised Exercise, Food Record Review And On-Going Education On Every Meeting. The Control Group Received Education Classes That Focus On General Information About Different Diseases. This Is An Ongoing Study. Data Were Being Collected; Interventions Were Being Conducted; And Results Will Be Reported.

### **IT'S NEVER TOO LATE TO LOSE WEIGHT: FACILITATING A WEIGHT MANAGEMENT PROGRAM FOR SKILLED NURSING HOME RESIDENTS**

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Recent research indicates that the prevalence of obesity among nursing home residents is increasing. Obese nursing home residents suffer health consequences, and for staff they pose care management difficulties and increased risk of injury. Little research exists with nursing

home populations; most research in this area has been conducted with community-dwelling elders. The present poster describes our experience over the past eight years facilitating a weight management program at a skilled nursing facility at the VA Palo Alto Health Care System. These include efforts to heighten staff awareness of the health concerns and care management problems associated with excess weight, and the development of a weight management group for nursing home residents. We describe development of the weight management group, its structure and process, and its goals as they relate to the nursing home setting. We discuss successes and challenges with increasing staff awareness of problems associated with excess weight, and describe future plans for staff training and for the weight management group. Case examples are presented that illustrate approaches used to support weight management with disabled institutionalized elders.

### **BENEFITS OF FORMAL VOLUNTEERING IN OLD AGE: DOES GENDER MAKE A DIFFERENCE?**

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**Objectives:** This study aims to examine the associations between volunteering practices and volunteering benefits, and furthermore to examine if there are differences in benefits by gender **Background:** In the existent literature, volunteering has a positive impact on older adults. The association between volunteering behaviors (e.g., time spent on volunteering, types of volunteering tasks), organization features, and volunteering benefits, however, has not been well investigated. **Methods:** This study collected data from a mailed-in questionnaire. A total of 772 volunteers, involved in 75 organizations and groups, completed the questionnaire. A hierarchical regression model was applied to analyze the data and a scale was developed to measure the benefits gained from volunteering. **Findings:** 1. One's health condition is positively related to the benefits of volunteering; the great access to either psychological or social resources through volunteer work is also positively related to the benefits. Furthermore, the better volunteer management practices in an organization, the greater the benefits. 2. Bivariate analysis shows that women report greater benefits of volunteering than men. After controlling for effects of socio-demographic variables, volunteering practices, psychological and social resources, and organizational features, gender difference diminished. 3. The effect of access to psychological resources on benefits is significant for women sample; whereas it is not significantly for men sample. Put differently, access to social resources through volunteer work has a mediate effect on gender differences. **Conclusions and Implications:** The results suggest that good practice in the management of volunteers will increase volunteers' benefits; volunteer administrators should take this into consideration.

### **THE ASSOCIATION BETWEEN EDUCATION AND MORTALITY IN A SAMPLE OF 3,060 CATHOLIC MONKS FROM GERMANY**

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Education is the central element of a complex network that links many factors related to socioeconomic status (SES) with health and mortality. We contribute to the still unanswered question whether and to what extent education per se has a direct effect on longevity and old-age mortality by analysing the association between education and mortality in 3,060 Catholic monks from western Germany who were born between 1840 and 1959. This natural experiment allows us to isolate the effect of education from most other characteristics of SES. To better assess the obtained results we compare the monks with a sample of 3,221 men of the German general population. Analyses are based on Kaplan-Meier product limit estimation and Cox proportional

hazard regression modelling. We find that among male order members education does not have a significant impact on mortality and that the survival of low as well as high educated monks is almost identical to that of worldly men with high education. Health behaviours and occupation-related risk factors are discussed as most likely causes for the differences in education-specific mortality between the monastic and the general population. The presentation will provide two central messages of general interest: (i) education appears to have no direct effect on mortality and thus functions rather as proxy for other characteristics of SES; (ii) the well-known education gradient in longevity is predominantly due to the high mortality of low educated individuals and not to the low mortality of persons with high education.

#### **EFFECTS OF HEALTH ON ADVANCE CARE PLANNING IN OLDER ADULTS IN THE WISCONSIN LONGITUDINAL STUDY**

E.K. Chen, *Human Development, Cornell University, Ithaca, New York*

Advance care planning (ACP) is associated with better end-of-life care and improved outcomes for survivors, yet approximately 20% of older adults have not completed formal (legal) or informal (discussions) ACP. Research on ACP has focused on demographic variations in ACP, as well as the effect of recent experiences, such as hospitalizations or the death of a loved one, on the likelihood of planning. However, the effect of an individual's health and changes in health on likelihood of ACP is largely unknown. Based on Leventhal's Commonsense Model of Illness, I hypothesize that four measures of health (self-rated health, functional status, major health events, and chronic conditions) and changes in these measures over time will predict ACP. I use logistic regression to estimate the associations of health measures with the likelihood of having formal or informal ACP in the 2004 wave of the Wisconsin Longitudinal Study (WLS; M=64 yr). In addition, I test how baseline health and health changes between the 2004 and 2011 waves predict ACP in 2011 for respondents with no ACP in 2004. At Time 1, ACP was associated with more major health events, more chronic conditions (informal only), and better self-rated health. For respondents without ACP at Time 1, baseline functional status predicted Time 2 formal ACP, whereas chronic conditions and declines in self-rated health predicted Time 2 informal ACP. Diverse measures of health have different associations with formal and informal ACP. Future research should include more focused, objective measures of health to understand the triggers of ACP.

#### **ENHANCED COGNITION, SOCIAL SUPPORT AND SPONTANEOUS BRAIN ACTIVITY: EFFECTS OF A MULTIMODAL INTERVENTION FOR HEALTHY OLDER ADULTS**

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**Objectives** This study examined the effects of a multimodal intervention on cognitive functions and well-being, and whether the intervention modifies spontaneous neural activity in healthy older adults. **Methods** The intervention group (n = 17, mean age = 68.59 ± 5.65) was engaged in a six-week intervention that consisted of cognitive training, TaiChi exercise, and group counseling. The control group (n = 17, mean age = 71.65 ± 4.00) attended health knowledge lectures. Results The intervention group showed enhanced memory and social support compared to the control group. The amplitude of low frequency fluctuations (ALFF) in the middle frontal gyrus, superior frontal gyrus, and anterior cerebellum lobe was higher for the intervention group, while the control group showed reduced ALFF in these three regions. Additionally, changes in social support, and subjective well-being were correlated with intervention-induced changes in ALFF. **Conclusions** These findings suggest that a multimodal intervention is effective in

improving older adults' cognitive functions and well-being, and can induce functional changes in the aging brain.

#### **MENTAL HEALTH IN OLDER WOMEN BEFORE, DURING AND AFTER BEREAVEMENT**

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The death of a spouse is regarded as one of the most distressing life-course experiences and it becomes increasingly common with advancing age. While late life spousal bereavement is the most common form of spousal loss, very few studies involve the use of prospective data in community based samples. Following mental health trajectories before and after bereavement helps to contextualise grief reactions. That is, to determine whether the poor mental health associated with spousal illness and loss is a continuation of pre-loss functioning or a time limited response to a distressing event. Adjustment to widowhood may also be facilitated by appropriate social support. Participants were 2,241 women from the 1921-1926 birth cohort of the Australian Longitudinal Study on Women's Health. Psychological distress among the women was measured by the SF-36 Mental Health Index (MHI), and the Duke Social Support Index (DSSI) measured social support. Mental health showed a clear decline from >4 years preceding widowhood, with the most marked effect occurring at the time of widowhood and 12 months post bereavement. By >4 years after spousal loss, the women's mental health had returned to pre-loss levels. Social support increased in the 12 months leading to bereavement and was maintained at this level for more than four years. These results clearly illustrate the effect of spousal loss on women's mental health, and the response of their social networks as the women transition to widowhood.

#### **EMOTIONAL COMPLEXITY OR EMOTIONAL STABILITY: WHICH BRINGS MORE BENEFITS FOR HEALTH AGING?**

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Emerging evidence has suggested salutary effects of emotional stability and emotional complexity on health outcomes, especially for older adults, who prioritize emotionally meaningful goals and display enhanced emotional functioning (Ersner-Hersfield, Scheibe, Sims, & Carstensen, 2013; Terracciano, Lockenhoff, Zonderman, Ferrucci, & Costa, 2008; Scheibe, & Carstensen, 2010). However, no study has investigated emotional stability and complexity integratedly across lifespan. By using experience sampling over 7 days, 113 Hong Kong participants aged from 17 to 83 years reported on 9 types of affects for 5 times each day (negative affect: Angry, Anxious, Bored, Sad; Positive affect: Happy, Enthusiastic, Calm; and neural affect: Activated, Quiet). In the analysis, mixed emotions (the co-occurrence of positive affect and negative affect) was calculated as an index of emotional complexity, and fluctuations of daily affective states served as an index of emotional stability. Surprisingly, regression analysis found that mixed emotions, similar to negative emotions, declined with age and predicted more physical symptoms and lower subjective well-being. Meanwhile, the benefit of emotional stability was evidenced: lower fluctuations of emotions across 7 days, regardless of the valence, predicted fewer physical symptoms for different age groups. Our findings underscore the importance of emotional stability in aging health, compared with emotional complexity, less variation of emotional states may bring more benefits across lifespan.



## A QUALITATIVE STUDY OF ALCOHOL CONSUMPTION IN MID TO LATER LIFE: IMPLICATIONS FOR SERVICE PROVISION

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Surveys show a steady increase in the amount of alcohol consumed by middle and older age groups. Physiological changes and an increased likelihood of health problems and medication use make older people more likely than younger age groups to suffer negative consequences of alcohol consumption, and at lower levels. However, health services targeting excessive drinking tend to be aimed at younger age groups. This study, based in the North East of England, assessed the views of people aged over 50 in relation to alcohol health services. Qualitative interviews and focus groups with a purposive sample (18 male, 33 female, ages 50-95) who consumed alcohol or had been dependent revealed that most interviewees had reduced their drinking, with or without specialist help. Barriers to seeking help included functioning at a high level, concern about losing positive aspects of drinking, perceiving stigma, service orientation to younger people, and fatalistic attitudes to help-seeking. Facilitators included concern about risk of fatal illness or pressure from significant people. Older people tended to look first to their General Practitioner for help with alcohol. Detoxification courses had been found effective for dependence but in the short term; rehabilitation facilities were appreciated but seen as difficult to access. Activities, informal groups and drop-in centres were endorsed as less demanding, comforting and supportive environments offering distraction from drinking. It was seen as difficult to secure treatment for alcohol and mental health problems together. There is a need for specific services tailored to older people's health in relation to alcohol.

## HEALTH EDUCATION, THEMATIC GAMES AND OLDER ADULTS: MOTIVATION INTERVENTION

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Classic and innovative motivational interventions have been subject of investigation in the Motivation Program. This qualitative study is strategies to motivate older adults to sustain self-care practices that are difficult, especially when involving long diet, exercise and extensive medication regimens over time. Objectives: (i) analyze two thematic health games used in health education to help older patients with a diabetes and chronic heart conditions to sustain self-care practices; and (ii) describe preliminary data analysis on thematic games and self-care outcomes. Method: At phase one a pre-intervention questionnaire on health demands was applied to thirty older adults at an ambulatory unit. At phase two, games the Life Board Game and the Health Bingo, were played in small groups of older adults with cardiovascular and metabolic health issues with an on-going, recorded discussion. At phase three, a post-intervention interview and questionnaire, were applied to learn participants experiences, game preferences and content learning. Results: Participants accounts reported The Life Board Game was described as the game that helped the most with the discussing and solving health doubts. Conclusion: health thematic games can become cost-effective, culturally sensitive teaching-learning tools to enhance patient knowledge, which is one of the enablers towards motivation to sustain self-care practices.

## AGING BABY BOOMER VETERANS: THE ROLE OF MILITARY SERVICE ON THE PHYSICAL HEALTH OF VIETNAM VETERANS

M.S. Marsala, L. Erickson, *Sociology, Brigham Young University, Provo, Utah*

Relatively little is known about the long-term impacts of serving in the Vietnam War on the health of baby boomers. About 10 percent of baby boomer males served in Vietnam so its effects could have substantial implications for the kinds of policies needed to address baby boomers as they transition into retirement. Studies show that veterans of previous conflicts, particularly World War II and the Korean War, experienced better physical health than their non-veteran counterparts during their older years. It may be, then, that baby boom veterans who fought in Vietnam are also healthier than non-veteran baby boomers. On the other hand, there was less public support for the Vietnam War compared to these previous wars, including substantial anti-war sentiment and less public support for veterans returning from Vietnam. Using male respondents from the Life and Family Legacies study, a representative sample of Washington state high school juniors and seniors which began in 1966 with follow-up surveys in 1980 and 2010, we compare self-reported physical health of veterans and non-veterans. As part of this study we will examine variables such as activities of daily, physical activity, and chronic illness living. We hypothesize that these baby boom veterans will have worse health outcomes than non-veterans. Considering the size of the baby boom cohort, the need and cost of health care for veterans could be substantial if the health outcomes prove to be lower.

## BRAIN FITNESS PROGRAMS: MOTIVATORS FOR LIFESTYLE CHANGES FOR OLDER ADULTS?

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Brain fitness is a rapidly growing field aimed at addressing concerns about cognitive decline and decreasing risk of dementia. Due to the increasing popularity of brain fitness and neuroscience as well as fears about dementia, brain-based educational programs may prove to be particularly effective motivators of lifestyle changes. Although many brain fitness programs focus primarily on intellectual stimulation or "brain games", research from neuroscience, cognitive psychology and longitudinal studies has revealed a number of lifestyle factors that contribute to cognitive health and decreased risk of Alzheimer's disease or dementia. This research inspired the development of the multimodal Spencer Powell Brain Fitness program. This program covers how lifestyle factors related to intellectual activity, physical activity and emotions can impact cognitive function and risk of developing dementia. Additionally, this program provides guidance for developing new habits, and provides strategies for improving memory. To evaluate the effectiveness of this program a staggered-entry, waitlist controlled intervention study was conducted. Our preliminary analysis of the first wave of data compared an intervention group with waitlisted controls at 5 senior living communities, with a total of 116 participants. At the conclusion of the brain fitness course, the intervention group reported greater behavior change than the control group in intellectual activity and in the frequency, intensity and amount of physical activity. They also reported a greater understanding of how exercise, stress and lifestyle affect their risk of dementia, and indicated an intent to make more lifestyle changes in the coming months to decrease their risk of dementia

## SOCIAL SUPPORT AND SCREENING DECISIONS FOR BREAST CANCER AND CHRONIC CARE: COMPARING PERSPECTIVES OF OLDER SURVIVORS, FAMILY AND PHYSICIANS

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Many of the 6.5 million breast cancer (BC) survivors over age 65 must manage additional chronic conditions. Because social support influences adherence to preventive care, shared beliefs about chronic conditions may affect the support survivors receive for screening decisions. We collected data from older BC survivors (N=48) with hypertension (HTN), matched pairs of survivors and family members (N=20) and physicians (N = 13) in five primary practices. We compared responses about health beliefs, support and advice on decisions about BC and HTN screenings. Survivors reported receiving enough support and advice. However, more family members reported giving support (70%) for screenings than advice for HTN screenings (55%) or BC screenings (40%). We suggest that survivors may view family as supportive, but look to doctors for advice. While physicians reported giving both support and advice (84%) for screening decisions, survivors may view their doctors' support as advice-giving. In comparison, on healthy behaviors, all the physicians reported giving advice for HTN, but only 45% gave advice for preventing a recurrence of BC. While 95% of survivors and family members shared a belief that HTN is controllable, only 50% shared a belief that recurrence of BC can be controlled. Survivors' and family members' differing beliefs about controllability of BC and other chronic conditions, such as HTN, may affect family support for screenings and preventive care; physicians' advice may also shape some of these differences. Understanding the composition, influence, and health beliefs of survivors' support networks provides insight into survivors' preventive screening decisions.

## SESSION 985 (POSTER)

### EPIDEMIOLOGY OF AGING

#### STROKE AND ACTIVE LIFE EXPECTANCY: MODELING STROKE INCIDENCE THROUGHOUT OLDER LIFE

J.N. Laditka, S.B. Laditka, *Public Health Sciences, University of North Carolina at Charlotte, Charlotte, North Carolina*

Stroke reduces active life expectancy, both years lived and their proportion without disability. Research has offered little information about active life expectancy following stroke for African Americans. It has also focused on stroke at a baseline such as age 65, not the much greater number of strokes in later life. We studied stroke and active life expectancy for African American and White women and men using data from the Panel Study of Income Dynamics, 1999-2009 (n=1,862, 15,859 person-years). We estimated monthly probabilities of death and disability in activities of daily living with multinomial logistic Markov models adjusted for age, sex, ethnicity, recent stroke ( $\leq 2$  years), previous stroke ( $> 2$  years), and education. A random effect accounted for repeated measures. Microsimulation created large populations with stroke incidence at age-specific national rates throughout older life, identifying active life expectancy. Bootstrapping provided confidence intervals. We matched individuals with strokes with randomly selected persons without strokes by first stroke age, sex, ethnicity, and previous disability. About two-thirds of life after stroke for women was disabled, 61.5% for African American men, 37.3% for White men. Compared to matched participants, stroke reduced remaining life 33.0% (95% confidence interval 30.9%-34.7%) and increased the proportion with disability 31.6% (14.4%-55.6%). People with strokes nonetheless lived a substantial average proportion of life without disability; this finding may be due in part to stroke diagnosis without functional impairment through imaging. Stroke substantially reduces active life expectancy,

especially for women and African Americans, underscoring the importance of stroke treatment and prevention.

#### INDEPENDENT AND COMBINED ASSOCIATIONS OF MULTIPLE MORBIDITIES WITH ACTIVE LIFE EXPECTANCY

S.B. Laditka, J.N. Laditka, *Public Health Sciences, University of North Carolina at Charlotte, Charlotte, North Carolina*

Increasing prevalence of chronic diseases in the United States may reduce active life expectancy (ALE), both years lived and their proportion without disability. Related research has adjusted for comorbidities using disease counts, an approach assuming all comorbidities are equal that does not provide ALE estimates specific to each combination of diseases. We identified individual and joint associations of six diseases with ALE: arthritis, diabetes, heart disease, hypertension, lung disease, and depression. Data representing African American and White women and men ages 55+ were from the Panel Study of Income Dynamics (1999-2011, n=1,862, 15,859 person-years). We estimated monthly probabilities of death and disability in activities of daily living with multinomial logistic Markov models adjusted for age, sex, ethnicity, education, and the six diseases. A random effect accounted for repeated measures. Bootstrapping provided standard errors. Microsimulation created large populations to identify outcomes. White women illustrate results: life expectancy from age 55 without any diseases was 92.4 years (95% confidence interval 90.2-94.6), 4.7 (4.5-4.9) fewer years adding hypertension, 10.8 (10.2-11.4) fewer adding diabetes, 13.6 (12.6-14.5) adding heart disease, 25.2 (23.2-27.2) with all diseases. The percentage of remaining life with disability was 14.8% (13.7-15.8) with no diseases, 16.6% (15.3-17.9) adding hypertension, 25.1% (22.8-27.4) adding diabetes, 26.4% (23.8-29.0) adding heart disease, 27.2% (24.2-30.2) with all diseases. Average ages of first disability for the same combinations were: 77.6, 74, 70.5, 70.2, and 63.2. Other groups had similar patterns. Findings identify opportunities to focus public health on diseases with the greatest toll on mortality and disability.

#### THE MEDIATING ROLE OF SELF-RATED HEALTH ON THE RELATIONSHIP BETWEEN SOCIOECONOMIC STATUS AND ONLINE HEALTH INFORMATION SEEKING AMONG MIDDLE-AGED AND ELDERLY US ADULTS

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Online health information seeking (OHIS) is socially patterned with health disparities. Drawing upon the Conservation of Resource Theory (Hobfoll, 1988), this study investigated the relationship between social resources [i.e., Socioeconomic Status (SES)] and OHIS, and whether the relationship was mediated by self-rated health (SRH). Data came from 492 middle-aged and elderly people (age  $\geq 50$  years) who reported ever going online for health information in U.S. Health Tracking Survey (2012) by the Pew Internet and American Life Project. OHIS was measured by whether respondents use the Internet to seek information about 11 health topics (yes/no, possible range 0-11). Three focal predictors were investigated: income (continuous), education [ $<$  high school, high school, some college, and college and above (reference)], employment [employed versus unemployed (reference)]. The mediator was SRH rated as excellent, good, fair, or poor. Control variables included: age, gender, race, marital status, chronic disease, smartphone use and area of residence. Multiple regression analysis was used to examine the relationships among predictors, mediator, and outcome. Mediation effects of SRH on the relationship between SES and OHIS was estimated. Multiple regression analysis showed that income (b = .088) and employment (b = .148) were significantly predictive of SRH. Also, SRH (b = -.476) and income (b = .137) significantly predicted OHIS. A Sobel test confirmed that the relationship between income and OHIS was partially mediated by SRH (z = -2.56). These findings

suggest that SRH may serve as an important mechanism through which income impacts OHIS among middle-aged and elderly people.

#### **DISTRIBUTION OF THE MMSE-J SCORES IN AN ELDERLY JAPANESE POPULATION IN TOKYO: MACHIDA HEALTH SURVEY**

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**BACKGROUND:** The Mini-Mental State Examination (MMSE) is widely used as a cognitive screening test for older people. Cognitive performance can be affected by age, education, and sample-selection bias. We examined the distribution of scores on the published Japanese version of the MMSE (MMSE-J) in an urban population-based sample. **METHODS:** The subjects were all residents aged 65 years and older living in an urban residential district in Tokyo (N=7,682). First, a questionnaire survey was conducted for all subjects to examine socio-demographic and health-related variables. Second, 3,000 residents were randomly selected from this population and visited by trained nurses to examine cognitive function (the MMSE-J) and physical and mental health status including blood pressure, prescribed medicines, and daily functions. **RESULTS:** A total of 1,341 residents (47%) were administered MMSE-J, whose median scores were 28 (6-30). The MMSE-J scores of 1,273 participants, aged 65-97 years (mean = 74.3 years) with formal education ranged 2 to 24 years (mean = 12.6 years), were analysed by three age cohorts (65-74, 75-84, 85-97) and by three education level (2-9, 10-12, 13-24 years). Younger age and higher education were associated with better performance, with greater variations among the oldest age and the lowest education groups. A total of 132 participants obtained lower scores below the traditional 23/24 cutoff point (10.4%). **CONCLUSION:** The distribution of MMSE-J scores in these participants can serve as an urban community-based norm for older people, and be useful to clinicians and researchers assessing older adults in both in and out of clinical settings.

#### **CULTURAL COMPARISONS OF SUBJECTIVE LIFE EXPECTANCY RESPONSE PATTERNS: THE ROLE OF TIME PERSPECTIVE**

S. Lee, J. Smith, *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*

With an unprecedented population aging pattern, the subjective life expectancy (SLE) question has emerged as an important predictor of mortality. SLE asks respondents to estimate the probability that they will live up to a certain age. In spite of its predictive power for the general population, its comparability across diverse population groups has been questioned. An implicit yet important premise of SLE is that respondents cognitively organize their personal experiences relevant for future events, known as future-oriented time perspective. Time perspective is an unconscious yet fundamental cognitive process that provides a framework for organizing personal experiences in temporal categories of past, present and future. On SLE, future-oriented respondents are less likely to experience difficulty and say, "I don't know," than the counterparts, leading to lower item nonresponse rates. As culture plays a central role in shaping individuals' time perspective, SLE item nonresponse rates may vary across cultural groups. Drawing on the time perspective theory, this study examines culture-specific patterns of SLE item nonresponse using the Health and Retirement Study, the English Longitudinal Study of Ageing, the Survey of Health, Ageing and Retirement in Europe, and the China Health and Retirement Longitudinal Study. The results show a large variation in item response rates on SLE and confirm our hypothesis: SLE item nonresponse rates vary significantly in the way that future-oriented cultures and individuals are less likely to report, "I don't know," than past- or present-oriented

cultures and individuals. Moreover, SLE item nonresponse itself is associated with higher subsequent mortality rates.

#### **STUDY ON GLOBAL AGEING AND ADULT HEALTH (SAGE): LINKS BETWEEN SOCIOECONOMIC STATUS AND OBESITY**

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Recent studies have documented complex relationships between socioeconomic status (SES) and obesity, with level of economic development and sex structuring the directionality and strength of associations. Evidence suggests that SES and obesity are positively associated in lower-income countries but negatively associated in higher-income countries; however, few studies have systematically evaluated these links among older adults in low- and middle-income countries. Here, we use Study on global AGEing and adult health (SAGE) data with nationally-representative samples of older adults (≥50 years old) in China, Ghana, India, Mexico, Russian Federation, and South Africa to examine the relationship between SES and obesity. Height, weight (for body mass index [BMI]), and waist circumference (WC) were measured to assess obesity. SES was quantified by income and education. Linear regressions estimated the association between income and education, BMI and WC while controlling for age, physical activity, smoking, drinking, marital status, and residence. Analyses were conducted separately by country and sex. Among men, BMI and WC were positively associated with income in all countries except Russia, while BMI and WC were positively associated with education in India, Ghana, and China (p<0.05). BMI and income were positively associated among Russian women (p<0.05). Results suggest that high SES may increase obesity risks for older men in middle-income countries. The findings in women may imply a shift in the relationship between SES and obesity due to societal and nutritional changes associated with globalization. This study highlights the importance of the socioeconomic context of obesity among aging populations from middle-income countries. Support: NIH NIA Interagency Agreement YA1323-08-CN-0020 with the World Health Organization; NIH R01-AG034479; University of Oregon

#### **CROSS-CULTURAL DIFFERENCES IN COGNITIVE AND HEALTH INDICATORS IN COMMUNITY OLDER ADULTS**

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Little is known for how to assess and detect cognitive impairment levels in ethnically-diverse populations. Portuguese immigration has been dwindling over the last several years, which has led to a significant aging of the Portuguese-American population. Preliminary analyses from a pilot study composed of Portuguese-American (30.9%) and other non-Portuguese community (69.1%) middle-aged and older adults (Mean age = 69.16; SD age = 8.92; range 52-89; 78% female) from Southeastern Massachusetts were administered language-specific neuropsychological batteries to establish a baseline of cognitive ability. Measures to assess vascular health such as resting pulse pressure were also evaluated since risk of cognitive impairment has been associated with elevated pulse pressure (e.g., Yasur et al., 2011). Initial mean level differences by cultural group in the community-dwelling indicate significant differences with Portuguese-Americans scoring lower on global cognitive ability (p = .002), higher on depression (p=.003), and lower on verbal fluency (p=.042), yet only near significant differences were present on memory recognition and executive functioning measures. Near significance was also found for lower, that is more healthy, pulse pressure among the Portuguese-Americans (p =.086). Observed differences in cognitive domains may be due to differences in educa-

tion, as non-Portuguese-Americans had significantly higher education (Mean=14.63, SD=2.52) levels as compared to the Portuguese-Americans group (Mean=9.71, SD=4.75;  $t(53)=5.03$ ,  $p < .001$ ). Known cut scores comparing normal aging to cognitive impairment were applied in secondary analyses, though few met the criteria. Replicating these findings in a larger, longitudinal study will be necessary in order to develop sufficient screening tools for this population.

#### **DO VERBAL AND VISUOSPATIAL ACTIVITIES MODERATE THE RELATIONSHIP BETWEEN EDUCATION AND DEMENTIA? BASED ON THE AGING, DEMOGRAPHICS, AND MEMORY STUDY (ADAMS)**

Y. Lee, *University of Southern California, Los Angeles, California*

**Background:** Cognitive reserve theory has been widely adapted in dementia studies and existing studies have often focused on the main or mediating effect of education, occupation and later-life cognitive activities on the risk of dementia. Only paucity of study explored the moderating effect; thus, this study aims to investigate the interaction effect of verbal and visuospatial activities on the relationship between education and the risk of dementia. **Method:** 702 older Americans were included in the final multinomial logistic regression analysis from the ADAMS. The outcome variable was cognitive diagnosis categorized into normal, cognitively impaired not demented (CIND), and demented. Principal component factor analysis was conducted to draw two factors (verbal and visuospatial) from cognitive leisure activities. CIND was treated as the reference group to compare 1) normal vs. CIND and 2) CIND vs. demented. **Results:** The findings show that older adult with longer education years (OR=1.08, CI=1.01-1.17) and frequent engagement in verbal (OR=1.20, CI=1.10-1.30) and visuospatial (OR=1.23, CI=1.11-1.38) activities were more likely to have normal cognition than CIND. Only verbal (OR=0.68, CI=0.63-0.75) and visuospatial (OR=0.79, CI=0.70-0.90) activities showed significant main effect on the risk of dementia compared to that of CIND but not for education years. There was interaction effect for education x verbal activities (OR=0.98, CI=0.96-0.99) on the risk of dementia (vs. CIND). **Conclusion:** Unlike previous studies, the study found moderating effect of verbal activities on education and dementia. This suggests that for those with same educational years may have lower risk dementia by more engaging in verbal activities.

#### **MEMORY TRAJECTORIES IN A DIVERSE URBAN SAMPLE OF OLDER ADULTS**

L.B. Zahodne, M. Wall, J.J. Manly, *Columbia University, New York, New York*

**Objective:** Most longitudinal studies of cognitive aging describe only average changes, but several recent reports support the presence of subgroups of older adults exhibiting different trajectories of change. The present study identified and characterized subgroups based on memory trajectories in the largest and most racially, ethnically and educationally diverse cohort used for this purpose to date. **Method:** The 3404 initially non-demented older adults in this study participated in the Washington Heights-Inwood Columbia Aging Project, a community-based longitudinal study of aging in Northern Manhattan. Latent class growth analysis identified subgroups based on trajectories of episodic memory performance over a period of up to 18 years. Immediate recall, delayed recall, and recognition scores from the Selective Reminding Test were combined into a composite score reflecting episodic memory at each of four visits. **Results:** Four subgroups were identified: high performers with stable decline (16.4%), high-average performers with minimal decline (44.7%), low-average performers with accelerating decline (31.3%), and low performers with accelerating decline (7.5%). These subgroups could be differentiated by initial age, APOE genotype, sex, race, ethnicity, education, language and depressive symptoms, but not by chronic disease burden (including cardiovascular conditions) or body mass index. Groups also differed in incident dementia rates. Con-

clusions. Results confirm prior work that the majority of older adults exhibit minimal cognitive decline with age. This sample revealed a greater number of distinct subgroups than has been previously reported, suggesting that diverse longitudinal cohorts are important for understanding heterogeneity in late-life cognitive trajectories in the aging population.

#### **UNDERSTANDING DEPRESSIVE SYMPTOMS AMONG COMMUNITY-DWELLING CHINESE OLDER ADULTS IN THE GREATER CHICAGO AREA**

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**Background:** Older adults are disproportionately affected by depressive symptoms. The presence of depressive symptoms may lead to declined quality of life, worsened physical and cognitive function, as well as increased use of health care services. This study aimed to examine the prevalence of depressive symptoms among U.S. Chinese older adults. **Methods:** Data were from a population-based survey of community-dwelling U.S. Chinese older adults aged 60 years and above in the greater Chicago area. We assessed depressive symptoms by face-to-face interviews through using the Patient Health Questionnaire (PHQ-9) (Cronbach's alpha = 0.82). **Results:** Of the 3,159 participants, 58.9% were female and the mean age was 72.8 (SD = 8.3). In total, 1,717 (54.4%) participants reported having any depressive symptoms in the last two weeks. Older age ( $r=0.09$ ), being female ( $r=0.10$ ), lower income ( $r=0.09$ ), not being married ( $r=0.07$ ), having fewer years in the U.S. ( $r=0.05$ ), lower overall health status ( $r=0.32$ ), poorer quality of life ( $r=0.14$ ), and worsening health over the past year ( $r=0.24$ ) were significantly and positively correlated with any depressive symptoms. **Conclusion:** Depressive symptoms were common among U.S. Chinese older adults in the greater Chicago area. Future studies should improve our understanding of risk factors and outcomes associated with depressive symptoms among U.S. Chinese older adults. Community organizations should promote prevention and intervention programs to improve mental health care for Chinese older adults. Special attention should be given to the oldest old, women, low income older adults, and those with poor health status and quality of life.

#### **THE PERCEPTION OF SOCIAL SUPPORT AMONG COMMUNITY-DWELLING U.S. CHINESE OLDER ADULTS IN THE GREATER CHICAGO AREA**

R. Chen<sup>1</sup>, M. Zhang<sup>1</sup>, E. Chang<sup>1</sup>, I. Lin<sup>1</sup>, K. Lam<sup>1</sup>, M.A. Simon<sup>2</sup>, X. Dong<sup>1</sup>, *1. Rush Institute for Healthy Aging, Chicago, Illinois, 2. Northwestern University, Chicago, Illinois*

**Background:** Social support is important for maintaining health and successful aging. This study examined perceptions and correlates of both positive and negative social support among U.S. Chinese older adults. **Methods:** In total, 3,159 community-dwelling Chinese older adults aged 60 years and above in the greater Chicago area were interviewed in person from 2011-2013. We assessed participants' levels of social support through asking the frequency of receipt of positive and negative support from spouse, family members and friends. **Results:** Of the 3,159 participants, 58.9% were female and the mean age was 72.8 (SD = 8.3). U.S. Chinese older adults were more likely to perceive positive and negative spouse and family support than friend support. Younger age ( $r=0.07$ ), being female ( $r=0.04$ ), higher levels of education ( $r=0.09$ ), being married ( $r=0.08$ ), living with a larger number of people ( $r=0.09$ ), higher health status ( $r=0.15$ ), better quality of life ( $r=0.21$ ), and improved health over the past year ( $r=0.05$ ) were positively associated with positive social support. On the other hand, younger age ( $r=0.06$ ), being male ( $r=0.13$ ), higher levels of education ( $r=0.19$ ), being married ( $r=0.18$ ), having fewer children ( $r=0.13$ ) and grandchildren ( $r=0.15$ ), living with more people ( $r=0.09$ ), lower health status ( $r=0.04$ ), and poorer quality of life ( $r=0.04$ ) were positively correlated with negative

social support. Conclusion: The findings point to the importance of integrating family and spousal supports into policy and program developments. In addition to enhancing family and spousal support, increasing efforts should be put into preventing and intervening potential negative interactions such as abuse and conflicts.

#### **SENSE OF COMMUNITY AMONG CHINESE OLDER ADULTS IN THE GREATER CHICAGO AREA: FINDINGS FROM THE PINE STUDY**

M. Zhang<sup>1</sup>, R. Chen<sup>1</sup>, E. Chang<sup>1</sup>, J. Ruan<sup>1</sup>, Y. Li<sup>1</sup>, M.A. Simon<sup>2</sup>, X. Dong<sup>1</sup>, *I. Rush Institute of Healthy Aging, Chciago, Illinois, 2. Northwestern University, chicago, Illinois*

Background: Sense of community is a concept that has significant implications in public health practice. However, little is known about the sense of community from Chinese older adults' perspective. This study aimed to explore the perception of the sense of community among community-dwelling U.S. Chinese older adults. Methods: Data were from the PINE study, a population-based survey of U.S. Chinese older adults aged 60 years and above in the greater Chicago area. We administered the Sense of Community Index to measure the levels of sense of community. Data were collected through interpersonal interviews. Results: Of the 3,159 participants, 58.9 % were women and the mean age was 72.8 (SD = 8.3). In total, 86.7 % of the participants reported satisfaction with the current neighborhood, and 78.4% expressed their desire to continue living in the community as long as possible. Older age ( $r=0.11$ ), being female ( $r=0.08$ ), having higher levels of income ( $r=0.08$ ), being unmarried ( $r=-0.06$ ), living with fewer people ( $r=-0.22$ ), having more children ( $r=0.11$ ), having been in the U.S. for more years ( $r=0.12$ ), longer residency in the community ( $r=0.15$ ), higher overall health status ( $r=0.18$ ), better quality of life ( $r=0.23$ ), and improved health status in the past year ( $r=0.11$ ) were significantly correlated with the higher levels of the sense of the community. Conclusions: The study investigation provided the basis for generating empirical knowledge to understand the mechanisms underlying sense of community. Future research is needed to explore the health outcomes associated with the sense of community among Chinese aging population.

#### **SELF-MASTERY AMONG CHINESE OLDER ADULTS IN THE GREATER CHICAGO AREA**

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Background: Self-mastery is an important psychological resource to cope with stressful situations. However, we have limited understanding of self-mastery among minority aging populations. This study aims to examine the presence and levels of self-mastery among U.S. Chinese older adults. Methods: Data were drawn from the PINE study, a population-based survey of U.S. Chinese older adults aged 60 and above in the greater Chicago area. We assessed self-mastery through face-to-face interview using the Chinese Self-Mastery Scale (Cronbach's  $\alpha=0.80$ ), which was derived from Pearlin's Mastery Scale. Results: Of the 3,159 participants, 58.9 % were women and the mean age was 72.8 (SD = 8.3). In total, one third of the participants ( $N = 1,007$ ) reported any self-mastery in their lives. Stronger self-mastery beliefs were reported for specific scenarios: 87.5 % of our participants disagreed with being pushed around in life. Older adults with zero years of education and the oldest-old aged 85 and over had the lowest level of self-mastery in our study. A higher mastery level was associated with an younger age, being female, higher educational level, higher income, being married, having fewer children, better self-reported health status, better quality of life, and positive health changes. Conclusions: Although self-mastery is commonly experienced among the Chinese aging population in the greater Chicago area, specific subgroups are still vulnerable. Future longitudinal studies are needed to improve the

understanding of risk factors and outcomes associated with self-mastery among Chinese older adults.

#### **SOCIAL ENGAGEMENT AMONG GREATER CHICAGO AREA CHINESE OLDER ADULTS**

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Background: Social engagement is one key indicator for the older adults' quality of life and well-beings. However, social engagement patterns of Chinese older adults in the U.S. have not yet been thoroughly studied. This study aimed to understand the social engagement pattern among U.S. Chinese older adults. Methods: Data were collected by the PINE project, a cross-sectional population-based study of 3,159 U.S. Chinese older adults aged 60 and older in the greater Chicago area. Face-to-face interviews were conducted. Social engagement patterns were examined through Social Engagement Scale, containing 16 social engagement activity related questions. ANOVA procedure, Pearson or Spearman correlation coefficients were used to examine the correlation between socio-demographics and social engagement. Results: Of the 3,159 participants, 58.9% were female and the mean age was 72.8 (SD = 8.3). Watching TV (80%) and reading (65 %) are the most common social engagement activities. Younger age ( $r=0.1$ ,  $p<0.001$ ), higher education levels ( $r = 0.54$ ,  $p < 0.001$ ), better health status ( $r = 0.16$ ,  $p < 0.001$ ), and better quality of life ( $r = 0.17$ ,  $p < 0.001$ ) were correlated with higher levels of social engagement. Conclusion: Future studies should explore the role of community centers in the lives of Chinese older adults. Further longitudinal studies are needed to understand the factors and outcomes associated with social engagement among U.S. Chinese older adults.

#### **THE EXPECTATION AND PERCEIVED RECEIPT OF FILIAL PIETY AMONG CHINESE OLDER ADULTS IN GREATER CHICAGO AREA**

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Objectives: Filial piety is a key cultural value that determines children's caregiving obligation to older adults. Current research called for a better understanding of the evolving conceptualization of filial piety for U.S. Chinese older adults. This study aimed to evaluate the expectations and receipt of filial piety from the perspectives of Chinese older adults with the respect to their length of staying in the U.S. Methods: Data were drawn from the PINE study, a population-based study of U.S. Chinese older adults aged 60 and older in the greater Chicago area. Filial care were examined in six domains, including care, respect greeting, happiness, obedience, and financial support through face-to-face interviews. Socio-demographic correlates with expectations and receipts of filial piety were examined. Results: Of the 3,159 participants, 58.9% were female and the mean age was 72.8 (SD = 8.3). More than half of the Chinese older adults reported a higher than average level of filial piety expectations and receipt on respect, care, greet, happiness, and obedience. Highest expectation and perceived receipt were placed on the domain of respect (4.1 to 4.3) while the least expectation and perceived receipt were placed on financial support (2.5 to 3.0). The receipt of filial piety differed by years in the U.S. ( $p < 0.001$ ). The expectations and perceived receipt of filial piety were correlated with sex, education, marital status, overall health, quality of life, years in the U.S., and the number of daughters and grand children. Discussion: This study provides insights on the extent in which U.S. Chinese older adults perceive filial care and has implications for the provision of culturally appropriate health care services.

## AGE AND GEOGRAPHIC DIFFERENCES IN THE USE OF PERSONAL HEALTH RECORDS

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The Veteran's Health Administration online personal health record, MyHealthVet, seeks to engage Veterans with the healthcare system by connecting Veterans to their personal health information, health resources, and physicians<sup>1</sup>. Few studies have examined MyHealthVet use among older adults, in spite of the fact that 43% of Veterans are over the age of 65 years<sup>2</sup>. We examined variations in use of MyHealthVet features across the lifespan in order to better understand the reach of health information technology. Data was drawn from a national repository of Veteran data and MyHealthVet activity logs and included 174,321 Veterans ages 18-100 years. Variables of interest were age, rurality, and the demographic covariates of race, marital status, economic need, and comorbid conditions. Binary logistic models showed significant main effects and interactions between age and rurality for MyHealthVet registration ( $B_{age} = -0.43$ ,  $SE = 0.01$ ;  $Br_{rural} = -0.21$ ,  $SE = 0.02$ ;  $B_{age*rural} = -0.09$ ,  $SE = 0.02$ ), sending a secure E-mail message to a physician ( $B_{age} = -0.41$ ,  $SE = 0.02$ ;  $Br_{rural} = -0.24$ ,  $SE = 0.03$ ;  $B_{age*rural} = -0.09$ ,  $SE = 0.03$ ), downloading personal health information ( $B_{age} = -0.34$ ,  $SE = 0.02$ ;  $Br_{rural} = -0.21$ ,  $SE = 0.03$ ;  $B_{age*rural} = -0.10$ ,  $SE = 0.04$ ), and requesting a prescription refill ( $B_{age} = -0.43$ ,  $SE = 0.01$ ;  $Br_{rural} = -0.15$ ,  $SE = 0.02$ ;  $B_{age*rural} = -0.08$ ,  $SE = 0.05$ ) with older, rural Veterans being less likely to use the features. To reduce disparities in reach, providers and community leaders may want to focus efforts on educating and encouraging health technology use for rural, older adults.

## SESSION 990 (POSTER)

### CULTURE, PLACE, AND MEMORIES

#### LIFE REVIEW OF AMERICAN VETERANS OF THE SECOND WORLD WAR: REMEMBERING AND REFLECTING ON "THE GOOD WAR"

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The investigation deals with testimonies of American veterans of World War II. Testimonies of twenty veterans aged 88-97 of the European & Pacific theatres are included. The study examines veterans' evaluation of war experiences, motivations of joining the service, selection of especially meaningful events of combat and the impact war had on their later lives. This type of analysis was motivated by the great need to understand the war from the perception of the last living witnesses and their contributions to build it into collective memory for future generations. This study is also relevant to life review literature for the cohort who experienced the most important historical event of their times and expressing perceptions based on life experience. It also sheds some light on what types of experiences can outlive the damaging effects of memory deterioration. This is illustrated by a compelling statement of a veteran which was lacking specific facts of his war experience but contained a highly abstract evaluation: "You don't run marathons to win, you run 'em just to finish." This study is a continuation of investigations of testimonies of survivors of Auschwitz concentration camp as a meaningful tribute to those who were involved in the war.

## MAKE A BUCKET LIST: AGE DIFFERENCE IN LIFE GOAL PRIORITIZATION UNDER A LIMITED TIME PERSPECTIVE

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Lifespan developmental theories suggest that goal prioritization varies by age and by the perception of remaining time. However, less is known about the meaningful life goals that people pursue when lifetime is limited. The current study investigated age differences in bucket lists, containing goals to be attained before the end of life. We asked 248 adults (18-87 years, 57.2% females) to imagine they had only six months to live, and to list at least ten things they wanted to do before the end of life. For each generated item, participants also indicated how important the "thing" was to them and how likely they would do the "thing". Using the socioemotional selectivity theory as a framework, three raters coded the generated items into three goals: (a) information acquisition, (b) emotional well-being and (c) development and maintenance of self-concept. Findings revealed significant age difference in the structure and prioritization of life goals: First, younger adults indicated a higher proportion of information acquisition goals and a lower proportion of emotional well-being goals than older adults. Second, older adults regarded the goals of pursuing emotional well-being and self-concept as more meaningful than younger adults. Finally, the self-concept development goals were rated as more likely to be attained by older adults than younger adults. The findings support the notion that younger and older adults differ in goal prioritization - even under a controlled limited-time perspective. Thus, bucket lists differ between age groups, which may provide reference for practice and research in terminal care.

## THE OLDER MEN MASCULINITY IDEOLOGY SCALE: FACTOR STRUCTURE, RELIABILITY, AND CONSTRUCT VALIDITY

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Measures of masculinity ideologies developed 20 to 30 years ago operationalized the conventional (or "traditional") cultural guidelines for being a (younger) man in Western society. These hegemonic ideologies are heteronormative and ageist. On the face of the continuing absence of distinct guidelines for being an older man (Spector-Mersel 2006), the question begs to be asked, what masculinity standards likely influence how older men go about their lives? The current study reports the development of the 18-item Older Men Masculinity Ideology Scale. Exploratory factor analysis of responses from 349 men aged 65 and older supports a four-factor structure, satisfies good fit principles ( $CFI = .947$ ;  $TLI = .913$ ,  $RMSEA = 0.046$ ,  $SRMR = 0.033$ ), and mimics the four tenets Brannon (1976) theorized as core principles of masculinity in American culture. The total scale shows very good internal consistency ( $\alpha = .86$ ), and the reliabilities for the respect, toughness, avoiding femininity, and hardiness subscales are lower, but acceptable. Mean scores importantly show that older men do not support all "traditional" masculinity principles. On average, they moderately endorsed norms specifying that men must continue to earn respect, yet they disagreed with the cultural emphasis on toughness, no sissy stuff, and the sturdy oak qualities of doggedness and self-reliance. Further research is needed to fully understand which cultural guidelines are most important and differentially influence older men's health decisions and behavior, retirement experiences, risk-taking in care work, or bereavement.

## ON BEING FEMALE, MIDDLE-AGED, AND BACK IN SCHOOL: PART 2

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The nontraditional doctoral student is increasingly female, over 30, enrolled in part-time study, married with children and/or dependent parents, and self-funded. Returning to school as a middle-aged woman is a life course transition, co-occurring with other transitions in family and career. This study will present survey data reflecting the experiences of middle-aged women who have returned to school to pursue doctoral degrees. Content of the survey was formulated after the authors completed a prior qualitative study to identify factors that were significant for middle-aged women pursuing doctorates in gerontology. Results of that study identified 4 core concepts: 1) returning to school as a push or pull, 2) balancing responsibilities / role strain, 3) managing as a nontraditional student, and 4) living through age-related life transitions. Additional participants were recruited from gerontology and other disciplines. Participants completed an online survey. Using a life course perspective, we examine how life course trajectories play a role in women's decisions to return to school, and we discuss the life course factors that women identified as being influential in either helping them succeed or in creating barriers. Having a better understanding of these factors may be beneficial in developing appropriate supports to encourage successful completion.

## HEALTHY AND SUCCESSFUL AGING POPULATION OVER 40 YEARS-OLD IN THE AMERICAS: A REVIEW

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**INTRODUCTION:** Interest in the study of aging has grown due to factors like epidemiological transition and population aging. The positive approach to aging models includes: active aging, successful aging and healthy aging. **OBJECTIVES:** Determine prevalence and relationship between active, healthy and successful aging in North and Latin Americans aged >40 years. **METHODOLOGY:** A literature review was performed which included the topics active, healthy and successful aging published between 1980 and 2013. 180 articles were reviewed to determine prevalence and associated factors in successful aging based on the Rowe and Khan model (1997). The program "Ten Keys to Healthy Aging" proposed by Pittsburgh University was taken to distinguish preventable disease for a healthy aging. **RESULTS:** Prevalence of successful aging was 12.8% and 11.5% in Mexico and U.S. Factors associated with successful aging were male gender, higher education, exercise and not smoking. Preventable diseases for healthy aging included hypertension, diabetes, tabaquism, osteoporosis, hypercholesterolemia, cancer and depression. Behaviors such as social isolation, sedentarism and lack of immunization were also preventable. Prevalence of these diseases in countries like Argentina, Brazil, Colombia, Costa Rica and Ecuador, among others, was between 8% and 59%. **CONCLUSIONS:** The review observed medium successful aging compared with international rates. Although prevalence of diseases differed between countries they are all among the leading causes of mortality. Knowing the prevalence of risk factors at an early age allows us to have a proper intervention for successful and health aging.

## BABY BOOMERS' HOUSING PREFERENCES FOR LATER LIFE

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Boomers, people born between 1946 and 1964, comprised about 30% of the total U.S. population (U.S. Census Bureau, 2012). As Boomers approach retirement age and become empty nesters, this significant number of housing consumers may consider their future housing plan for later life. Residents' lifestyle has one of the most important impacts on housing choice these days (Beamish, Goss, & Emmel, 2006). The purpose of this study is to examine how Boomers' lifestyle is related to their housing preferences for later life. The authors developed a self-administered questionnaire. Data were collected by an on-line market research survey company in April, 2011. Factor analyses were used to identify the U.S. Boomers' lifestyles and housing preferences for later life. Structural equation model was employed to analyze their relationships (N=403). Four Boomers' lifestyle factors (the beautiful home, the eco-friendly, the engaged, and the family centric) and four housing preferences for later life factors (the supportive housing, the apartment rental, the city townhouse, and the country house) were identified. Boomers with the beautiful home lifestyle were more likely to choose the country house. People with the eco-friendly lifestyle prefer the supportive housing and the city townhouse. Respondents with the engaged lifestyle have a preference for the supportive housing, the apartment rental, and the city townhouse. Boomers with the family centric lifestyle liked the country house for their later life. This research shows that lifestyle factors can be an important underlying explanation to better understand Boomers' housing preferences for their later life.

## WAITING FOR HOUSING ASSISTANCE: EXPERIENCES OF LOW-INCOME OLDER PERSONS

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Gerontological discussions of housing options for older persons typically frame housing in terms of choice, decision making, options, and aging in place, but for low-income older adults, these topics have limited or altered meanings. Rental assistance and low-income housing provide an important resource to nearly 2 million older persons. The limited availability of affordable units results in average waits of two years for a HUD Section 202 unit and 11 older persons queued for each unit in an urban area. Yet, the status of persons who apply for and become waitlisted have been overlooked by gerontologists. This mixed methods study describes the characteristics and lived experience of low-income older adults who applied for rental assistance through a public housing authority, but were still waiting. Data were collected through mailed surveys (n=267) and in-depth, qualitative interviews with a purposive sample of 30 persons, age 56—98. Survey results indicated that 56% had fair/poor self-rated health, 47% used the ED, and 42% were food insecure. Thematic analyses revealed topics including personal cost-benefit analyses, daily realities of the 2008 recession, coping strategies, and frustration with the system. Dimensions that affect these themes include health status, homelessness and housing instability, and access to services and supports. The choices, decisions, and options faced by older persons experiencing poverty provide new insights into decision making theories and to the meaning of aging in place. In addition, this study offers suggestions for how housing authorities and advocates might respond to older persons who need housing assistance.

## CHALLENGES AT AGE 100: FINDINGS FROM THE FORDHAM CENTENARIAN STUDY

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What are the challenges that individuals face when having reached age 100? Despite considerable interest in what contributes to exceptional longevity, only limited information is available on how centenarians experience their lives, including everyday difficulties. The present study addressed this gap in the literature by investigating the challenges reported by near-centenarians and centenarians. The Fordham Centenarian Study is a population-based study of 95 to 107 year old individuals living in New York City (N = 119; 78.2% females). The majority was White (79.8%) and 19.3% were African American. Seventy-seven participants answered open-ended questions about current challenges. Relative to the total sample, individuals who shared information on challenges had a slightly higher cognitive status. Other differences (e.g., physical health) were not found. The qualitative answers were coded using a coding schema developed for the study. Specifically, recurring topics were categorized using so-called clustering or open coding (Glaser & Strauss, 1967; Miles & Huberman, 1994). Participants mentioned functional challenges most often (71%), followed by psychological challenges (39%) and social challenges (16%). Within the health category, mobility challenges were reported most often, followed by physical limitations, visual impairment and functional disability. Within the psychological challenges category, acceptance of health issues were mentioned most often, followed by issues related to dependency, emotions and death/dying. Findings indicate that despite the fact that very old individuals seem to adapt quite successfully to age-associated loss, they still experience these losses as challenging.

## EVALUATION OF THE HEALTHY AGING AND INDEPENDENT LIVING INITIATIVE OF UNITED WAY OF TARRANT COUNTY IN TEXAS

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In response to the United Way of Tarrant County's 2020 Bold Goal, the Healthy Aging and Independent Living initiative delineated specific strategies to address known health risks in Tarrant County, Texas. The United Way has partnered with six community-based organizations to provide health interventions and health promotion activities to improve health and lower healthcare costs to individuals at risk of poor health. The nine health intervention programs include, A Matter of Balance, Better Choice Better Health, HomeMeds, Patient Activation, Diabetes-Salud!, REACH II, Respite Care, Diabetes/Nutrition Counseling, and Health Literacy. These programs target the areas of falls prevention, chronic disease self-management, medication management, community health navigation, diabetes screening and education, and health literacy, respectively. This presentation addresses output and outcome achievements as a result of program implementation by each organization, from July 2012 through June 2013. A total of 9,224 clients were served through the initiative. Improvements were seen in major outcomes of interest (e.g., healthcare utilization, and self-rated health). The percentage of client's self-rated health of good/very good/excellent increased from 59.4% at the initial assessment to 62.1% at the six month assessment. The percentage of clients with hospitalization reduced from 22.2% at the initial assessment to 12.4% at the six month assessment. Additional improvements were seen in program specific outcomes (e.g., falls efficacy scale, medication adherence score, and diabetes knowledge assessment). This work highlights the value of evaluation and a community-based health intervention programs' success in improving health and reducing healthcare costs among older adults in community settings.

## OLDER ADULTS, AGING IN PLACE, AND HOUSING CHALLENGES IN NEW YORK CITY

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Background: With New York City ranking in the top five US cities for highest cost-of-living, housing costs greatly contribute to this index. Without substantial policy efforts to create more meaningful housing options, older adults in New York City are facing an inevitable "housing crisis." Methods: This exploratory project examines a variety of secondary data sources to assess the current status of "housing security" and access to affordable housing for older adults in New York City. Comparative and descriptive data are used to illustrate trends in: homeownership, median income, median rents, and the percent of income spent on rent. Results: With a much lower homeownership rate compared to the rest of the country, NYC housing stock is skewed by high rates of renters. City-wide increases in rental rates are even higher in selected boroughs. The percent of annual income spent on housing rose approximately 10% city wide, with almost 50% of "older renters" spending at least 35% of income on rent and 75% of "low-income" renters spending up to 50% on rent. As median income city-wide fell by 5% from 2005 to 2011, median rents city wide rose by 10% or more. Conclusions: Substantial policy efforts are needed to create meaningful "affordable" housing options not indexed to "market-rate" options to allow older-adult tenants to age in place in many neighborhoods. Possible interventions include: changes to tax-incentive policies for real-estate development, increased funding for federally-subsidized housing (e.g. section 202) and changes in eligibility requirements for age-based rent protections (e.g. SCRIE).

## WHERE DO CENTENARIANS LIVE IN THEIR LAST YEAR OF LIFE?

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Studies report compression of disability among people who live to 100 years and for those who live to even older ages, such as 105+ years, there is an observed compression of morbidity. We hypothesize that this delay allows centenarians to live independently for longer. We analyzed the proportion of NECS centenarians, by sex, in each of four living situations: alone, alone with care, assisted living, and skilled nursing facility (SNF) at their last annual follow up. Sample: 824 NECS centenarians, 615 females, mean age at death 105; 209 males, mean age 102 years. At time of death, average time since enrollment was 2.14 years for women (SD=1.92) and 2.61 years for men (SD=2.09). Of the female participants, 8% reported living alone, 25% alone with care, 19% in assisted living, and 48% in a SNF. Among men, 21% lived alone, 36% lived alone with care, 22% resided in assisted living, and the other 21% lived in SNF. More centenarians lived in independent settings than in SNF within one year of their deaths. A larger proportion of men had independent or semi-independent living arrangements than women. This sex-based difference is consistent with reports indicating that though far fewer, male centenarians are functionally better off than female centenarians. These findings suggest centenarians are able to live independently into extreme old age, near the end of life, consistent with their compression of disability. It is worth investigating whether there may be a reciprocal relationship between living independently and surviving to an exceptionally old age.

## MATURE GAZE: DIS-EMPOWERMENT OF YOUTH CULTURE ON AGING FEMALE'S IDENTITY

J. Manning Dantis, *Miami University, Oxford, Ohio*

The purpose of this theoretical paper is to offer Mature Gaze (Forthcoming Manning-Dantis) perspective as a way of critically looking at the power of new forms of media in the development of social identities for older women. Mature Gaze as a construct critically views the illusion of perfection as a way of gaining or losing power. Mature Gaze looks at self-objectification and the link with individuals' misidentifying with



youth culture. For individuals who covet youthful images and disengage from positive feelings towards aging, this may increase the likelihood of a loss of power by going past the line of looking to obsessing. Once an individual disengages from an aging identity and begin to identifying with youth culture, power is potentially shifted to reinforcing the idea that youth is more beautiful. Once individuals give power to the idea that youth equates to beauty, they are also taking power from themselves. Through new networks found on the internet, an individual who creates a persona that is younger or provides information that is from years past reinforces the disengagement they have with their aging self. Through digital medium, the pursuit of perfection can be obtained by photo shopping away any trace of a flaw. Self-objectification creates a need to change what individuals can, or medically remove what they cannot. The concept of Mature Gaze is drawn from independent research in the field of gerontology.

### **GERONTOLOGY, ART, AND NURSING: CONNECTING DIVERGENT DISCIPLINES FROM A STUDENT PERSPECTIVE**

M.B. Ligon, K.E. Grogan, *Behavioral Sciences, York College of PA, York, Pennsylvania*

Liberal arts education encompasses “critical thinking, communication, problem solving and developing an understanding of historical, economic, scientific, cultural and global contexts where we live and work” (Sandeem, 2012, p.81). With more than three fourths of the United States older population having two or more chronic illnesses, the connection between the topics of nursing and gerontology are established (Salive, 2012). Photography lends a visual expression of our most precious commodity, our elders. By embracing the liberal arts perspective, we can see the person as a whole. As a nontraditional nursing student, the connection was made for me between gerontology, chronic illness and photography one semester when I was enrolled in these three classes. I was able to connect topics by combing assignments in each of the courses: 1) through my photography assignment, shooting a series of older adults, 2) through completing an oral history project with an older adult in a gerontology course, and 3) through an interview assignment with an older adult with a chronic illness in a nursing class. Through connecting divergent topics of chronic illness, social aspects of aging and photography, I was able to see the subject as a whole person and understand that elders have a story to tell if we just take the time to look into their faces. Thus, this project helped me accomplish the intent of a liberal arts education. Through a culminating project the connection was formulized, and the proposed presentation reflects this work.

### **RECONNECTING CREATIVITY AND AGING: NEW EXPLORATIONS**

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New insights across disciplines (e.g., neuroscience, philosophy, literature, psychology) on creativity as both process and outputs provide opportunities to re-examine how we define that concept and its relationship to aging. Cohen’s (2006) pioneering work constituted a major sea change in how we think about creativity and understand its impact on aging. To further explore the concept of creativity and its relationship to age and aging, data were collected from academics in aging studies, gerontology or related disciplines using an online survey. Respondents (n=54) were asked to describe creativity in their own words and to assess its relevance to age or aging. The mean age of respondents was 57.9 years (range 30 to 82 yrs.); 72.2% were women. The majority (77.4 %) held PhDs. Responses were primarily from the United States and Canada (68%), but one-third (32%) of responses came from European countries. Three-fourths (76.9%) report the subject of creativity and aging is “very important” to them. When asked to define creativity, themes included: new solutions to problems, generativity, “outside the

box” thinking, spontaneity and a series of processes. In general, definitions were largely focused on the arts. In assessing creativity’s relation to age or aging, responses fell into two camps. Some respondents viewed creativity as a lifelong developmental process. Others viewed creativity with a more ageist lens, suggesting it diminished with age/aging. Given these responses, it is clear that a larger survey of this kind needs to be conducted to address this topic.

### **DIGITALLY LITERATE: PSYCHOMETRIC VALIDATION OF ELECTRONIC HEALTH LITERACY SCALE (EHLS)**

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Objective: The purpose of this paper is to describe the development of an instrument that can be used to measure self-reported ability to evaluate quality and credibility of health information from electronic sources. Methods: The study included a nationally representative sample of 710 community-dwelling adults (381 women and 329 men) ranging in age from 18 to 93 years (M = 48.82, SD = 16.43). Exploratory factor analyses (EFA) with Principal Components Analysis and Varimax rotation was first conducted to assess the factor structure of the EHLS. EFA was validated using age stratified subsamples. A confirmatory factor analysis with AMOS graphics was used to determine the final factorial structure of the scale. Results: EFA revealed three factors with Eigen values greater than 1.0 accounting for 65% of the variance of the data. This three-factor model fit the data well for the full sample: Chi-Square (710) = 901.919, p = .000, CFI = .914, NFI = .901, RMSEA = .090. For the older subsample (age ≥ 60), the estimates are as follows: Chi-Square (194) = 384.383, p = .000, CFI = .907, NFI = .867, RMSEA = .098. The alpha value for the whole sample is .93. Reestimation of factor structure and internal consistency reliability estimates using the older subsample produced an alpha value of .943. Conclusion: The study findings offer an initial examination of digital health literacy proficiency that moves beyond print resources. As information technologies evolve, health practitioners must assess the ability of their patients to evaluate information gained from the electronic sources.

### **ELDERS AT AN LGBT SENIOR CENTER REFLECT ON THEIR LIVES AND NEEDS**

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Limited research offers insights into the life- worlds of LGBT seniors. We obtained data from 83 elders who attended a unique Community Center dedicated to needs of LGBT seniors. The center attracts elders willing to drive long distances to participate. The anonymous survey was administered at a coffee hour. Most of the participants were gay men. There were 9 lesbian women in attendance, who sat separately and mingled little with the men. For this generation of elders coming to terms with their LGBT identity poses a challenging task. About 1/2 of respondents came out of the closet in their youth (teens, 20s and 30s), but many participants did not come out until later life (50s and 60s) and a substantial group have “not yet” come out. The latter group emphasized that coming out can be a difficult life- long struggle. Almost 1/3 of respondents (both men and women) reported a heterosexual marriage and many faced rejection by adult children. Attendees were educated, articulate and were in relatively good health. Many reported living with a partner in a committed relationship or bereaved after loss of a long term partner. Major needs identified included social programs to combat loneliness, legal protections for partners, and gay rights advocacy. Health related concerns were not with HIV/ AIDS, but with care for chronic illnesses that are not unique to LGBT populations.

## MOTHERS' AND DAUGHTERS' DOMINANCE ACROSS THE LIFESPAN: LONGITUDINAL FINDINGS FROM THE INTERGENERATIONAL STUDIES

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The Intergenerational Studies, begun in 1929, are rare multi-generational longitudinal investigations of normal human development. Original participant women (N=180) and daughters of original participants (N=190) are studied here, with respect to score on the California Psychological Inventory's (CPI; Gough & Bradley, 1996) Dominance (DO) scale. Data were collected from the older cohort five times, at approximately ages 30, 40, 50, 60, and 70, and from the younger cohort three times, at approximately ages 20, 30, and 40. Previous analyses of these women's lifespan change in CPI Femininity (FM), via three-level hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992), found a significant linear lifespan decrease for both cohorts (Jones, 2013). To more broadly capture aspects of the femininity-masculinity dimension, DO, an indicator of positive aspects of masculinity (Twenge, 2001) is now explored. Both developmental and sociocultural theorists (e.g., Gutmann, 1994; Stewart & Healy, 1989) predict women acquire positive cross-gender characteristics with age, particularly those born after the Women's Movement. Obtained results support theory: on average, while the older and younger cohorts are equivalent with respect to level of DO in early adulthood, the two cohorts show a statistically significant difference in lifespan increase, with the younger cohort increasing .16 points per year; the older .03 points per year. Results are robust because family-level dependencies in score are systematically modeled, the age range examined is extensive, repeated measurements are available, and a standardized measure of dominance is used. Results illustrate both cohort and individual developmental movement toward more dominance in women.

## GENERATIVITY IN JAPANESE OLD AGE: THE DIFFERENCE OF AGE, AREA AND GENDER

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**Objectives:** The purpose of this study was to reveal the age, area and gender differences in the development of 'generativity' in old age using the large sample in Japan. Generativity, suggested by E. H. Erikson as a developmental task in middle-age, is now an important life goal not only for middle-aged but also for older adults. According to previous studies, higher level of generativity leads to higher level of psychological well-being. **Methods:** The participants were community-dwelling elderly aged 69–72 years (n=1000), 79–82 years (n=973), and 89–92 years (n=272). The two locations, urban and rural area, were set in the western and eastern regions in Japan. The Japanese Generativity Scale (Tabuchi, Nakagawa, Gondo, & Komori, 2012), which is the translated Loyola Generativity Scale, was used. The survey was approved by the ethical committee of human behavior in the Human Sciences, Medicine, and Dentistry Department of Osaka University, Tokyo Metropolitan Institute of Gerontology, and the School of Medicine, Keio University. **Results:** We analyzed generativity using an age group × gender × area ANCOVA. We controlled the personality as a covariate. As a result, a gender × area interaction was significant ( $F(1, 2138) = 4.76, p < .05$ ), and in female, the score of generativity did not differ significantly by area, whereas in male, generativity was significantly higher in rural than in urban area. **Conclusion:** This result posed the problem of psychological development and well-being in elderly men living in urban area because of their lower score of generativity.

## IS WORKFORCE DIVERSITY VIEWED AS A GOOD, ETHICAL, OR WORTHLESS PRACTICE?: EXPLORING NURSING HOME LEADERS' REACTIONS TO DIVERSITY

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The Reaction to Diversity (R-T-D) is a quantitative measure of an individual's positive and negative attitudes and perceptions towards workforce diversity (WD). Using data from a survey designed to explore WD management perceptions and practices among nursing home leaders in the Deep South, the current study examines how nursing home leaders understand and characterize diversity. The predominantly Caucasian (90.1%) sample had a mean age of 51 and was 58% female. Individuals reporting positive/optimist perceptions of diversity represented 46.6% of the sample, whereas neutral/realist and negative/pessimist views accounted for 52.7% and 0.7%, respectively. There was a significant positive correlation between R-T-D scores and diversity management ( $r=.40, n=136, p=.01$ ), with leaders endorsing more optimistic/positive attitudes toward diversity also reporting more diversity management practices and policies. There was no significant difference in R-T-D scores based on race, age, state, or gender. These results are consistent with previous research using the R-T-D in college and industry samples. Future research should investigate the R-T-D with a more heterogeneous sample, in order to determine whether leaders' race and gender influences their responses on the R-T-D. Our study suggests that nursing home leaders often select negative items related to diversity. As a result, future research should also examine reasons that nursing home leaders regularly choose negative items and determine methods to promote more positive perceptions and attitudes toward diversity. Furthermore, the R-T-D might be a useful measure to identify common aspects of WD that could benefit from improvement within nursing homes.

## CULTURAL BELIEFS OF AGING WELL AND INTERGENERATIONAL RELATIONSHIPS AMONG JAPANESE OLDER ADULTS

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**PURPOSES:** The goal of this study was to examine cultural beliefs of aging well and intergenerational relationships among Japanese older adults by using the Sentence Completion test for Gerotranscendence (SCTG), which was developed from the Gerotranscendence Scale Type 2. **METHODS:** In Japan, 235 older adults (the mean age=69.17 years old, SD=4.72) answered the SCTG, which consisted of 10 items: physical perception; attitudes toward aging, life, and death; perspectives of society, history, and the universe; social relationships and marital relationships; meditation. Two researchers independently evaluated the items on a three-point scale, rated as: 0. Negative; 1. Neutral or Ambivalent; and 2. Positive, and conducted a content analysis. **RESULTS:** One-third of the participants had positive attitudes toward aging and death based on their intergenerational relationships, while one-third of the participants had neutral attitudes because they regarded aging and death as natural processes in their lifespan development. Most of the participants had positive perspectives of society, history, and the universe and indicated intergenerational ties beyond each individual live. **DISCUSSION:** This study revealed that positive attitudes toward aging and death based on their intergenerational relationships were distinctive among Japanese older adults. They were familiar with transcendent perspectives of society, history, and the universe in terms of their historical ties and generational successions. Thus, these cultural beliefs may represent culturally specific aging well in Japan and should contribute to develop culturally appropriate intergenerational educational programs.

## **COPING WITH HOUSING INADEQUACIES, PERSPECTIVES OF OLDER PEOPLE IN BRUSSELS**

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Concepts such as 'place-attachment' and 'aging in place' have received considerable amount of attention in recent years. In particular, it has been stressed that aging is often associated with an intensification of feelings of place. Conversely, research has pointed out that many seniors live in inadequate housing due to increasing care needs. While local policies and elderly themselves generally promote aging in place, little attention has been paid to strategies older people develop to cope with housing inadequacies. Drawing on qualitative research this study explores how older people handle events and challenges within their current housing situation. Data is emanating from an extensive qualitative study on aging in place, housing and care in Brussels (Belgium) organized in 2011-2012. The project comprised focusgroups with a wide range of participants; third & fourth age (8), vulnerable older people (3) and older migrants (7). Many of the respondents indicated a gap between their actual and their desired situation, due to several restraints (e.g. lack of information, feelings of distrust, little social support, etc.). Subsequently, instead of making the dwelling more adapted to their needs, most respondents adapt themselves to the limitations of their dwelling (e.g. avoid using upper floors). And although most of them recognized the need for planning their future housing, only few changed their words into actions. Hence, the paper calls for research and policy approaches in which older people are being informed and stimulated to anticipate on their future needs so they can remain in control when problems occur.

## **ALTERNATIVE HOUSING, A SOLUTION FOR THE FUTURE? EXPLORING OLDER PEOPLE'S PERCEPTIONS**

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This contribution explores perspectives on different alternative housing possibilities among different groups of older people in Brussels. As defined by Lawton (1981) alternative forms of housing is whatever form that can not be placed within the traditional group of residences. A common element among them is the relatively small scale and the fact that they are more custom-built for people whose needs or resources do not fit into the mold of traditional housing types. In a large extensive qualitative study on aging in place, housing and care in Brussels, organized in 2011- 2012, there was a specific attention for alternative forms of housing. The research project comprised 18 focus groups with a wide range of participants: third & fourth age (8), vulnerable older people (3), and older migrants (7). Different forms such as Abbeyfield housing, cohousing and granny flats are being discussed as well as their strengths and deficits. Results suggest that a large part of the respondents are open to these new ideas. Autonomy, affordability, not being alone when something would happen and the possibility of staying in the familiar neighborhood are seen as advantages by the different groups. Overall, findings suggest that alternative forms of housing are not a generalized solution, however, we can conclude that they are important additions to the range of housing choices available for older people. More information could support the visibility of existing forms towards older people. Results suggest that more research is necessary for future developments.

## **SESSION 995 (POSTER)**

### **PSYCHOLOGICAL AND PHYSICAL HEALTH**

#### **IS SARCOPENIA A RISK FACTOR FOR PHYSICAL AND COGNITIVE FUNCTIONAL IMPAIRMENT?**

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Goal: To investigate whether sarcopenia increases the risk of simultaneously having impairment in both the cognitive and physical aspects of functionality. Methods: 214 community-dwelling adults aged 40-100y (mean 68.1±10.6; 65% female, 40% Hispanic, 40% non-Hispanic Caucasian, and 20% non-Hispanic African-American) were recruited and assessed on functionality, anthropometry, and cognition. Participants in the lowest quartile of lean muscle mass (measured by impedance) but not the lowest quartile of upper extremity muscle strength (measured with a hand-held dynamometer) were categorized as pre-sarcopenic; those in the lowest quartile on both measures as sarcopenic; those in higher quartiles on mass and strength or low strength but high mass were considered non-sarcopenic controls. Groups were compared on likelihood of having cognitive impairment (Montreal Cognitive Assessment (MoCA) score<26; AD8>2), physical functional impairment (Mini Physical Performance Test score<12), both, or neither by ordinal logistic regression adjusted for age, gender, race, BMI, and depression. Results: Compared to controls, sarcopenic participants had a 6-fold risk of combined cognitive and functional impairment. The fully adjusted model showed a 3-fold increased risk of combined cognitive and functional impairment. The results were consistent across different measures of global cognition (OR=5.92, 95%CI: 2.51-13.96 for MoCA; OR=6.38, 95%CI: 2.89-14.52 for AD8). Those in the pre-sarcopenia stage were not significantly different from controls. Conclusions: Individuals with sarcopenia are at increased risk for simultaneously having cognitive and physical functional impairment. Interventions designed to prevent sarcopenia, increase lean muscle mass and improve strength may help reduce the burden of cognitive and physical impairments in community-dwelling older adults.

#### **EXPOSURE TO HURRICANE SANDY, NEIGHBORHOOD SOCIAL CAPITAL AND DEPRESSIVE SYMPTOMS IN OLDER ADULTS**

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We examined aspects of neighborhood social capital that promote resilience of older adults exposed to natural disaster. We hypothesized that higher levels of neighborhood social capital reduces depressive symptoms among older people exposed to Hurricane Sandy. A random-digit-dial sample of community-dwelling adults aged 50-74 residing in New Jersey was interviewed approximately 8 months after the storm. Participants reported the extent to which they were in immediate physical danger from the storm, felt distressed during the storm, and experienced damage to home. Neighborhood characteristics and depressive symptoms were also collected via self-report. MANOVA revealed higher levels of depressive symptoms in people who experienced physical danger (28%; 6.7 v. 7.7,  $p < .02$ ) and emotional distress (52%; 5.6 v. 8.25,  $p < .0004$ ) but not those who sustained home damage (26%; 7.1 v. 7.5,  $p > .20$ ). Lower ratings for neighborhood quality (shared values,  $p < .04$ ; watchfulness over children,  $p < .05$ ; wanting to move away,  $p < .03$ ) were associated with higher levels of depressive symptoms.

## FINDING CONTINUITY IN CHAOS: A QUALITATIVE STUDY OF OLDER ADULTS IN DETROIT

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National media portray Detroit neighborhoods as spaces fraught with chaos, instability, and abandonment, a portrait extended by association to the lives of city residents. This research questions how public images of disruption enter into individual management and experiences of expectable later life continuities, change, and meaningful connections. Using in-depth interviews conducted in Detroit, Michigan with older current and former residents, I analyzed interview transcripts to identify key topics, themes, and patterns. Images of Detroit as chaotic and unstable did not characterize the experiences of these older adults. Multiple links to specific locales or social networks were self-identified as sources of stability and continuity. These pilot findings support plans for a larger project to evaluate competing approaches to conjoin macro-level public images of a city space with micro-level individual experiences.

## GENE X PHYSICAL ACTIVITY INTERACTIONS AFFECT EXECUTIVE FUNCTIONING IN AGING: CROSS-DOMAIN LONGITUDINAL ANALYSES

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Introduction: Although physical activity (PA) is an important modifiable contributor to age-related variability in executive functioning, its role may be moderated by non-modifiable genetic polymorphisms. We examine two factors (genetic risk and PA) associated with performance and change in executive function (EF). Specifically, we tested independent and moderating effects of Brain-Derived Neurotrophic Factor (BDNF; rs6265) and Insulin Degrading Enzyme (IDE; rs6583817) on EF and PA-EF relationships. Method: The sample was genotyped older adults (N=579, M age=70.47) over three waves (9 years) of the Victoria Longitudinal Study. Analyses included (a) confirmatory factor analysis establishing a single latent EF factor from four standard EF tasks, (b) latent growth modeling (Mplus 7.0) over a 40-year band of aging (ages 53-95), and (c) path analyses to investigate the independent and interactive effects of BDNF, IDE and PA. Results: First, higher levels of PA were associated with better EF performance at the centering age (75 years) and less EF decline. Second, IDE G+ (protective) carriers exhibited better EF performance at age 75 than their G- peers. Third, within the IDE G+ carrier group, those with higher PA exhibited better EF performance and more gradual change over time than those with lower PA. Fourth, within the lower performing BDNF homozygote Val group, unlike the better performing BDNF comparison group (Val/Met; Met/Met), higher PA was associated with better EF performance and more gradual EF change. Conclusion: The effect of modifiable health factors on executive functioning is differentially moderated by polymorphisms bridging health and cognition in aging.

## GENDER AND RESIDENTIAL DIFFERENCES IN THE REPORTED HEALTH AND WELL-BEING OF CENTENARIANS

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This study involved examination of gender and residential differences in health and well-being among centenarians. Participants included N=154 centenarian (M = 101; SD = 1.71) residing in private-homes and care facilities in Oklahoma. IBM/SPSS was used to compute univariate analyses of variance on reported health and subjective well-being scores. Significant gender differences emerged relative to lifetime trauma,  $F(1, 153) = 7.58, p < .05$ , functional health,  $F(1, 153) = 5.29, p < .05$ , and Neuroticism,  $F(1, 148) = 5.76, p < .05$ . Compared to centenarian women, centenarian men reported higher mean scores on lifetime trauma (M = 2.60 vs. M = 1.91), functional health (M

= 32.60 vs. M = 30.96) but lower reported mean scores on Neuroticism (M = 22.03 vs. M = 25.02). Significant residential differences were also evident relative to perceived health,  $F(1, 153) = 5.09, p < .05$ , health conditions  $F(1, 153) = 6.04, p < .05$ , and functional health,  $F(1, 153) = 21.02, p < .01$ . Comparatively, centenarians residing in care facilities reported a lower average number of health conditions (M = 2.62 vs. M = 3.41) than centenarians residing in private homes. Yet, centenarians residing in care facilities had lower average scores of perceived health (M = 3.81 vs. M = 4.33) and functional health (M = 30.14 vs. M = 33.41). Results have implications toward improving quality-of-life for centenarian men and women who reside independently at home as well as within care facilities.

## ACTIVE LIFE EXPECTANCY FOR AMERICANS WITH DIABETES: RISKS OF HEART DISEASE, OBESITY, AND INACTIVITY

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Active life expectancy research examining associations among diabetes, disability, and death has often not accounted for health factors that are common among people with diabetes. Thus, it is not known if diabetes itself is a principal cause of disability and death, or if health factors that are frequently associated with diabetes may be the causes. Our study identified associations of diabetes with life expectancy (LE) and the proportion of life with disability (DLE), accounting for heart disease, and earlier-life obesity and physical inactivity. Data were from the Panel Study of Income Dynamics (1999-2011, and 1986, n=1,862, 15,859 person-years), representing African American and White women and men ages 55+. Disability was assessed by activities of daily living. We estimated monthly disability status probabilities with multinomial logistic Markov models adjusted for age, sex, ethnicity, education, and the four health factors. A random effect accounted for repeated measures. Bootstrapping provided standard errors. Microsimulation created large populations to identify the outcome measures. African American women exemplify results: LE was 2.5 years less with diabetes than without (95% confidence interval 1.7-3.3), 9.5 less (8.2-10.8) with heart disease added, 18.1 less with all factors (12.1-24.1). DLE was 22.5% (20.3-24.7) with no risk factors, 27.0% (25.2-28.8) with diabetes alone, 38.3% (36.5-40.1) with heart disease added, 54.4% (41.8-67.2) with all factors. Other groups had similar patterns. Much of the disability and mortality associated with diabetes was due to heart disease and earlier-life obesity and inactivity, risks that can be modified by preventive health care and healthy behaviors.

## QUESTIONNAIRE DEVELOPMENT AND MEASUREMENT OF KNEE OSTEOARTHRITIS KNOWLEDGE, COPING PATTERNS AND SELF-MANAGEMENT EFFICACY FOR RURAL COMMUNITY-DWELLING OLDER ADULTS

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The decline of physical and mental function will affect the survey results which is been measured by the premise of cognitive ability. Currently very few studies explore the tools development for older adults, especially with low literacy. The purpose of this study is to develop questionnaires suitably to community-dwelling older adults to explore their knowledge, coping patterns and self-management efficacy of knee OA. Objects include older adults over 65 years old who came from 91 community senior centers or active senior learning centers in Chiayi County, at Taiwan south rural area. Over 90% older adults' education level are under primary school and there were pain symptoms on knee in the last year. Research tools include knee OA knowledge scale, coping scale and self-management efficacy scale for the older adult. It collects data by group interview at the community senior centers and use pictures to help older adults understand the measurement methods.

The developing procedures include referring to empirical researches and the latest treatment guidelines and then sent to 10 professionals to test the reliability, after the pre-test to analyze the internal consistency and modify the scales. The results show that knee OA coping scale and knee OA self-management efficacy scale have good internal consistency. The subscale's validity, including the knowledge of disease causes, symptoms and course is over 0.7, but the subscale's validity of diagnosis and treatment is not satisfactory. Finally, this study provides recommendations for survey the older adults with low literacy.

#### **KNOWN AND UNKNOWN: PROSTATE CANCER KNOWLEDGE AMONG RURAL AFRICAN AMERICAN MEN AND THEIR ADVOCATES**

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The existence of racial/ethnic health disparities has been firmly established in the scientific literature. Prostate cancer (PC), which is differentially and adversely experienced by African American (AA) men, is of particular interest considering the recent change to the USPSTF screening recommendations. In order to create effective interventions, obtaining a better understanding of actual PC knowledge will be necessary to affirm known facts and dispel misunderstandings. Furthermore, in populations where PC knowledge is low, certainty about what is known and unknown may have greater effect on the decision-making process of AA men and their "health care advocates" consideration of the risks and benefits of PC screening. Our study interviewed a sample of 33 AA men (Mage = 54.61, SD = 8.30, range = 40-71) and their self-selected advocates (Mage = 54.52, SD = 10.42, range = 31-79) from three southern, rural counties. Knowledge was generally low among participants. PC knowledge in men was stable across time, ( $F(2, 91) = 0.37, p > .05$ ), suggesting that distribution of PC information is insufficient in increasing PC knowledge within this sample. Correct PKI responses varied across time among participants; therefore, additional analyses evaluating item stability were conducted to reveal stability in responses. Implications of the present study include the importance of tailored, engaging approaches to increasing PC knowledge, and the importance of assessing baseline knowledge for each patient.

#### **PREDICTORS OF PERCEIVED HEALTH AMONG OLDER ADULTS**

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Extended longevity has provided more options for older adults to enjoy late life. However, age-related health problems deprive older adults of independence and decrease quality of life. The current study, based on an IRB approved survey administered to older adults ( $N = 109$ ; M age = 73.66 years), used path analysis to examine demographic, behavioral, and familial predictors of perceived health and the extent to which it predicts older adults' management of daily tasks and their perceived stress level. Surveys were distributed to undergraduate human development and gerontology students who conducted interviews with community-dwelling older adults. Path analysis revealed that three variables (economic status, exercise frequency, and family relationship quality) were significant predictors ( $p < .05$ ) of perceived health. Neither age nor education predicted health; age may have become irrelevant because of restriction of range. Consistent with expectations, health predicted the participants' sense of managing daily tasks and management of daily tasks predicted lower levels of perceived stress. Although existing research has found stress to be deleterious to health, the direction of effects in this study were in the opposite direction, operating indirectly through daily task management. For older adults, poorer health and the inability to perform daily tasks may be particularly stressful if independence seems in jeopardy. Inconsistencies with earlier

research may lie in our measurement of perceived stress rather than more targeted stresses. In addition, these findings indicate the importance of testing relationships for direction of effects even when they are counter to existing research.

#### **THE INFLUENCE OF DEMENTIA AND STROKE ON THE CHANGES OF CONDITION OF THE FRAIL ELDERLY LIVE AT HOME**

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Dementia and stroke make it difficult for the frail elderly to live at home. The aim of the present study was to explore the influence of dementia and stroke on the changes of condition of frail elderly who live at home. Three surveys on understanding the condition of elderly patients were conducted 6, 18, and 30 months from the beginning of support (November, 2010, November, 2011, and November, 2012). The time series data of the 121 cases with replies for all three times were analyzed. As for the measurement of the frail elderly' condition, seven items were set, eating, bathing, toileting, motivation in life, communication, social participation and care burden of the family. In order to identify the influence of dementia and stroke on the changes of clients' condition, a two-way repeated measure ANOVA was conducted with each of the seven indexes as the dependent variables, the time as the independent variable and with/without dementia or stroke as the between-subject factor. As a result of the analysis, time was shown to have a significant correlation with all condition items. Dementia showed significant correlation with only care burden of the family ( $p < 0.05$ ), identifying the negative pattern of changes among the clients with dementia. On the other hand, stroke showed significant correlation with bathing ( $p < 0.05$ ), communication ( $p < 0.05$ ) and social participation ( $p < 0.05$ ), identifying the negative pattern of changes among the clients with stroke. According to these results, it is important to support family care giver and the social aspects of the frail elderly.

#### **AGE-RELATED CHANGES OF PREDICTORS OF SELF-RATED HEALTH: THE ROLE OF EDUCATION**

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Previous studies have shown that the importance of different indicators for self-rated health (SRH) varies with age. In this context, social comparisons with the peer group play a crucial role. However, it is also known that the own peer group is normally rather education homogeneous. Given the existence of education-related health disparities, the assumption is reasonable that individuals of the same age compare themselves to rather healthy individuals, if oneself is higher educated or to less healthy individuals, if oneself is lower educated. Therefore, the present study investigated whether education influences age-related changes regarding predictors of SRH. Longitudinal data of community-dwelling adults aged 40 years and older from four measurement occasions of the German Ageing Survey was used ( $N = 2,658$ ). A cross-lagged panel regression model over seven age groups was employed to analyze age-related changes regarding the importance of various health and psychological predictors on SRH according to education. The age-related decline regarding the importance of physical and functional health for SRH emerged in both the lower and the higher educated. However, strong educational differences in psychological predictors were present: while positive affect and depressive symptoms gained in importance in the higher educated group both psychological factors showed a stable importance for SRH in the lower educated group.

Together these findings suggest that predictors of SRH not only vary according to age but additionally to education – especially regarding psychological predictors. We discuss possible underlying mechanisms, for instance how higher education is related to psychosocial resources and a healthier lifestyle.

### **IMPACT OF EMPLOYMENT ON TRAJECTORY OF DEPRESSION AMONG KOREAN OLDER ADULTS: ACTOR AND PARTNER EFFECTS**

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The purpose of this study was to examine depression trajectories of older adults and assess the effects of employment on these trajectories. Dyadic data, converted from three waves of the Korean Longitudinal Study of Aging (KLoSA) were used for the analysis, and the Latent Growth Model (LGM) was applied for the statistics. The final sample was 3,144 older adults aged 55 to 74 who remained married throughout the three waves of data; 1,693 husbands and 1,451 wives. The depression trajectories of both husbands and wives were analyzed using two unconditional models. The associations between husband/wife employment and depression trajectories of oneself and one's spouse were examined through four models to examine actor effects (husband employment-husband depression trajectories, wife employment-wife depression trajectories) and partner effects (husband employment-wife depression trajectories, wife employment-husband depression trajectories). The results show that depression trajectories for both husband and wives increase with time, and for husbands we found both actor and partner effects of employment. When husbands were employed their depression initial value was lower and the depression levels increased more slowly as time passed compared to their unemployed counterparts. This was consistent for their spouses as well. However, we found no evidence that wives' employment affected their own or their spouse's depression trajectories. This study contributes to current literature in that it analyzes the association between employment and depression trajectories focusing on both spouses and the interacting effects. The gender differences in actor and partner effects of employment on the trajectories of depressive symptoms and related policies are further discussed.

### **WHAT INFLUENCES SATISFACTION WITH LIFE? A STRUCTURAL MODEL FOR OLDER ADULTS**

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**Aims:** This study aims at exploring a structural model of satisfaction with life's (SWL) predictors in a cross-national sample of older adults. **Methods:** A community-dwelling sample of 1,234 older adults was assessed regarding SWL, sense of coherence (SOC) and socio-demographic, lifestyle and health-related characteristics. Structural equation modeling was used to investigate a structural model of the self-reported SWL, comprising SOC, socio-demographic characteristics (age, sex, education, marital and professional status, household, adult children, income, living setting and religion), lifestyle and health-related characteristics (physical activity, recent disease and medication). **Results:** Significant predictors are SOC ( $\beta = .733$ ;  $p < .001$ ), religion ( $\beta = .725$ ;  $p < .001$ ), income ( $\beta = .551$ ;  $p < .001$ ), adult children ( $\beta = .546$ ;  $p < .001$ ), education ( $\beta = -.403$ ;  $p < .001$ ), living setting ( $\beta = -.292$ ;  $p < .001$ ) and medication ( $\beta = -.197$ ;  $p < .001$ ). The variables accounted for 24.8% of the variability of SWL. Moreover, differences between the four nationality groups ( $F(3, 671) = 3.671$ ,  $p = .066$ ) were not found concerning SWL. **Conclusions:** Sense of coherence is the strongest predictor of self-reported SWL. Other predictors are religion, income, adult children, education, living setting and medication. The four nationalities did not present significant differences, concerning SWL. This study highlights the factors that influence older adults' SWL, namely, SOC,

religion and income, as promoters of aging well, within a salutogenic model of health for older populations. **Keywords:** Satisfaction with life; predictors; structural equation modeling; older adults; sense of coherence.

### **THE IMPACT OF SENSE OF COHERENCE, SUBJECTIVE WELL-BEING AND SOCIO-DEMOGRAPHIC, LIFESTYLE AND HEALTH-RELATED FACTORS IN OLDER ADULTS' ADJUSTMENT TO AGING**

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**Objective:** The aim of this study was to build a structural model to explore the predictors of adjustment to aging (AtA) in a community-dwelling older population. **Methods:** A community-dwelling sample of 1270 older adults aged between 75 and 102 years answered a questionnaire to determine socio-demographic (sex, age, professional and marital status, education, household, adult children, family's annual income, living setting and self-reported spirituality), lifestyle and health-related characteristics (perceived health, recent disease, medication and leisure). Several instruments were used to assert psychological variables, namely AtA, sense of coherence and subjective well-being. Structural equation modeling was used to explore a structural model of the self-reported AtA, encompassing all variables. **Results:** Significant predictors are self-reported spirituality ( $\beta = .816$ ;  $p < .001$ ), perceived health ( $\beta = .455$ ;  $p < .001$ ), leisure ( $\beta = .322$ ;  $p < .001$ ), professional status ( $\beta = .283$ ;  $p < .001$ ), income ( $\beta = .230$ ;  $p = .035$ ), household ( $\beta = -.208$ ;  $p = .007$ ), sense of coherence ( $\beta = -.202$ ;  $p = .004$ ) and adult children ( $\beta = .164$ ;  $p = .011$ ). The variables explain respectively 60.6% of the variability of AtA. **Conclusions:** Self-reported spirituality is the strongest predictor of AtA. This study emphasizes the need for deepening the variables that influence older adults' AtA, in particular perceived health and further lifestyle-related characteristics, as being relevant for promoting aging well in later life, within a salutogenic context for health care. **Keywords:** Adjustment to aging; older adults; predictors; subjective well-being; sense of coherence; structural equation modeling.

### **THE DIVERSE PERSPECTIVES ON ADJUSTMENT TO AGING AMONG THE OLD AND THE OLDEST OLD**

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**Objectives:** Older adults experience varying challenges that occur from late adulthood to extreme old age. This study aims at exploring the indicators of adjustment to aging (AtA) reported by old and oldest old adults and at examining the potential explanatory mechanisms of a model for AtA for these two age groups. **Methods:** This qualitative study comprised demographics and semi-structured interviews. Complete information on 152 older adults aged between 76-102 years ( $M=83.76$ ;  $SD = 6.458$ ) Data was subjected to content analysis. The correlational structure and latent constructs of indicators of AtA were analyzed by a Multiple Correspondence Analysis (MCA). **Results:** 'Occupation and achievement' was the most mentioned indicator of AtA by the old participants (17.7%), whilst, 'existential meaning and spirituality' was the most verbalized indicator of AtA for the oldest old participants (16.9%). AtA was explained by a three-factor model for each age group. For the old participants, the largest factor 'occupational and social focus' accounted for 33.6% of total variance, whereas for the oldest old participants, 'spirituality and health focus' represented 33.5% of total variance. 'Environmental drive' was the least representative factor for old participants (24.8% of total variance) and 'environment and leisure focus' for the oldest old participants (24.6% of total variance). **Conclusions:** The outcomes presented in this paper stressed the varied perspectives concerning AtA, contoured in two different models, for the old and the oldest old. **Key Words:** Adjustment to Aging; Multiple Correspondence Analysis; Old; Oldest Old.

## MULTIAXIAL PREDICTORS AFFECTING MUSCLE STRENGTH AMONG COMMUNITY DWELLING OLDER ADULTS WITH MILD COGNITIVE DECLINE

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Although there are many studies on the falling among older adults with dementia, few studies have identified the multi-axial factors of the muscle strength associated with falling in community dwelling older adults considering the stage of cognitive impairment. The purpose of the study was to determine multi-axial factors affecting muscle strength among community dwelling older adults with mild cognitive decline. This study used secondary data that was obtained from '2013 Korean Nationwide Project for Early Detection of Dementia'. The total sample in this study was 230 elders rated by Clinical Dementia Rating (CDR) 0.5 (mild cognitive impairment) and CDR 1 (mild dementia) over 60 years old in one rural area in Gangwon province. Factors included (1) demographic factors (age and gender); (2) neuropsychological factors (word list recall scores and constructional praxis recall scores); (3) clinical factors (GDS scores and falling experience); and (4) stage of cognitive impairment. Multiple regression analysis was done to identify predictors associated with muscle strength. Demographic and clinical factors were major predictors to identify the muscle strength. Older women with mild cognitive decline is strongly associated with low muscle strength ( $\beta = -.463, p < .01$ ). The more depression older adults have, the more they have low muscle strength ( $\beta = -.302, p < .01$ ). In addition, age ( $\beta = -.222, p < .01$ ), stage of cognitive impairment ( $\beta = -.125, p < .05$ ), word list recall ( $\beta = -.104, p < .05$ ), and constructional praxis recall ( $\beta = -.118, p < .05$ ) had an influence on the muscle strength of older adults with mild cognitive decline. Unexpectedly, falling experience didn't have an influence on the muscle strength. Both depression and neuropsychological characteristics should be considered in developing strategies for prevention of the loss of muscle strength among older adults with mild cognitive decline.

## EFFECTS OF ENHANCED CAREGIVER TRAINING PROGRAM ON CANCER CAREGIVER'S SELF-EFFICACY, PREPAREDNESS, AND PSYCHOLOGICAL WELL-BEING

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Background: Living with cancer generates distress for patients and their caregivers. The days following a hospital discharge are particularly stressful for caregivers. This study examined the effects of an enhanced caregiver training (ECT) discharge protocol that teaches knowledge and skills for managing patient symptoms, and also provides strategies for managing their own psychological distress. Methods: RCT that compared the effects of ECT to a comparison education (CE) on caregiver self-efficacy for caregiving, preparedness in caregiving, and psychological well-being (depression, anxiety, burden). Caregiver data were collected at baseline, immediately after the training, and at 2 and 4 weeks post-discharge. Results: The mean ages of caregivers and patients were 55 and 57 respectively (N = 138 dyads). ECT caregivers had a greater increase in self-efficacy (6.1, 95% CI: 3.0-9.3,  $p < 0.001$ ), certainty to cope with own stress (4.8, 95% CI: 0.5-9.1,  $p = 0.03$ ), and preparation for caregiving (0.2, 95% CI: 0.1-0.4,  $p = 0.01$ ) at the post-training assessment as compared to the CE group. These differences were not

sustained at the follow-up post-discharge. Caregivers' depressive symptoms and anxiety improved from the baseline to two-week follow-up. However, there was no evidence of intervention group differences in these improvements (all  $p > 0.05$ ). There was little change over time in caregiver burden for the ECT and CE groups. Conclusions: No long-term effect was noted on the ECT intervention. Additional dose of intervention maybe needed after discharge as caregiving needs may have changed. Psychological well-being of caregivers is difficult to intervene upon because of its multifactorial in nature.

## LOWER PREVALENCE OF PSYCHIATRIC CONDITIONS WHEN NEGATIVE AGE EXPECTATIONS ARE RESISTED

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Background: Older veterans in the United States are at greater risk for experiencing psychiatric conditions than same-aged non-veterans. However, little is known about factors that may protect older veterans from developing psychiatric conditions. The current study is the first to evaluate the association between the potentially stress-reducing factor of resistance to negative age expectations and lower prevalence of three psychiatric conditions: suicidal ideation; generalized anxiety disorder, and posttraumatic stress disorder (PTSD). Methods: Participants were comprised of 2,031 community-dwelling individuals, aged 55 or older, who were drawn from the National Health and Resilience in Veterans Study, a nationally representative survey of American veterans. The aging-expectations predictor was assessed with the Expectations Regarding Aging Survey and the psychiatric outcomes were assessed with validated psychiatric screening instruments. Results: The prevalence of each psychiatric condition was significantly lower among participants who fully resisted negative age expectations, compared to those who fully accepted these expectations: suicidal ideation, 5.0% vs. 30.1%; anxiety, 3.6% vs. 34.9%; and PTSD, 2.0% vs. 18.5%. These findings persisted above and beyond key covariates of potential relevance to the population, including combat exposure, physical health, age, resilience, and personality factors. Conclusion: These findings suggest the importance of examining how negative perceptions of aging may contribute to psychiatric conditions in later life.

## PSYCHOPATHOLOGY AND HIV DIAGNOSIS AMONG OLDER ADULTS IN THE US

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Background: Approximately one in three adults living with HIV/AIDS in the US is over 50 years of age. Adults aging with HIV/AIDS may have stressors that may increase their vulnerability to depression. Many studies have examined depression among adults living with HIV. However, research examining the association between other psychiatric disorders, such as general anxiety disorder (GAD) and post-traumatic stress disorder (PTSD), and HIV diagnosis among older adults is scant. Objective: To determine the association between GAD, PTSD, substance use disorder (SUD) and depression, and HIV diagnosis among adults age 50 and older. Methods: We used HealthFacts data from Cerner Corp., which are de-identified longitudinal electronic health record data from 470 hospitals and outpatient clinics nationwide (N=38,168,846). Multivariable logistic regression models, adjusting for age, sex, marital status, and race/ethnicity, were used to determine the adjusted odds ratios and 95% confidence intervals (CIs) for the associations between GAD, PTSD, SUD and depression, and HIV diagnosis. Results: After adjusting for age, sex, marital status and race/ethnicity, patients who had GAD, PTSD, SUD, and depression were 8.79 times (95% CI: 7.64 – 10.1), 3.32 times (95% CI: 2.86 – 3.86), 2.24 times (95% CI: 2.17 – 2.31), and 3.56 times (95% CI: 3.56 – 3.74) more likely to be diagnosed with HIV, respectively, compared to patients without these disorders. Discussion: HIV programs for older adults should consider a psycho-

social approach and address, not only depression and SUD, but GAD and PTSD as key focal points for these intervention and prevention programs.

### **SELF-REPORT MEASURES OF COGNITION AS PREDICTORS OF PERFORMANCE ON NEUROPSYCHOLOGICAL ASSESSMENTS**

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Recent studies have been investigating the relationship between self-reports of mood, well-being, and neurocognitive functioning with performances on neuropsychological measures. Seventy-four community dwelling adults with an average age of 67.31 years (range 50 to 85) completed the following self-report measures: Behavior Rating Inventory of Executive Function-Adult Version (BRIEF-A), Everyday Memory Questionnaire, Life Satisfaction Assessment, and the Geriatric Depression Scale. Participants were also administered a variety of neuropsychological measures, including the California Verbal Learning Test-Second Edition, Trail Making A & B, Digit Span, and Verbal Fluency tasks. Findings revealed that individuals reporting greater deficits on the BRIEF-A demonstrated decreased performances on measures of executive functioning, particularly on categorical verbal fluency tasks. In addition, self-perception of reduced neuropsychological functioning as assessed on the BRIEF-A and Everyday Memory Questionnaire was correlated with higher levels of depression and poorer quality of life. The results support the need for continued investigation into the utility of self-report instruments and their value in the assessment of cognitive decline within the context of comprehensive neuropsychological evaluations. Further exploration into the use of both cognitive remediation strategies and psychotherapeutic techniques to improve mood, quality of life, and neurocognitive functioning is suggested. In addition, longitudinal studies will be essential to determine the extent to which perceived neurocognitive decline does indeed predict the development of many subtypes of dementia.

### **DENTAL HEALTH INEQUALITIES OVER THE LIFE COURSE: MONITORING THE SIZE OF THE GAP LONGITUDINALLY**

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Usually the prevalence or accumulated incidence of many diseases is studied and it has been consistently associated with socioeconomic conditions. For almost all diseases, the well-off have better health. Although increasing health inequalities have been reported in many countries, lesser is known about the evolution of health inequalities over the life course. Therefore, the first aim of this study is to report the prevalence and incidence of one cumulative outcome (dental health) at different periods of life for two economically defined groups (poor vs. non-poor). We used combined data from two sources: the Swedish Panel Study of Living Conditions of the Oldest Old (SWEOLD), a nationally representative study of older people (aged 77+) originally drawn from the longitudinal Swedish Level of Living Survey (LNU) a representative sample of the Swedish population, aged 15-75. The first wave of LNU was conducted already in 1968, the latest SWEOLD data was conducted in 2011 and we use four data waves in between. Our overall aim is to compare the changes in the socioeconomic gap in dental health in five different birth cohorts (1906-15, 1925-34, 1944-53, 1957-66 and 1970-1979). We present results comparing a complete case and an all-case analysis from closed cohort. Our results indicate that socioeconomic differentials prevail across the life course also among the oldest old, and across birth cohorts, also among the youngest birth cohort. Moreover, our findings show a prevailing effect from childhood economic poverty.

### **DETERMINANTS FOR CANCER SCREENING AMONG OLDER WOMEN (NATIONAL HEALTH INTERVIEW SURVEY, 2010)**

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Getting screening tests regularly may find breast, cervical, and colorectal (colon) cancers early. Lack of evidence for screening effectiveness and harms for older adults may complicate a decision among cancer screening in older adults. However, a limited data exist on cancer screening rates among older persons. We used 2010 National Health Interview Survey to assess screening rates and associated factors. Among women aged 65 and over, the screening rates were 61.7% for colorectal cancer, 64.2% for breast cancer, and 46.8% for cervical cancer, with 53.7% for women without history of hysterectomy. A logistic regression analysis found that regardless of age higher level of education, higher income, seeing a health professional in the past two weeks, and receiving a flu immunization in the past year were independent factors associated with higher rates of CRC screening. Additional factors for breast cancer screening were being married, a non-smoker, and participating in physical activity. The results for cervical cancer screening showed that independent factors for cervical cancer screening were no history of hysterectomy, higher level of education, being a non-smoker, and receiving a flu vaccine. Screening rates for all three types of cancer did not differ by race/ethnicity, while higher socio-economic characteristics and receiving a flu shot were common factors associated with higher rates of screening. The differences in associations between CRC screening and selected characteristics by sex will be presented. The U.S. Preventive Services Task Force guidelines and Medicare coverage for screening procedures for each of three cancer types will be discussed.

### **DOES ALZHEIMER'S DISEASE KNOWLEDGE PREDICT BETTER HEALTH STATUS AMONG HIGH-RISK INDIVIDUALS?**

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Alzheimer's disease (AD) caregivers are a high-risk group for the disease due to shared genetics, similar environmental/lifestyle risk factors as care recipients, and poorer health resulting from prolonged chronic stress as caregivers. AD is preventable by controlling for associated cardiovascular risk factors and by engaging in preventive health behaviors over the life span. The general public, does not understand the link between cardiovascular health and AD. This study's aims are: 1) Determine whether AD caregivers understand the association between AD and cardiovascular health. 2) Determine the relation between disease knowledge and health status. 3) Determine whether high-risk female caregivers are aware of their increased risk as caregivers for someone with the disease and in context of their menopausal health. This correlational study will investigate the relation between disease knowledge and health status and how the relation is mediated by perceived risk and demographics. Data collection methods are: 1) A short medical examination to obtain information on objective health (health biomarkers, chronic conditions, and healthcare utilization). 2) A self-administered survey to obtain information on subjective health (subjective emotion/physical well being, physical activity, and depressive symptomology), disease knowledge, and perceived risk. Fifty-seven participants will be recruited from 3 health care systems in the New Orleans area for a total of 171. Descriptive statistics will compare disease knowledge, objective and subjective health status, and perceived risk across the health care systems. ANOVA analysis, calculation of different correlation coefficients, and multiple regression analysis will discern the relation between disease knowledge and health status.



**DISABILITY AND FALLS****RELATIONSHIPS BETWEEN COGNITION AND SENSORIMOTOR ABILITIES IN THE ACTIVE STUDY**

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Sensorimotor variables have been shown to be related to a variety of cognitive measures in older adults. The current study was a secondary analysis of a ten-year study of older adults who were participants in the ACTIVE cognitive intervention study. Analyses addressed two aims: (1) description of ten-year change in sensorimotor (vision, balance) and cognitive (memory, reasoning, perceptual speed, visual attention) function; (2) examination of whether participants who experienced the most sensorimotor loss also experienced the most cognitive loss. The ACTIVE sample consisted of 2,802 adults aged 65-104 (76% female; 26% African American). Participants were assessed for up to ten years. In participants who remained enrolled (n=1,220) at the ten-year follow-up, normative age-related decline was observed in all sensorimotor and cognitive domains over time, with roughly uniform slopes of change. Sensorimotor functioning accounted for approximately half of the age-related individual differences in each cognitive composite, and accounted for between 40% and 80% of the variance in ten-year cognitive change. Thus, common clinical assessments of vision and balance functioned as potentially useful sentinels of age-related cognitive change in this study. Future research should evaluate the clinical utility of using sensorimotor measures as easily administered preliminary screening tools to identify those who might benefit from more thorough screening for cognitive decline.

**RESILIENCE AS A BUFFER TO THE DELETERIOUS IMPACT OF CHRONIC ILLNESS ON DISABILITY IN LATER LIFE**

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**Objectives:** In Examining the Ability of Individual Resilience to Buffer the Impact of Chronic Disease Onset on Disability in Later Life, the Authors Tested Two Hypotheses: (1) People with Greater Levels of Resilience will have Lower Levels of Disability; and (2) Resilience will Moderate the Association Between the Onset of a New Chronic Condition and Subsequent Disability. **Methods:** This Study used a Sample of 10,753 Americans between the Ages of 51 and 98, Derived from Three waves of the HRS Study (2006 to 2010). Ordinary Least Squares Regression was used to Estimate the Impact of Resilience on Changes in ADL and IADL Limitations (i.e., Disability) over a Two-Year Period. **Results:** Resilience Protects against Increases in ADL and IADL Limitations Associated with the Natural Progression of Aging. Resilience Mitigates a Considerable Amount of the Deleterious Consequences Related to the Onset of Chronic Illness and Subsequent Disability. **Discussion:** Our Results Support our Hypotheses, and are Consistent with Claims that High Levels of Resilience can Protect Against the Negative Impact of Disability in Later Life.

**CONTINUING THE CONVERSATION ON THE EFFECTS OF N'BALANCE ON SOCIAL SUPPORT AND PERCEPTIONS OF LEISURE ON FEAR OF FALLING FOR COMMUNITY-DWELLING OLDER ADULTS, 6-MONTH FOLLOW-UP**

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This 6-month follow-up to the replication study examined the effects of a community-based program reducing the risk of falls, exploring fear of falling and social support and perceptions of leisure in older adults. The program (N'Balance©) focused on challenging the sensory systems through multi-factorial, multi-dimensional classes using multiple

sites. The 6-month follow-up may provide evidence that N'Balance© reduces fear of falling. Measures in the study include the 30-second chair stand, 8-foot Up-and-Go, 50-foot Gait Analysis, M-CTSIB, Fullerton Advanced Balance Scale, postural analysis, and a questionnaire. Results of the initial study indicated that N'Balance© participation was associated with improved balance (.00), the fear of falling (.04), and approached significance with leisure self-efficacy (.06) with the longitudinal replication study currently being evaluated. The 6-month follow-up to the replication study augments the previous study that N'Balance may improve social support, perceptions of leisure, reduce the risk of falls, and reduce fear of falling, in community-dwelling older adults.

**EFFECTS OF MARRIAGE ON THE ONSET OF DISABILITY IN OLDER MEN AND WOMEN: A SEVEN-YEAR FOLLOW-UP**

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The importance of marriage in the health of older adults is still unclear in Asian countries, where adult children are traditionally expected to act as caregivers to their aging parents. Using a prospective survey, we examined the direct and moderating effects of marriage on disability in older Japanese people. The sample consisted of 3378 men and 3712 women aged 65+ from the Aichi Gerontological Evaluation Study in 2003, who had no limitation in basic activities of daily living (BADL) and who had provided information on study variables. Respondents who experienced at least one difficulty in BADL between one and seven years after the baseline were considered disabled. A gender-wise logistic regression model was used to examine the effects of marital status on the onset of BADL difficulties, controlling for instrumental ADL (IADL), self-rated cognitive function (SRC), and other variables assessed at the baseline. The interaction effects of the significant factors with marital status on the dependent variable were also examined. During the seven-year study period, BADL difficulties occurred in 11.6% and 11.0% of the men and women, respectively. A multivariate analysis showed that marital status was negatively related to the onset of BADL difficulties only in men. The interaction effects of marital status and IADL or SRC were significant in men, indicating that IADL and SRC limitations were more strongly related to the onset of BADL difficulties in non-married men. Marriage had a beneficial effect on BADL independence in men, even if the husbands already showed risk factors.

**ARE LIVING ARRANGEMENTS ASSOCIATED WITH FALL-INJURIES AMONG OLDER ADULTS?**

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Falls are a critical issue among older adults. This study aims to: 1) investigate the association between fall-injuries and living arrangements, and 2) explore if associations vary by race. This cross-sectional study utilized data from the Health and Retirement Study (HRS) 2010 wave. Fall-injury is self-reported about if a participant had a fall in the past 2 years severe enough to cause an injury. Living arrangements was a count of number of people in the household. Co-variables include demographic, education, depression, cognition, vision, heights, alcohol, motor skills, physical activities, and chronic conditions. Logistic regression was used to perform the analysis using SPSS. The analytic sample (N= 4,189) ranged age from 64 to 109 years with mean age 77.3 years. There were 61% female, 78% non-Hispanic White, 12% non-Hispanic Black, 9% Hispanic, and 1% were non-Hispanic other race. In outcome variable fall-injury, 32% of respondent reported that they fell and injured in last two years. The odds of fall-injury was .81

times lower (OR: 95%CI: .65-1, p-value=.05) with 1% point increment of number of people in the household adjusting for other co-variables. Similarly, the odds of fall-injury was 0.74 times lower (OR: 95%CI: .56-.98, p-value=.04) of people who live with three to four members in the household than the people who live with two persons in the household. Next, the odds of fall-injury was 0.72 times lower (OR: 95%CI: .54-.96, p=.02) of non-Hispanic Black than for non-Hispanic White. These findings suggest the lower fall-injury in larger size of household.

#### **RACIAL/ETHNIC DIFFERENCES IN PHYSICAL ACTIVITY AMONG OLDER ADULTS WITHOUT DISABILITY: BRFS, 2011**

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Racial/ethnic minorities fare worse than Whites on most conditions (e.g., hypertension, diabetes, cardiovascular disease, obesity) despite efforts being made to address health disparities in the US. Engaging in sufficient physical activity (PA) has been shown to reduce the risk and minimize the negative impact of the aforementioned chronic conditions. Therefore, the purpose of this study is to estimate the prevalence of older adults engaging in sufficient PA, and to determine if estimates significantly vary by race/ethnicity. Data from the 2011 Behavioral Risk Factor Surveillance System, a random-digit dialed telephone health survey administered annually by state health departments to adults  $\geq 18$ , was analyzed to examine the prevalence of older adults (i.e., age  $\geq 50$ ) meeting current PA recommendations (e.g., 150 minutes a week of moderate-intensity aerobic activity) set forth by the Department of Health and Human Services. Prevalence estimates for PA recommendations were stratified by race/ethnicity (i.e., Whites [n=152,138], Blacks [n=12,453], Hispanics [n=7,628], Other [n=9,778]) and age (i.e., 50-64,  $\geq 65$ ) for older adults without disability. A significant relationship was found between race/ethnicity and meeting PA recommendations in older adults age 50-64 ( $p < .001$ ) and 65+ ( $p < .001$ ). In each age group (i.e., 50-64,  $\geq 65$ ) a significantly higher portion of Non-Hispanic Blacks (47%, 51%; respectively) and Latinos/Hispanics (41%, 44%; respectively) did not meet the minimum standards for PA for both aerobic and muscle-strengthening activity. Findings suggest that it may be useful to design interventions focused on meeting PA recommendations as a way to address racial/ethnic chronic disease health disparities among older adults.

#### **OPTIMISTIC ELDERS WITH FUNCTIONAL IMPAIRMENTS SUFFER FEWER DEPRESSIVE SYMPTOMS**

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Depressive symptoms are common among the elderly and many studies have demonstrated its strong association with functional impairment. Although dispositional optimism has been viewed as an important resource for the aging population, relatively little is known about the effects of optimism and difficulties engaging in instrumental activities of daily living (IADL) on psychological well-being in older adults. Based on the broaden-and-build hypothesis (Fredrickson, 2001), our study examines this understudied linkage between optimism, IADL, and depressive symptoms by following 591 community dwelling elders over a 10 year period. Using multilevel modeling, we examined the fixed effect of optimism and IADL in predicting depressive symptoms. Our results revealed that overall level of optimism was significantly related to fewer depressive symptoms. Additionally, individuals with higher levels of optimism reported less fluctuation in their depressive symptoms. In the model including IADL and optimism, the moderating role of optimism with IADL was also supported. In particular, elders with higher levels of IADL reported fewer depressive symptoms when their optimism scores are high ( $\beta = -.06990$ ,  $p < .0001$ ). Furthermore,

elders with higher intra-individual IADL also reported fewer depressive symptoms when their optimism scores are high ( $\beta = -.07164$ ,  $p < .001$ ). These findings highlight that optimism plays a significant moderating role in linking IADL and depressive symptoms at the inter-individual and intra-individual levels. Our study lends support to the literature that individual traits, such as optimism, are important psychological resources for individuals that can buffer the impact of limited activities on psychological well-being in later life.

### **SESSION 1005 (POSTER)**

#### **AGING AND SOCIAL DISRUPTION**

##### **UNRAVELING TRAUMA AND STRESS, COPING RESOURCES, AND MENTAL WELL-BEING AMONG OLDER ADULTS IN PRISON: EMPIRICAL EVIDENCE LINKING THEORY AND PRACTICE**

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A theoretical integration of the life course perspective, cumulative advantage, inequality, and stress processing theories provide an important integrated lens to study the relationship between accumulated interpersonal, social-structural, and historical trauma and stressful experiences on mental well-being in later life. The life course perspective, cumulative inequality, and stress processing theories provide an important integrated lens to study the relationship between accumulated interpersonal, social-structural, and historical trauma and stressful experiences on mental well-being in later life. This study builds upon the extant literature by examining the mediating role of coping resources on the relationship between trauma and stressful life experiences, post traumatic stress symptoms, and mental well-being among a sample of 677 adults aged 50 and older in prison. The majority (70%) reported experiencing one or more traumatic or stressful life experiences during their life span. Participants also reported on average 11 occurrences of multilevel trauma and stressful life events and lingering subjective distress related to these events. Results of a structural equation model revealed that internal and external coping resources had a significant and inverse effect on the relationship between trauma and stressful life experiences and mental well-being. As prisons are forced to deal with an aging population, research in this area can take the preliminary steps to enhance understanding of risk and resilience among older adults in prison. This understanding will aid in the development and improvement of integrated theory-based interventions seeking to increase human rights, health, and well-being among older adults in prison.

##### **WOMEN'S TRANSFORMED LIVES AS A RESULT OF NEGATIVE EXPERIENCES WITH FACIAL INJECTIONS: A FEMINIST PHENOMENOLOGICAL ANALYSIS**

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Non-cosmetic procedures to the face (e.g., Botox and other injectable fillers) have been widely popularized in the media for how they reduce signs of aging in the face, yet significantly misunderstood with respect to their impact on women, particularly those who have negative experiences. To fill this research gap, seven American and Canadian women (43 to 64 years old) who had negative or mixed emotions about having had Botox or other facial injectables were interviewed. They had received between 1 to 9 facial injections 2 to 8 years prior to being interviewed. Four women had serious physical and psychological side effects (e.g., heightened sensitivity to noise, anxiety, problems sleeping, and depression), and others had impacts ranging from minor and unwanted physical skin changes to fear of potential, future side effects

(e.g., addiction). Data were analyzed using feminist moral theory and a hermeneutic phenomenological method that focused on corporeal (bodily), temporal (time), and communality (relational) existential modes of being. Themes are the: (a) commodified body, (b) fractured body, (c) abandoned body, (d) reflective body, and (e) transformed body. Participants acknowledged influences of sexism and ageism. Questionable ethical practices were evident in the medical profession. These women's lives were transformed in terms of their relationships to their bodies and themselves (e.g., guilt over having had the procedure done yet a more positive outlook on aging), to others, to society (e.g., loss of trust in the medical profession), and to the future (e.g., uncertainty about the progression of their side effects).

### **A LIFE COURSE PATTERN OF PHYSICAL ABUSE IN WISCONSIN: DOES PAST ABUSE PREDICT ABUSE IN LATER LIFE?**

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Despite decades of research, fundamental issues concerning the etiology of elder abuse remain. There is currently no research examining whether earlier patterns of physical abuse predict abuse in later age. This poster discerns the patterns of abuse and their associations to late-life intimate partner violence (IPV), to inform elder abuse detection and intervention. This research examined life course patterns of physical abuse with data from the Wisconsin Longitudinal Study. Among 175 subjects who experienced abuse after the 1992 wave (average age 53 ±0.7 years), 56.7% had experienced prior abuse (4.2% child abuse, 25.3% early-life IPV, 42.8% mid-life IPV). Predictors of late-life IPV were examined using logistic regression. Included in the predictive models were demographic, socioeconomic and health variables as well as history of past abuse. Being female and married were initially significant predictors of abuse; however, when prior history of abuse was added into the final model both gender and marital status became non-significant. In the final regression model, early-life IPV (OR=13.8, p<.001) and mid-life IPV (OR=21.3, p<.001) independently predicted physical abuse. The interaction between early- and mid-life IPV also predicted late-life IPV (OR=12.5, p<.001). This study provides the first evidence of links between earlier patterns of IPV and late-life abuse. Past histories of abuse were more predictive than any known risk factors, informing the ongoing discussion of whether elder abuse is a distinct type of abuse or a continuation of past abuse. These findings point to the importance of understanding elder abuse within the larger context of domestic violence.

### **CONCEPTUALIZING HISTORICAL TRAUMA WITHIN THE CONTEXT OF INADEQUATE DIABETES SELF-MANAGEMENT AMONG AFRICAN AMERICAN OLDER ADULTS**

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A growing body of research contends that historical trauma—i.e., massive group trauma that has occurred across generations due to cumulative emotional and psychological wounding—has behavioral consequences that include disengaging in health-promoting behaviors. Today's cohort of African American older adults (AAOAs) has been surrounded by historical trauma throughout their life courses. They were born within a few generations from slavery; were proximally situated during the Jim Crow era and mass migration period; have endured redlining practices and mass incarcerations; and, have faced barriers to employment, quality schools, health care, goods, services, and day-to-day exposures to microaggressions and microinsults. This cohort has experienced a lifetime of emotional and psychological assaults. This paper raises the question of how these historical traumas might impact AAOAs' health behaviors, specifically, their diabetes self-management behaviors. A plethora of literature has noted the effects of SES, education, health literacy, dietary preferences, and physical inactivity as bar-

riers to diabetes self-management within this group; however, much of the literature understates the context within which these factors continually arise. This conceptual examination of historical trauma within the context of inadequate diabetes self-management behaviors of AAOAs lays the groundwork for future research aimed to better understand this phenomenon among today's cohort of African American seniors.

### **RACIAL DIFFERENCES IN REPORTED EARLY LIFE TRAUMA BETWEEN AFRICAN AMERICAN AND WHITE URBAN OLDER ADULTS**

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We focus on differences in exposure to early life trauma among urban African American and White older adults. We expand our prior research on successful aging among retirement community dwelling, racially homogeneous older adults (Kahana et al., 2012) to a racially diverse urban sample. Understanding etiological processes across ethnicities may provide better understanding of how early risk exposure predicts differences in mental health and in resiliency in later life. We utilized the Antonovsky Life Crisis Inventory to consider reporting of traumatic early life events by different racial groups. Our findings based on 409 older adults (mean age= 79 years, SD=5.74) revealed that African Americans reported greater incidence of parental divorce and death of a family member through violent means (accident, homicide, suicide) during their childhood years compared to White respondents. There were no significant race differences in the death of a mother or father before the child reached age 15. Despite these differences in life experiences, we observe lower depressive symptoms (CESD Depression Scale) and greater life satisfaction (Diener Life Satisfaction Index) among African Americans compared to their White counterparts. A potential source of resilience among African American elders is their propensity to appraise negative events as less problematic than did White elders. These findings suggest a paradox of successful aging among urban African-American older adults. They appear to have acquired significant 'Survival Skills' through the necessity to navigate socio-cultural adversities linked to discrimination, poverty and racism.

### **EVIDENCE OF DIFFERENTIAL MORTALITY BETWEEN ELDER ABUSE TYPES**

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Background: Elder abuse independently predicts survival; beyond other medical, social, physical and mental factors. This study assesses 4-year differential all-cause mortality associated with types of elder abuse. Methods: A secondary data analysis of N= 1732 cases of elder abuse (i.e. age >64) substantiated by Texas Adult Protective Services (APS), between the dates of January 1, 2004 and December 31, 2008 and data from the Texas Vital Statistics was conducted. Datasets were matched using probabilistic and deterministic algorithms. Age adjusted 4-year survival analyses were conducted to assess for differential all-cause mortality. Results: Differential mortality was assessed by comparing emotional/verbal abuse (HR = 1.14, 95% CI: [0.67, 1.93], p = 0.611), exploitation (HR = 1.72, 95% CI: [1.01, 2.95], p = 0.0479), and caregiver neglect (HR = 2.21, 95% CI: [1.37, 3.56], p = 0.00108) to physical abuse (4-year survival rate: 78.5%, 95% CI: [72.1%, 85.9%]). Significant differences in mortality were also found in comparing exploitation (HR = 1.50, 95% CI: [1.03, 2.18], p = 0.0313) and caregiver neglect (HR = 1.93, 95% CI: [1.47, 2.53], p < 0.001) to emotional/verbal abuse (4-year survival rate: 75.5%, 95% CI: [71.1%, 80.2%]), but there was no difference between exploitation and caregiver neglect (p = 0.1). Conclusion: This study provides evidence for differential

mortality between elder abuse types. Caregiver neglect and financial exploitation impose the greatest 4-year mortality risks among vulnerable elder abuse victims. These data have important implications for the case management and triage of APS substantiated elder abuse victims.

#### **RESIDENT-TO-RESIDENT ELDER ABUSE: THE CANADIAN LANDSCAPE**

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**Introduction:** There is a lack of research on resident-to-resident elder abuse (RREA) in institutional settings. Given the knowledge gap on this issue, a scoping review was conducted to gain a better understanding of what characterizes and contributes to RREA, and to develop recommendations for research, clinical practice and policy in Canada. **Method:** Peer-reviewed and grey literature databases (Medline, PsycINFO, AgeLine, CINAHL, ISI Social Sciences Citation Index; ISI Conference Proceedings Citation Index- Social Science & Humanities; Dissertations & Theses: Full Text, Canadian Institute for Health Information and National Institute of Health) were searched (1985 – April 2013) for relevant records. In addition, a redacted data set on RREA in Canadian institutions from 2011 was analyzed. **Results:** After applying inclusion and exclusion criteria, only 32 articles were included for the review. Six studies were classified as grey literature and the remaining 26 studies were peer-reviewed. Most research took place in the United States (n=29), followed by Canada (n=2) and the United Kingdom (n=1). The most common study designs were cross-sectional surveys or interviews (n=14), retrospective case analyses (n=10), and literature reviews (n=3). Only one intervention study was identified (n=1). With regard the secondary data analysis, the total number of incidents of all types of alleged/reported abuse in long-term care facilities was 23,472, with 28% being RREA. **Conclusion:** There is a glaring lack of data on RREA in Canada. Barriers to characterizing the extent of RREA includes under reporting and heterogeneous reporting policies and practices in nursing facilities across Canada.

#### **EFFECT OF CHILDHOOD ABUSE ON TRAJECTORIES OF INTERGENERATIONAL SOLIDARITY IN LATER LIFE**

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This study aims to examine changes in intergenerational solidarity over time among adult children with histories of childhood abuse in comparison to those without histories of childhood abuse. Incorporating Intergenerational Solidarity theory, data analyses focused on (a) charting the trajectories of emotional closeness and frequency of contact between aging parents and their adult children, and (b) examining the effect of childhood abuse on the trajectories. Data were taken from the Wisconsin Longitudinal Study (WLS), a random sample survey of 10,317 men and women who graduated from Wisconsin high schools in 1957. This study used multiple waves of the WLS, including the 1993-1994, 2004-2005, and 2010-2011 datasets. The final study sample was comprised of 2,961 graduates and their siblings whose parent was alive at the 1993-1994 wave. To take advantage of the three-wave longitudinal data, three-level (time-individual-family) growth curve modeling techniques were employed. Results showed that there was a significant decrease in emotional closeness over time between adult children with histories of childhood abuse and their formerly abusive parent. Also, frequency of contact between adult children and their formerly abusive parent significantly declined with age. This was contrasted for adult children without any histories of childhood abuse who showed a significant increase in contact with their aging parent(s). Yet, there was no significant change in regards to emotional closeness and frequency of contact between adult children and their non-abusive parent. These results indicate worsening intergenerational solidarity over time between adult children with histories of childhood abuse and their aging parent(s).

## **SESSION 1010 (POSTER)**

### **RETIREMENT AND LABOR FORCE TRANSITIONS AND TRAJECTORIES**

#### **RETIREMENT PLAN PROFILES AND RETIREMENT OUTCOMES: EVIDENCE FROM 10 WAVES OF THE HEALTH AND RETIREMENT SURVEY**

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David Ekerdt and colleagues, using the first wave of the Health and Retirement Survey created a five category profile of retirement plans. This profile of plans categorized persons future expectations into “Stop working all together”, “Never stop working”, “Reduce the hours worked”, “Change Careers”, or “No plans for retirement”. Our goal in this study was to investigate the relationship between those expectations and self-definition of work status in later waves of HRS. The self-definitions were “not retired”, “retired completely”, and “partly retired”. We found that over time the majority of all categories of respondents reported themselves to be completely retired. Yet there were significant differences in outcome responses by retirement plans in all waves of the data. Those who planned to stop working completely were more likely to state they were retired; those who stated that they intended to never retire were more likely to state that they are not retired; those with no plans were also more likely to state that they are not retired; and those who stated they intended to reduce the hours worked were more likely to report themselves as partly retired. We found no clear pattern for those who intended to change careers. Our analysis shows that the profiled plans do have a linkage to later self-definitions of work status in this cohort.

#### **CHALLENGES IN RETIREMENT: EXPLORING THE EFFECTS ON MEN'S PERSONAL RELATIONSHIPS AND IDENTITY**

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Working life plays a central role in the life of most adults. The concept and process of retirement are changing and, as state pension age increases in the UK, a clearer understanding of the experience of retirement is important. This study uses data from face-to-face, semi-structured qualitative interviews with 16 retired British men to explore the psychosocial impact of retirement. Interview questions focused on the participants' working life; decisions around, and the adjustment to, retirement; personal relationships and support; and identity. Interviews were transcribed verbatim and the data was analysed using a grounded theory method. The interviews provide an insight into the way men view and adjust to retirement and highlight the variability of the retirement experience. Moving out of paid work was viewed as a largely positive experience, providing new opportunities to maintain relationships and pursue leisure activities. However, almost all of the men also discussed retirement as a loss, characterized by disruption to their personal relationships, their sense of self and their daily activities. Several participants continued to work in unpaid or part time roles with a view to minimizing the losses associated with the transition out of full time paid work. The findings enhance the understanding of the experience of retirement for men and have implications for the provision of support to both soon to retire and retired men.

#### **ARE WORKING HOURS AND INCOME ASSOCIATED WITH HAPPINESS AMONG PRE-RETIREMENT AGE EAST ASIAN WORKERS?**

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As the baby boomers have recently begun to retire in the economically developed nations, subjective well-being (happiness in this study)

among pre-retirement workers has received growing attention. Working hours and income are widely recognized predictors of happiness among workers. Importantly, these happiness predictors are influenced by sociocultural contexts. For example, due to the “busy ethic,” Americans believe that longer working hours lead to greater income, and in turn, to greater happiness whereas Europeans prefer shorter working hours. Yet, significantly less is known about pre-retirement age workers in East Asia, despite their leading roles in the global economy and rapid population aging. The current study utilized the 2010 East Asian Social Survey, an internationally representative dataset of adults in China, Japan, South Korea and Taiwan. Partial proportional ordinal logistic regression was used to model happiness as a function of working hours, income and other covariates among the pre-retirement workers [i.e., late middle age (45-64)]. Working hours was negatively associated with happiness only in China (OR = 0.98,  $p < 0.05$ ). However, relative income (OR = 1.56-3.88,  $p < 0.05$ ) was consistently positively associated with happiness in all four nations. The Chinese workers might have adjusted for their suddenly increased working hours and/or overtime in the context of their nation’s rapid economic development. Also, greater income in East Asian societies might be an indicator of perceived financial security that contributes to greater perceived levels of happiness since the majority of East Asian workers were concerned about possible financial dependence in their retirement.

### **TRIGGERS AND HINDRANCES: CONTEXTUALIZING THE RETIREMENT PLANNING TRAJECTORY FOR MARRIED INDIVIDUALS**

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Retirement research has largely focused on actual retirement or the post-retirement transition, but less on pre-retirement planning. Further, there is a lack of research on how being married may influence retirement planning. This study addresses these limitations by focusing on how pre-retirement married individuals ages 42 or over describe their retirement planning experiences. Data were collected from a sample of 14 married individuals via demographic questionnaires and qualitative in-depth interviews. Analysis utilized a grounded theory approach. The life course perspective was used to help understand the impacts of personal biography and explore the implications of linked lives, which suggests an individual’s and their spouse’s life circumstances are interconnected (Elder, 1994; Macmillan & Copher, 2005). Emergent themes addressed how life transitions may trigger or constrain retirement planning. Individuals mentioned certain “firsts” as life events that initiated their planning, such as a first “real” job, getting married, and becoming a parent. Participants also mentioned hindrances in the following areas: family and relationships, employment circumstances, uncertainty and feelings towards the future, and financial decisions or behaviors. These themes resulted in the creation of a timeline to visualize events and behaviors occurring throughout participants’ lives that trigger retirement planning, which has not yet been attempted in life course and retirement research. For some, experiences in childhood and young adulthood began to shape their thoughts on planning and motivations for the future, highlighting that retirement planning may begin early. Based on these findings, implications for individuals, employers, and possibilities for future research will be discussed.

### **RETIREMENT PROCESS AND THE QUALITY OF LIFE AMONG KOREAN BABY BOOMERS : A FOCUS ON GENDER DIFFERENCES**

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Though career changes and transition into retirement are very closely related to the quality of life, understanding about this process is very limited in Korea. This study examines how various aspects of

retirement process is associated with the quality of life focusing on gender differences of Korean baby boomers. The data were collected from 3275 adults (1496 men and 1779 women) at the age of 50 to 58. In this survey, quality of life was evaluated in four dimensions: marital satisfaction, financial satisfaction, leisure satisfaction, and self rated health. And retirement process consisted of four types: working at the career job, working at the bridge job, not working after retiring from the main job, and full retirement. The major findings are as follows. First, male and female baby boomers who are currently working at the career job are more satisfied with their financial situation and show higher self rated health than those who working at the bridge job or are fully retired. Second, male baby boomers who working at the career job are more satisfied with their marital relationship and leisure time than those who have retired fully. On the other hand, female baby boomers who retired fully are more satisfied with their marital relationship and leisure time than those who working at the career or bridge job. The result of this study suggests that it is important to recognize both gender differences and gender similarities in order to integrate theory and research into a coherent picture of “gendered” reality. Implications of these findings are discussed further.

### **COMPETING DEMANDS: FINANCIAL NEEDS OF CHILDREN AND PARENTAL RETIREMENT TIMING**

J. Kling, 1. *University of Maryland, College Park, Maryland*, 2. *Maryland Population Research Center, College Park, Maryland*

Decreasing income security, lower pension wealth, and other wealth reductions have all contributed to the recent increases in the retirement age in the U.S. However, there is also growing recognition that diverse and often disrupted family experiences (e.g., divorce, dependent children) may disadvantage older adults as they approach retirement. In this study, I examine the connection between family demands and retirement behaviors of older adults. I ask whether the presence of financially dependent children affects parents’ retirement timing. Observing parents in their 50s using the Health and Retirement Study (HRS), I first examine the cross-sectional relationship between financially dependent children and parents’ employment status in the 1998. Then, incorporating subsequent waves of the HRS, I use event history analysis to model differences in the timing of transitioning out of the labor market between parents with and without financially dependent children. I model the transition to fewer hours in the same job or another job and fully exiting the labor market. I consider three categories of financial dependents: dependent-aged children under the age of 22 (the earliest age one could expect to graduate from college); adult co-resident children; and adult non-coresident children who receive a certain amount of financial help from their parents. I expect parental wealth will mediate the relationship between financially dependent children and parental retirement. Therefore, in addition to demographic factors, I control for parents’ personal savings and expected retirement income from Social Security and pension wealth.

### **PRE-RETIREMENT FAMILY RELATIONSHIP AND POST-RETIREMENT ADAPTATION: THEIR TRAJECTORIES AND LINKAGE**

S. Joo, H. Jun, H. Chai, *child and family studies, Yonsei University, Seoul, Republic of Korea*

From a life course perspective, retirement is an event as well as a transition from work to family. Also, it is thought that better family relationships promote better adaptation to retirement. However, few studies examined the trajectories of pre-retirement family relationship and post-retirement adjustment as well as the linkage between the two as a longitudinal process of transition into retirement. Thus, the purpose of this study was to investigate the longitudinal trajectories of family relationship during pre-retirement period and their effects on the trajectories of post retirement adjustment measured by life satisfaction. Data from the ten waves of Korean Labor & Income Panel Study (1997 to

2007) was used and middle and elderly individuals retired in 2001 and 2002 ( $N=198$ , mean age=57.31) were analyzed with Structural Equation Modeling. Results indicated that trajectories of both family relationship before retirement and life satisfaction after retirement were stable. In addition, overall pre-retirement family relationship had positive effect on overall post-retirement life satisfaction. These results imply that programs designed to help retirees' adaptation to retirement need to be implemented during the pre-retirement period because adaptation to retirement is influenced by the context set before retirement. However, interventions that promote pre-retirement family relationship may not be so effective. Even though family relationship have an effect on post-retirement adaptation, we need to consider that patterns of family relationship is established far before transition into retirement and that family relationship examined in this study remained stable throughout the 5-year pre-retirement period.

#### **EXPOSURE VERSUS CUMULATIVE EFFECT OF SOCIAL PARTICIPATION DURING POST-RETIREMENT ADJUSTMENT STAGES**

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Active participation in diverse social groups plays an important role in retirees' post-retirement adjustment because it compensates their loss of the work roles. However, whether social participation per se or the number of participating social groups matters more for adjustment remains unclear. Not only this, despite the progression of retirement adjustment in long-term stages, previous studies on retirement transition mainly focused on short-term adjustment. Therefore, using data from the respondents who made transition into retirement between the first (2006) and second (2008) waves of the Korean Longitudinal Studies of Aging ( $N=263$ ), this study examined exposure and cumulative effects of social group participation on retirees' life satisfaction shortly after retirement (2008) and two years after retirement (2010). The results showed that in the short term, retirees' social participation has a positive cumulative effect on life satisfaction ( $\beta=.23, p<.05$ ). This means that for recently retired individuals, participating in more diverse social groups leads to higher life satisfaction rather than the participation itself. However, at two years after retirement, social participation did not have any significant influence. This indicates that the effect of social groups only lasts during the early phase of retirement adjustment, when retirees reorganize their life styles and enjoy their free time. When adjustment to retirement is stabilized after a few years, social participation loses its significance in adjustment. Such results are noteworthy in that they highlight the importance of participating in diverse social groups after retirement and the need to consider long-term adjustment stages in studying transition into retirement.

#### **CATCH A GLIMPSE OF ME: DEVELOPMENT OF PERSON-CENTERED CARE/ LEGACY VIDEOS THROUGH COLLABORATION OF RESIDENT, FAMILY MEMBER, AND STAFF MEMBER FOCUS GROUPS**

T. Gendron, L. King, *Virginia Commonwealth University, Richmond, Virginia*

Older age tends to be a time for evaluating one's life, and one of the major tasks is to work through a life review—a purposeful, constructive effort to review one's life and put it into perspective (Saxon et al., 2010). This project was initiated to develop an evidence-based mechanism to help older adults initiate a life review and to share what is important to them with both staff members who may be taking care of them and loved ones. Healthcare professionals have been increasingly moving toward a holistic model of care that emphasizes residents' perspectives and their individually defined experiences and needs. The model, most often defined as "person-centered care" (Epp, 2003) moves away from traditional task-oriented and professional driven models of healthcare. The Catch a Glimpse of Me project used focus groups with residents, family members and staff at a continuing care retirement community, to

design and develop person-centered care/legacy videos of older adults. The primary goal of this project was to create a model video that is both meaningful to residents, family members, and staff members currently providing care for them. This poster will present a summary of the data analysis from the focus groups and discuss the topics for inclusion in the video.

#### **HOW DO VIEWS OF AGING INFLUENCE RETIREMENT PLANNING?**

A. Barrett, A. Raphael, *Florida State University, Tallahassee, Florida*

Better views of aging improve health, including health-related behaviors like exercise. Less is known about their effects on other behaviors, such as retirement planning. We address this issue by examining the relationship between views of aging and having a retirement plan, using data from the National Survey of Midlife Development in the United States (1995-1996, 2004-2006). We examine three measures of views of aging: age identity, conceptions of the end of middle age, and attitudes about later life. Having a retirement plan is operationalized as having an employer- or union-offered pension or retirement plan, an IRA or Keogh plan, or some other retirement plan. Analyses control for factors shown in prior studies to predict likelihood of having retirement plans, including sociodemographics (e.g., SES, race, gender), job characteristics (e.g., hours, occupational prestige), and psychological orientations (e.g., mastery). Results of logistic regression models indicate that individuals with positive attitudes about later life have higher greater odds of having a retirement plan, compared with their peers with less favorable views of this life stage. Odds of having a retirement plan are associated with neither age identity nor conceptions of the timing of middle age. Our study contributes to the literature in two ways — by identifying another predictor of retirement planning and documenting further consequences of aging attitudes.

#### **SOCIAL DETERMINANTS OF ACTIVE LIFE ENGAGEMENT AMONG FRENCH RETIREES**

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Background: Active life engagement is a key component of successful aging. However, little is known about daily activities that comprise such engagement among older adults in France. We aimed to understand social determinants of productive time use among French retirees. Methods: We used data from GAZEL, a cohort of now-retired French utility workers. For each half-hour of the day prior to completing the survey, participants reported primary and secondary activities (choosing from 41 items). We examined five types of active engagement: paid work, volunteering, caregiving, community involvement, informal social interaction. We modeled concurrent predictors (gender, education, pre-retirement occupation, marital status, age, self-rated health) of any participation in each activity. Among activity participants, we modeled adjusted marginal means for time spent by different sociodemographic groups. Results: 11,178 individuals completed the time use instrument. Single/divorced participants were most likely to work for pay after retirement. Men were more likely than women to participate in volunteering and community activities; conversely, women were more likely to engage in informal activities (caregiving and social interaction). Non-married participants sought social connections outside the home. Time spent on both paid work and informal engagement declined linearly with both age and health status, though relationships between other activities and age/health status were more complex. Conclusions: Participants exhibited high levels of active life engagement, with clear gender and socioeconomic differences in type and intensity of activities performed. Participation did not uniformly decline with age or health status. These findings provide insight on the lives of successfully aging French adults.

## THE ACCESS TO BRIDGE EMPLOYMENT: THE CASE OF DUTCH RETIREES

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Bridge employment is often defined as the paid work pattern among those who receive a pension income. Empirical studies on the predictors of bridge employment often focus on the actual behavior, thereby neglecting the fact that some retirees may be unsuccessful at finding a bridge job. This study aims to improve the understanding of the social forces that selectively determine the participation in bridge employment. Following the life course perspective, we focus on social circumstances as well as psychosocial factors to explain why some people fully retired after career exit, some participated in bridge jobs and others unsuccessfully searched for a bridge job. Using panel data of Dutch retirees (N = 1225), we estimate multinomial logit models to explain the participation in and attainability of bridge employment. The preliminary results show that about one in four retirees participated in bridge jobs after retirement and seven percent unsuccessfully searched for a bridge job. The multivariate models indicate that the psychosocial factors, work disengagement and perceived labor market opportunities, seem to determine the participation in bridge employment, but not whether people eventually succeed in finding a bridge job. In addition, we found that unhealthy people and those who experienced involuntary career exit have a higher likelihood to be unsuccessful at finding a bridge job, which suggests a cumulative disadvantage in the work domain in later life.

## PARENTAL AND SOCIAL INFLUENCES ON THE UNDERSTANDING OF FINANCIAL PLANNING FOR RETIREMENT

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Numerous factors structure individuals' perceptions of financial planning for retirement, but few studies have examined the role of positive, early learning experiences in relation to financial planning. Consistent with the conference theme, this investigation focused on the transfer of financial knowledge from parents to children and the extent to which that knowledge is predictive of future retirement planning tendencies. A psychomotivational model was tested on an important yet understudied group—college students—to assess the dimensions that underlie expectations of future retirement planning practices. Early learning experiences were assessed using two newly developed measures: (a) a scale that taps parental influences on saving, and (b) a measure of non-family early influences on saving. The model was constructed on the basis of empirical findings that are central to the life-course perspective. Participants were 722 undergraduate college students (260 men; 462 women) between the ages of 17-52. Respondents completed a battery of retirement and financial planning measures, which were analyzed using a path analysis approach that was designed to predict expectations of future planning and retirement quality of life. Findings revealed that the two early learning measures were important indirect determinants of expectations of planning and future quality of life, accounting for more than 30% of the variance in the two dependent variables. Implications are discussed in terms of how: (a) early learning experiences can shape the motivational basis of the retirement planning process, and (b) intervention approaches could make young adults better future retirement planners and savers.

## WHO WORKS AFTER RETIREMENT? : FACTORS OF BRIDGE EMPLOYMENT IN OLDER ADULTS

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With widespread implementation of pro-work policies and the notion of retirement as a gradual process rather than one-time transition, bridge employment rate in the US has continuously increased for last few decades. However, causal factors for bridge employment are not fully understood. In addition, there is little systematic information on gender difference in the precursors of bridge employment despite substantially different occupational experiences in men and women. This study explores different factors of bridge employment in men and women. Discrete time survival analysis was conducted using 10 waves of Health and Retirement Studies (n=2021, aged 65 or older). Separate analyses were conducted by gender to help deeper understanding of how different career paths and gender role expectations for men and women influence engaging in bridge employment. Lower financial means was associated with higher likelihood of bridge employment in both men and women. Having more extended family relationships was associated with a lower likelihood of bridge employment in women. Higher education and having skilled, high-paying occupations is associated with higher likelihood of bridge employment in men. Marital status was found to be an effect modifier of the association. Factors of bridge employment were different among men women due to different social roles and career trajectories. This work will contribute to policy development for pre- and post-retirement welfare and well-being among older adults

## WHAT FACTORS FACILITATE COGNITIVE PERFORMANCE MAINTENANCE FOLLOWING RETIREMENT?

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Recent research shows a causal relationship between retirement and decline in cognitive performance. This study examines whether personal characteristics, engagement behaviors, and occupational differences mediate cognitive performance decline during the retirement transition (from four years prior to retirement to four years following retirement). Drawn from the Health and Retirement Study, our sample includes individuals 51 or older who retire for the first time between 2000 and 2008 and have normal cognitive performance in the four years leading up to retirement (n=1,830). Cognitive performance is measured according to a 27-point test assessing episodic and working memory and mental processing speed. We use propensity score matching (Gaussian kernel) to adjust for baseline differences in circumstances surrounding retirement and all other environmental, demographic, and personal characteristics. Compared to the four years prior to retirement, our study shows two key factors are independently correlated with maintenance of cognitive performance through the retirement transition: (1) having an occupation requiring the greatest cognitively complex tasks (based on the ONET classification) and (2) engaging in paid work after retirement. Bridge jobs offer greater benefit to those with the high occupational complexity relative to those with low cognitively complex occupations. In this session, we will discuss the implications of these findings for development of potential interventions that could diminish the negative effect of retirement on cognitive performance.

## TIME SPENT ON HEALTH PROMOTING ACTIVITIES FOR OLDER AMERICANS: EVIDENCE FROM THE HEALTH AND RETIREMENT STUDY

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There is an increase interest in understanding time use patterns, particularly among older adults. Given the differences in time use indicate

how employment affects people's life, it is important to understand how employed and unemployed older adults differentially spend their time. Based on the data from the 2001 Consumption and Activities Mail Survey and the 2000 Health and Retirement Study (N=3507), this study aims to examine how time spent varies on health promoting activities, including sleeping, exercising, social engagement as well as treating and managing medical conditions, among older adults. We hypothesize that the employed elderly will spend less time on health promoting activities compared to the unemployed elderly, since the opportunity cost of spending time on health promoting activities is higher for the employed elderly. After controlling for the effects from demographic differences, self-reported health status, functioning problems and health conditions, the results from negative binomial regression models suggest that full employed older adults spend less time on the health promoting activities we examined. On average, full employed older adults spend 1.29 hours less on sleeping per week ( $p < 0.001$ ), 4.43 hours less on social engagement per month ( $p = 0.08$ ), and 5.04 hours less on treating and managing medical conditions per month ( $p < 0.001$ ) compared to retirees. Overall the employed elderly may not allocate as much time for health promoting activities, which could benefit their later life. In moving forward, it may be important to examine the effects from activities of other family members and the changes in time use over time.

### WHO IS LIKELY TO COMMIT TO A CAREER WORKING WITH OLDER ADULTS?

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Gerontology, as an academic discipline, provides professionals with the conceptual knowledge and the skills necessary to address the complexities of working with a diverse aging population. We know little about what attracts professionals to the aging field and what maintains commitment to these careers. The aim of this study was to investigate the roles of career motivation, job satisfaction, anxiety about aging, and professional identity in relation to career commitment among those working with older adults. Participants (N = 756) were recruited through linkservs and links distributed by organizations and institutions serving older adults and responded to an online survey. Participants' motivation for working with older adults, level of job satisfaction, and exposure to formal gerontological education significantly predicted career commitment. In addition, aging anxiety mediated the relationship between job satisfaction and career commitment. This study sheds lights on perspectives of professionals working with older adults and highlights areas for future research and training with this population.

### MEASURING WORK ABILITY BEYOND HEALTH: DEVELOPMENT & CONSTRUCT VALIDITY OF THE WORK ABILITY SURVEY REVISED GERMAN

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The development of the German version of the Work Ability Survey revised (WAS-R) is presented. The WAS-R is improving psychometric problems of the Work Ability Index (WAI), i.e. a ceiling effect. Additionally, it is integrating factors of work place and social environment into the measurement of work ability. Few studies have been using the WAS-R, and no validation study has been published, yet. We translated the 54-item version of the WAS-R in a translation-backtranslation process. A sample of 1,052 senior managers of the German chemical industry was used for construct validation. Participants completed an online-survey of the WAS-R, the WAI, measures of job attitude and questions concerning retirement age. Factorial structure was tested using confirmatory factor analysis. Internal consistency of the subscales of the WAS-R ranged from .58 to .94. The WAS-R total score was correlated significantly with the WAI ( $r = .56$ ,  $p < .001$ ), job satisfaction ( $r = .73$ ,

$p < .001$ ), desired retirement age ( $r = .16$ ,  $p < .001$ ), and willingness to return to one's organization, if asked ( $r = .32$ ,  $p < .001$ ). Lower skew and kurtosis indicated a better distribution of the WAS-R than of the WAI. We compared results from our sample with a subsample of the Australian WAS-R study. The German version of the WAS-R extends our understanding of work ability by integrating characteristics of work place and social environment. Its psychometric properties allow parametric statistical analysis. Interventions aiming at the improvement of work ability can be derived from its detailed subscales.

## SESSION 1015 (POSTER)

### NUTRITION & OBESITY

#### IMPACT OF OBESITY ON HEALTH CARE COSTS IN ADULTS OVER 65 YEARS OF AGE

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Abstract (249 of 250 words) Objective: Obesity is a risk factor for a variety of chronic conditions and is a significant contributor to preventable medical expenses. The objective of this study was to evaluate the impact of weight, as a function of body mass index (BMI), on total health care costs. Design: 53,286 adults with an AARP® Medicare Supplement Insurance Plan insured by UnitedHealthcare Insurance Company (for New York residents, UnitedHealthcare Insurance Company of New York) in 10 states were surveyed for satisfaction and experience with care. Methods: Following adjustments for survey non-response bias and insurance status, we estimated health care utilization (inpatient and emergency room admissions) of 9,484 eligible respondents using multivariate logistic regression models. Subsequently, an exponential conditional mean (ECM) regression model was used to estimate the impact of BMI on medical and pharmaceutical expenditures relative to the normal weight category. The models adjusted for available demographics, socioeconomic and insurance status. Results: 23% of eligible respondents were obese. Relative to the normal weight category, annualized total health care costs were \$1495 greater for those in the obese weight category ( $p = 0.03$ ). The majority of these costs were explained by chronic conditions likely associated with obesity. Most of these costs were attributable to the pharmaceutical management of these conditions. Conclusions: Obese older adults cost 8.6% more compared to their normal weight counterparts. These largely preventable costs are primarily associated with the management of chronic conditions. With 23% of this population self-reporting obesity, this equates to an additional \$1.8 billion annually, mostly attributable to Medicare.

#### ASSOCIATION BETWEEN SUN EXPOSURE AND PLASMA LEVELS OF VITAMIN D IN CHILEAN OLDER PEOPLE

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Introduction: The Influence of sun exposure on plasma levels of vitamin D (25OH-D) is well known. However the decreased ability of skin to synthesize 25OH-D in older people suggests that its role is not important in the elderly. The aim of this study was to evaluate the effect of latitude on plasma levels of 25OH-D in older people. Methods: Cross-sectional study corresponding to the baseline of a RCT aimed to determine optimal levels of fortification with 25OH-D and vitB12 of a milk drink provided to Chilean Ministry of Health's beneficiaries  $\geq 70$ y. Participants were enrolled in primary care centers from 3 cities located in the North (NL) (Latitude: 20°13'03"S), Center (CL) (Latitude: 33°28'10"S) and South (SL) (Latitude: 53°09'18"S) of the country. Mobility, functional status and medical history were registered. Anthropometry and 25OH-D were measured. Crude and adjusted regression models were developed for analyzing the association between latitude and 25OH-D deficiency ( $< 50$ nmol/L). Results: 815 elderly, 188



from NL, 309 from CL and 300 from SL were recruited. The three groups had similar age and gender proportion. Mean 25OH-D was 89.2 nmol/L(SD:32.2) in NL, 64.0 nmol/L(SD:32.9) in CL and 44.2 nmol/L(DS:33.6) in SL ( $p<0.05$ ). 25OH-D deficit was 8.4%(95%CI:4.3-14.5) in NL; 37.5%(95%CI:27.8-48.0) in CL and 66%(95%CI: 60-72) in SL ( $p<0.05$ ). Considering NL as reference, the age, sex and BMI adjusted OR of having 25OH-D deficit was 8.4(95%CI:3.5-20.6) in CL and 24.9(95%CI:10.9-57.0)in SL. Conclusions: The results demonstrate the importance of sun exposure on plasma levels of vitamin D in older people. Project funded by FONDEF D10I1091

#### **KNEE-HEIGHT AS ALTERNATIVE MEASURE IN NUTRITIONAL EVALUATION OF FREE-LIVING ELDERLY**

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Background: one simple way to evaluate nutritional status is to use anthropometric measurements, and many indices utilized are dependent upon stature. Elderly people are affected by mobility and skeletal muscle changes, therefore, several equations to predict stature have been developed for these populations. The objectives of this study were to evaluate the homogeneity between height and body mass index (BMI) measured, and estimated through the knee-height (KH) measure, and the agreement between the nutritional evaluations based on two BMIs, a measured and another estimated. Methods: cross-sectional study with a random sample of 583 free-living elderly. The variables investigated were weight (W), stature (S1), KH and estimated stature (S2) (obtained through Chumlea equations). BMI was calculated with S1 (BMI1) and S2 (BMI2) and classified according to Lipschitz. The statistic analysis was performed by the Intraclass Correlation Coefficient (ICC) and the weighted Kappa with Quadratic Weights (kw2). Results: the majority of the sample was female (63.6%) and mean age 68.5±7.1 (60-103) years. The correlation was statistically significant ( $P<0.001$ ) both for stature (ICC=0.91) and BMI (ICC=0.90). Most of elderly were overweight, BMI1=57.4% and BMI2=55.6%. The Kappa index between nutritional assessments of BMI1 and BMI2 was 0.77. Conclusions: the results showed an excellent homogeneity between measured and estimated data and a good agreement between the two nutritional evaluations, suggesting the desirability of additional studies with a large population, for increase the validity of the use of knee-height as a useful tool to evaluate nutritional status of free-living elderly.

#### **ASSOCIATION BETWEEN DIETARY VARIETY AND BODY COMPOSITION AND PHYSICAL FUNCTION IN COMMUNITY-DWELLING OLDER JAPANESE**

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Background: Aging is associated with reduced lean mass and physical function; however, little is known about association between dietary variety and body composition and physical function in the elderly. This cross-sectional study examined these associations in community-dwelling older Japanese. Methods: Participants were 1063 individuals aged 65 years and over. Dietary variety was assessed with a food frequency questionnaire which covers the 10 main food items in Japanese meals (meat, fish/shellfish, eggs, milk, soybean products, green & yellow vegetables, potatoes, fruits, seaweed, and fats and oils), and scored (range, 0-10). Body composition was determined with multi-frequency bioelectrical impedance analysis (InBody720). Physical function was measured on handgrip strength and usual walking speed. Multiple linear regression analysis was used to examine the independent association between dietary variety and body composition and physical function. Results: Even after adjusting for potential confounders (sex,

age, study site, BMI), higher dietary variety scores were significantly associated with higher fat free mass [ $\beta$ (SE):0.215(0.049),  $p<0.001$ ], soft lean mass [ $\beta$ (SE):0.203(0.046),  $p<0.001$ ], and skeletal muscle mass [ $\beta$ (SE):0.127(0.029),  $p<0.001$ ], but not with body fat mass. Those with higher dietary variety scores showed greater handgrip strength and faster usual walking speed [ $\beta$ (SE):0.231(0.067),  $p=0.001$  and  $\beta$ (SE):0.011(0.003),  $p<0.001$ , respectively]. Conclusion: Although the causal relationship remains to be determined in prospective study, this cross-sectional study indicates that higher dietary variety may contribute to preserve lean mass and better physical function.

#### **WEIGHT LOSS ADDED TO RESISTANCE TRAINING DOES NOT ATTENUATE POSITIVE EFFECTS ON BMD IN OLDER ADULTS**

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Background. Exercise has a positive effect on bone mineral density (BMD) in weight-stable, older adults, and it may be an effective means to prevent bone loss during weight loss in this population. The purpose of this study is to compare the effects of a 5-month resistance training (RT) plus caloric restriction (CR) program to RT alone on change in BMD at clinically important sites of osteoporotic fracture. Methods. 126 overweight and obese (BMI: 30.6±2.3 kg/m<sup>2</sup>), older (69.5±3.7 years) adults (56% female) completed a 5-month standardized, progressive RT program with (RT+CR) and without (RT-only) caloric restriction (600 kcal/d deficit). DXA-acquired BMD (total hip, femoral neck, lumbar spine) and total body, fat, and lean mass were assessed at baseline and 5-months. Results. Participants randomized to RT+CR lost 5.0±3.9 kg (5.7±4.3%) of initial body mass, with 76% of losses coming from fat mass and 24% coming from lean mass (all  $p<0.01$ ), while RT-only participants did not significantly change body mass (-0.1±2.2 kg; -0.2±2.5%). Although differential treatment effects were not observed for regional BMD, when compared to baseline, the adjusted percentage change estimate for lumbar spine BMD increased in the RT-only group (0.82±0.36%,  $p=0.02$ ), and femoral neck BMD was marginally increased in the RT+CR group (0.82±0.44%,  $p=0.06$ ). Interestingly, in both groups, effect size estimates were positive for all BMD change measures (range: 0.03-0.83%). Conclusions. Modest, intentional, weight loss does not attenuate the positive effects of a 5-month resistance training program on regional BMD in overweight and obese, older adults.

#### **LONG-TERM EFFECTS OF A 5-MONTH WEIGHT LOSS PROGRAM ON BODY COMPOSITION IN OBESE, OLDER ADULTS**

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Background. The purpose of this study is to explore how global and regional body composition changes in the year following intentional weight loss in older adults. Methods. A convenience sample of 24, obese (BMI: 30.0±2.0 kg/m<sup>2</sup>), older (70.1±3.8 years) adults (50% female), randomized to 5-months of resistance training (RT) plus caloric restriction (CR; -600 kcal/d) (RT+CR; n=13) or RT only (n=11) were followed for an additional 13 months. DXA (total fat and lean mass) and CT (thigh subcutaneous and intermuscular fat, and muscle volume) acquired measures of body composition were assessed at baseline, 5-months, and 18-months. Results. RT+CR participants lost 7.1±2.4 kg during intervention (74% of weight lost as fat mass and 26% as lean

mass; all  $p < 0.01$ ), while RT-only participants did not change weight ( $0.3 \pm 1.8$  kg,  $p = 0.64$ ). Differential intervention effects were observed for all DXA and CT body composition measures at 5-months, although by 18-months, group differences persisted only for weight (RT+CR:  $81.6 \pm 10.0$  kg vs. RT-only:  $88.5 \pm 14.9$  kg;  $p = 0.03$ ) and lean mass (RT+CR:  $50.8 \pm 9.3$  kg vs. RT-only:  $54.4 \pm 12.0$  kg;  $p < 0.01$ ). All RT+CR participants regained weight during the follow-up period ( $4.8 \pm 2.6$  kg; range: 0.4-9.1 kg). Total body fat mass and thigh fat volume (total, subcutaneous and intermuscular) increased during the follow-up period, while percent total body lean mass and thigh muscle volume decreased in RT+CR participants (all  $p < 0.05$ ). Conclusions. Data suggest fat mass accretion but lean mass loss, both globally and regionally, in older adults in the year following completion of a weight loss program.

#### **HIGH DIETARY ACID LOAD CORRELATES WITH FASTER DECLINE IN KIDNEY FUNCTION IN ELDERLY: HEALTH ABC STUDY**

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High dietary acid load has recently emerged as a potential risk factor for the progression of chronic kidney disease (CKD), however, its effects on the loss of kidney function with aging are unknown. We examined dietary acid load as net endogenous acid production (NEAP, a balance of acid-producing dietary protein vs. base-producing fruits and vegetables) in 1315 individuals (73-79 years of age) from the Health Aging and Body Composition cohort (Health ABC). Estimated GFR was calculated from plasma cystatin C measured in years 3 and 10, using the CKDEpi equation (eGFRcys). Change in eGFRcys was calculated as  $(eGFR_{year10} - eGFR_{year3}) / 7$ . NEAP was calculated from food frequency questionnaires collected at the year 2 Health ABC assessment and adjusted to average caloric intake. Average NEAP was 56.9 mEq/day ( $sd = 23.5$ ) and the eGFRcys decline average was  $-1.23$  ml/min/1.73m<sup>2</sup>/year ( $se = 0.14$ ). The rate of decline of eGFRcys was greater for those with higher baseline NEAP levels ( $p = 0.011$ ): average (se) annual decline rates for those with low (<30), average (30-99) and high NEAP (>100mEq/day) were:  $-0.78(0.14)$ ,  $-1.22(0.09)$ , and  $-1.60(0.48)$  ml/year, respectively, in unadjusted analysis. These results persisted after adjustment for age, race, gender, baseline eGFR and urine albumin/creatinine ratio ( $p = 0.046$ ). In conclusion, our results indicate that high net dietary acid load is associated with a greater rate of decline in eGFR in elderly individuals.

#### **THE STUDY ON GLOBAL AGEING AND ADULT HEALTH (SAGE): GLOBAL TRENDS IN OBESITY AMONG OLDER ADULTS**

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An increasing prevalence of adult obesity in higher income nations is well documented but less information is available about prevalence in lower income countries and among older age groups. The present study uses nationally-representative samples of older adults (50+ years old) from the Study on global AGEing and adult health (SAGE) Wave 1 to examine obesity prevalence in six middle-income countries (China, Ghana, India, Mexico, Russia, and South Africa). Measurements of height, weight (for body mass index [BMI; kg/m<sup>2</sup>], and waist circumference (WC; cm) were obtained. Weighted prevalence estimates were calculated for standard BMI categories (underweight, normal, overweight, obese) and WC categories (normal, increased risk) by sex and country; modified BMI and WC cutoffs were used in China and India.

Between countries, men had major differences in prevalence of underweight (0.5% in Mexico to 40.3% in India) and obesity (4.3% in India to 39.3% in South Africa). Substantial variation was also seen in women in prevalence of underweight (0.7% in Mexico to 38.7% in India) and obesity (8.4% in India to 52.7% in South Africa). Significant differences in BMI and WC were seen between age groups (50-59, 60-69, 70-79, 80+ years) in Mexico, Ghana, and India. Older adults from Mexico and South Africa had high obesity levels, with substantial burden from malnutrition in India. Viewers of this poster will gain an appreciation for the extent to which obesity prevalence varies among older adults within and between a diverse set of middle-income nations. Support: NIH NIA YA1323-08-CN-0020; NIH R01-AG034479

#### **NUTRITIONAL ASSESSMENT OF BRAZILIAN NONAGENARIANS**

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Background: Given the importance of identifying nutritional needs, dietary intake of centenarians and other nonagenarians groups has been studied on several prospects, dietary patterns of the nonagenarians as well as predictors of nutritional deficiency in this population. Methods: The study population consisted of elderly aged over 90 years living in Porto Alegre. The nutritional assessment was conducted analyzing dietary parameters, such as 24 hours Food Recall and Food Frequency Questionnaire (FFQ). We also checked the anthropometric, biochemical and socioeconomic characteristics. Results: We evaluated 44 elderly, 33 (75%) women and 11 (25%) men. The nonagenarians respondents, 31 (72%) did not need financial assistance to buy food, but only 31% purchased or participated in the acquisition of food. Participation in the preparation of their own meal was 29.5%, and 20.5% said the longevity prepare your meal without assistance. Men had a higher socioeconomic status than women, with significant  $p = 0.0174$ . It was verified low calcium intake, fruit and vegetables and high consumption of sweet foods and drinks. Conclusion: In this study we found that most of the oldest patient was outside the nutritional risk and total caloric intake of the oldest was adequate. However we observed some important micronutrient deficiencies. In this case, the oldest of nutritional assessment was of paramount importance, since it allows developing strategies for implementing nutritional interventions directed in order to meet the demands of this population and consequently generate improved quality of life. Keywords: Nutritional assessment, nonagenarians, nutrition, eating habits.

#### **ATTITUDINAL PERCEPTION AND GENDER VARIATION AMONG SENIOR DENTAL STUDENTS TOWARDS THE ELDERLY**

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In 2040, the elderly population is projected to reach 20% of the US total population. studies have shown that students in medical and dental programs are still reluctant to work with the elderly. This reluctance has been shown to be associated with negative attitudes imparted upon the elderly. The purpose of this study is to survey senior dental students at The Ohio State University College of Dentistry (OSU COD) prior to and after completing their Geriatric Dentistry (GD) rotation toward the elderly and identify any variables such as gender that may influence students' perception. Method: A two-stage survey was configured and distributed to senior dental students. A total of 94 responses were received comprising 56 male and 38 female students. Questionnaires were distributed before and after completion of their geriatric program. Attitudinal perceptions were compared using the Rosencranz and McNevin Aging Semantics Differential (ASD). The test measures attitudes in three dimensions: the instrumental-ineffective (I-I) dimension, the autonomous-dependent (AD) dimension and

the personal acceptability–unacceptability (PA-U) dimension. Students answered questions as to their age and gender. Results: No significant differences were found between the three dimensions prior to and after completing their GD training. However, there was a greater change in the female variables compared to the male’s following their training. Conclusion; Female students showed a greater positive change in their perception of the elderly after completion of GD training compared to male students. However, there was no significant difference in students’ attitudes before and after GD training.

#### **MULTIPLE TRAJECTORIES OF PERIODONTAL DISEASE AMONG OLDER AMERICANS: ROLE OF CHRONIC DISEASES**

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Following a person-centered approach, this research depicted distinct courses of periodontal disease among older Americans and ascertained how these trajectories were associated with chronic diseases (i.e., hypertension, heart disease, stroke, diabetes, and cancer). Data came from the Piedmont Dental Study, which involved repeated observations of 810 dentate individuals aged 65 and over in North Carolina from 1988 to 1994. Attachment loss (AL) and pocket depth (PD) were clinically assessed through a full-mouth probing and classified by the proportion of sites equal to or greater than 4mm. Group-based, semi-parametric mixture models (Proc Traj) were used for data analysis. For AL, four trajectories were identified: (a) low and stable AL (40.5%); (b) accelerated AL (8.2%); (c) moderate and fluctuating AL (21.3%); and (d) high and stable AL (30.1%). For PD, we also identified four trajectories: (a) low and stable PD (37.2%); (b) increasing PD (18.1%); (c) moderate but stable PD (18.6%); and (d) high but fluctuating PD (26.1%). Even when age, sex, race, education, and income were adjusted, heart disease and diabetes at the baseline significantly increased the risks of having trajectories of high and stable AP and high but fluctuating PD. Our data showed four distinct courses of change in periodontal disease over a five-year period. Whereas prior research has shown that oral health predicts heart disease and diabetes in old age, our findings suggest that these diseases may increase the risk for poor oral health as well. Supported by NIH/NIDCR (R21 DE019518-01, R01DE019110)

#### **PROFILING HYDRATION STATUS IN COMMUNITY-DWELLING OLDER ADULTS USING SALIVARY OSMOLALITY**

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Dehydration is an ongoing problem for older adults that can lead to increased morbidity and mortality. Older adults are often unaware of daily requirements for fluid intake, and because of age-related decreased thirst or concerns about incontinence, do not consume sufficient fluids. To better quantify the problem of under-hydration in community dwelling adults, this ongoing pilot project was conducted to: 1) evaluate feasibility of saliva collection in this population, and 2) profile salivary osmolality collected over three days. We recruited 25 older adults attending 2 senior centers in the greater Los Angeles area, 19 females and 4 males whose mean age was 79 years (range 65-94). In addition to demographics and salivary osmolality, data on dietary intake, health related information, and hydration habits were collected. We used a Fiske mini freezing-point osmometer to analyze the specimens. Although adequate amounts of saliva were collected, about 1% of specimens were difficult to analyze because of viscosity. Mean results ranged from 95-129 mOsmol/Kg. Although there are no established norms for salivary osmolality, these values are high when compared

with younger middle-aged adults of 60-90 mOsmol/Kg reported in the literature. Responses about hydration habits that may contribute to these findings are: 28% don’t feel thirsty, 24% don’t like to drink water, 28% don’t drink because of fear of incontinence, and 40% don’t know how much to drink. It is important to make older adults aware of the importance of hydration to overall health.

#### **THE ROLE OF TREATMENT IN EXPLAINING OBESITY TRAJECTORIES AND MORTALITY IN OLDER ADULTS: RESULTS FROM THE HEALTH AND RETIREMENT STUDY**

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Scientists have reported on the well-documented obesity epidemic including its negative health consequences. Recently, they have begun to explore weight trajectories over the life course and the potential impact of different patterns of weight gain and loss on health. However, very few studies have examined trajectories in older adults. A notable exception uses data from the Health and Retirement Study (HRS) to examine heterogeneity in body mass index (BMI) trajectories and mortality risk in adults over age 50. While the worst survival was for obese individuals who gained more weight as they aged, the overweight stable trajectory had the highest survival rate. This supports research suggesting that being slightly overweight may actually be considered healthy. The models controlled for covariates including baseline chronic health conditions affected by obesity. However, they did not consider medications and treatment for health conditions. We hypothesize that treatment for conditions like diabetes and heart conditions obscure the true effect of weight and weight gain on the risk of dying for middle age to older adults. We utilize data from three nationally-representative cohorts in the HRS through 2012. Our sample includes 26,582 in the age range of 51-81 yrs including 11,092 deaths over 14-20 years of follow-up. We employ Cox proportional hazard adding as covariates time-varying behavior and health status variables along with medication and treatment for blood pressure, diabetes, heart failure, stroke, and high cholesterol. Our analysis provides evidence that older age weight gain may be worse for mortality risk than previously estimated.

#### **SESSION 1020 (POSTER)**

##### **MENTAL HEALTH**

#### **INCIDENT DEPRESSION IN OLDER PRIMARY CARE PATIENTS: THE ROLE OF HOPELESSNESS AND SOCIAL SUPPORT**

L. Dong, J. Gallo, *Mental Health, The Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Objectives: Primary care doctors may ask about sadness but we hypothesized that hopelessness and poor social support may be stronger signals of risk for onset of depression among older adults. Methods: PROSPECT (Prevention of Suicide in Primary Care Elderly: Collaborative Trial) was a multi-site randomized controlled trial. For this study, the sample consisted of 552 adults aged 60 years and older who did not meet criteria for major or minor depression ascertained at baseline with the Structured Clinical Interview for DSM-IV disorders (SCID). The outcome was depression diagnosed by the SCID at follow-up over a 2-year period. Primary independent variables, hopelessness and social support, were assessed at baseline by the Beck Hopelessness Scale and Duke Social Support Index (DSSI) respectively. We used the life table method and pooled logistic regression to model discrete time events. Results: During the 2-year follow-up, 108 out of 552 participants developed depression (cumulative incidence, 22.4%). Hopeless patients were more likely to develop depression (Mild: Hazard Odds Ratio (HOR), 2.6; 95% Confidence Interval (CI), 1.6 to 4.2; P<0.0001. Moderate or Severe: HOR, 4.1; 95% CI, 2.0 to 8.2; P<0.001). Participants with

perceived social support scores below the first quartile of the study sample had 2.3 times greater risk for depression compared to those with full scores (95% CI, 1.3 to 4.0;  $P=0.005$ ). We did not find significant interactions between hopelessness and perceived or instrumental social support. Conclusion: Depression was common among older primary care patients, and hopelessness and poor social support signal an increased risk.

#### PHONE SCREENERS' ESTIMATION OF INITIAL EVALUATION ATTENDANCE AMONG ADULTS 50 OR OLDER WITH COMPLICATED GRIEF

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Non-attendance at scheduled appointments is problematic because it wastes valuable clinic resources and keeps patients from securing treatment. To better predict non-attendance, we added a measure of likelihood of intake attendance based on the phone screeners' perceptions. The study aim was to identify patient and clinic characteristics, including the measure above, that are associated with non-attendance at the initial evaluation in a complicated grief research clinic. This analysis examined 200 bereaved individuals 50 to 99 years of age who contacted our clinic and were scheduled for an evaluation after completing a phone screening interview. Of these, 148 attended a subsequent intake appointment, while 52 did not. Basic demographic variables, grief severity, time since the loss, relationship to the deceased, a previous mental health diagnosis, distress level during and at the end of the phone screen, as well as wait-time between the phone screen and intake and the likelihood of attendance measure were examined to identify characteristics associated with non-attendance. Logistic regression analyses showed significant results only for the likelihood of attendance measure. Participants with a 75% or higher likelihood of attendance estimate were significantly more likely to come for an intake appointment compared to participants with an estimate of 50% or less. Our results support the usefulness of the likelihood of attendance measure in predicting participants' attendance of an initial evaluation. Information that influenced phone screeners' judgments, including examples, will also be presented.

#### CEREBRAL STIMULATION IN A BIOFEEDBACK MODE: BENEFITS FOR MUSCLE STRENGTH IN ELDERLY INDIVIDUALS

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Objective: To investigate if a program of brain stimulation in the form of biofeedback training could improve quadriceps force production in elderly individuals. Method: Thirty subjects divided into two groups named experimental (EG) and control (CG). Stimulation photic/auditory was applied when subjects only mentally experienced the quadriceps muscle contraction. Related literature affirms this procedure being as effective as biofeedback training. Instrumentation: electroencephalogram was used to verify brain waves patterns, electromyography for quadriceps muscle signals and a stand up from a chair test to verify the subjects capability for repetitions. Results: Electroencephalogram data taken by scalp electrodes distributed in the international 10/20 format, did not show considerable brain waves difference between the

pre and post training scores for any group. In a similar comparison, electromyography signals during the stand up from a chair test increased by a 23% for the EG and remained same for the control one. Higher dispersion of the same signals was also observed. Mann Whitney test analysis indicated no differences between groups in terms of the quadriceps muscle activity ( $p=0.90$ ). The within group comparison performed by the t student test was of  $p>0.05$ . However, with a high tendency for statistical significance related to the EG ( $p=0.07$ ). Better performance of the EG was also verified on the stand up from a chair test, whose repetitions increased by 5.4% and the CG only 0.03%. Conclusions: Those above results may add new insights to therapeutic treatment of older functionally impaired individuals.

#### DEVELOPMENT OF THE FAMILY FUNCTION SCALE FOR MEASUREMENT OF FACTORS RELATING TO ELDERLY PEOPLE'S DEPRESSIVE TENDENCY

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BACKGROUND: Elderly people's depressive tendency is one of the risk factors for needing long-term care. It is suggested that issues with family relationships have the potential to influence elderly people; however, there are few evaluation scales for such a factor. OBJECTIVE: To develop a family function scale for depressive tendency among community-dwelling elderly people, and to establish its reliability and validity. METHODS: In a preliminary survey, we collected 43 items and selected 14 items associated with depressive tendency. The main survey was conducted through airmail. 2,000 randomly selected community-dwelling elderly people and one of their family members who was living with them in Tokyo. The questionnaire included health related variables and the selected scale items. RESULTS: A total of 659 elderly people (337 men and 322 women, mean age 72.6±5.0 years) were analyzed. A factor analysis was utilized, and a six-item scale was developed (Cronbach's alpha = 0.56). Those who scored high on this scale were found to have a higher depressive tendency. This scale correlated significantly with social support from family members, mental health, and interactions with a higher number of family members. CONCLUSION: We developed the Family Function Scale for measurement of factors relating to depressive tendency. It is composed of a six-item and one-factor structure, and it produced high validity and moderate reliability. The scale may be a useful scale to evaluate high risk elderly people for nursing care.

#### RESILIENCE, NEUROTICISM, AND HEALTH-RELATED OUTCOMES IN OLDER ADULTS

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There is growing recognition of the capacity of individuals to rebound favorably in response to stressful events in later life. At the same time, neuroticism is being studied as a potentially critical factor in the pathway to depression and other health-related outcomes such as functional disability among older adults. Little is known, however, about the relative importance of resilience and neuroticism as correlates of later life depression and functional disability. As part of a larger study on physiological and psychological roles of neuroticism in late life depression and cognitive impairment, we examined the extent to which resilience and neuroticism were associated with depression and dependence in conducting instrumental activities of daily living (IADL). In

this study sample (n=37), 84% were female with a mean age of 74 (range=63-89). Resilience, neuroticism, and IADL dependency were measured by the Brief Resilience Scale (BRS), the NEO-PI neuroticism subscale, and the Duke Depression Evaluation Schedule IADL scale, respectively. Subjects were classified as depressed or not based on clinical examination. Depressed subjects had lower resilience scores than non-depressed controls (mean BRS scores=16.8 and 24.4, respectively;  $p<0.001$ ), and higher neuroticism scores (mean scores=102.8 and 60.0, respectively;  $p<0.001$ ). In multivariate forward stepwise logistic regression analyses predicting depression, BRS entered the model first (odds ratio=0.53; 95%CI=0.34-0.84;  $p=0.007$ ) and neuroticism did not achieve statistical significance. Similar results were found when IADL dependency was examined (BRS odds ratio=0.78; 95%CI=0.64-0.94;  $p=0.01$ ). We concluded that resilience should be considered when examining neuroticism's role in depression and IADL disability among older adults.

#### **CAUSE OF DEATH IN OLDER ADULTS WITH AND WITHOUT DEPRESSIVE SYMPTOMS**

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Background: Depression predicts mortality, but it is less clear which causes of death are most closely associated with depressive symptoms. Objective: To determine which causes of death are associated with depressive symptoms. Methods: Prospective cohort study. Sample: 1751 community-living older adults were interviewed in 1991 and followed over five years. Measures: Age and gender; the Center for Epidemiological Studies – Depression (CES-D) scale was used to measure depressive symptoms using a cut-point of 15/16. Death certificates were obtained for those who agreed, and were reviewed independently by two reviewers using ICD-9CM diagnostic groups. Reviewers were blinded to other data. Analysis: Multinomial logistic regression models were constructed, with specific causes of death compared to the reference category of being alive at time 2. Results: 14% of the sample had depressive symptoms at time 1. Death certificates were available for 253 of the 429 participants (59%) who died. Those with depressive symptoms were more likely to die from cardiac causes (Odds Ratio (OR)=1.97; 95% confidence interval (CI)=1.18, 3.27); stroke (OR=4.83; 95% CI=1.84, 12.6); respiratory failure (OR=6.74; 95% CI=2.56, 17.7) or non-specific causes (OR=4.04; 95% CI=1.69, 9.70). Depressive symptoms were not associated with deaths due to infections, neoplasms, or renal failure. Conclusions: Depressive symptoms may be associated with cardiovascular death more strongly than neoplastic or infectious causes of death.

#### **CONCORDANCE BETWEEN CLINICAL DIAGNOSIS AND MEDICARE CLAIMS OF DEPRESSION AMONG OLDER PRIMARY CARE PATIENTS**

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Objective: To identify patient characteristics associated with concordance of clinically identified depression with Medicare claims. Design: Cohort of 742 older primary care patients linked to Medicare claims data. Measurements: Structured Clinical Interview for DSM-IV major depressive disorder (MDD) and clinically-significant minor depression. Results: Among 474 patients with depression, 198 patients had a Medicare claim for depression (sensitivity: 42%, 95% confidence interval

(CI) 37% to 46%). Among 268 patients who did not meet criteria for depression, 235 patients did not have a Medicare claim for depression (specificity: 88%, 95% CI 83% to 91%). After adjustment for demographic and clinical characteristics, non-white participants were nearly twice as likely not to have Medicare claims for depression among patients who met criteria for depression (“false negatives”). Depression severity, hypertension, and chronic pulmonary disease were also significantly associated with decreased odds to be false negatives. In contrast, after covariate adjustment, white race, congestive heart failure, and chronic pulmonary disease were associated with increased odds of a Medicare claim for depression among patients who did not meet criteria for depression (“false positives”). Using weights based on the screened sample, the positive predictive value of a Medicare claim for depression was 66% (95% CI [63%, 69%]), while the negative predictive value was 77% (95% CI [76%, 78%]). Conclusion: Investigators using Medicare data to study depression must recognize that diagnoses of depression from Medicare data may be biased by patient ethnicity and the presence of medical comorbidity. Key words: claims analysis; depression; Medicare; primary health care

#### **THE EFFECT OF NURSE-LED PROBLEM-SOLVING THERAPY ON COPING, SELF-EFFICACY AND DEPRESSIVE SYMPTOMS FOR OLDER PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE: A RANDOMIZED CONTROLLED TRIAL**

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The purpose of this study was to examine the effects of problem-solving therapy (PST) on coping, self-efficacy, and depressive symptoms for older patients with chronic obstructive pulmonary disease (COPD). This was a randomized controlled trial with six-month follow-up. A total of 254 patients with COPD were recruited from 5 clinics in South Korea, screened and randomly allocated into the intervention and control groups, with 151 patients completing the study. Intervention with nurse-led PST (n=73) was compared to usual care (n=78). The PST program was developed to improve a patient's appraisal of problems (e.g., COPD symptom exacerbation) as a challenge or opportunity for benefit, which helps patients manage aggravating symptoms and maintain a healthy lifestyle. The PST program in this study was telephone-based and highly individualized format considering physical and mental condition of COPD patients. The patients included in the comparison group received usual care by their physicians. As a major finding, there were no group differences between the pre- and post-test scores of problem-oriented coping, self-efficacy and depressive symptoms. However, a subgroup analysis with clinically depressed patients with COPD (n=25) showed that depressive symptoms decreased and self-efficacy increased. Nurse-led PST offered to older patients with COPD did not demonstrate the effectiveness compared to usual care over six months, possibly due to the seasonal effect of the exacerbation of COPD and relatively high levels of self-efficacy in the study subjects at baseline. However, PST was effective to improve self-efficacy and decrease depressive symptoms for clinically depressed older patients.

#### **CARDIOVASCULAR OUTCOMES ASSOCIATED WITH LATE-ONSET DEPRESSION: THE JOHNS HOPKINS PRECURSOR STUDY**

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Background: The vascular depression hypothesis posits a relationship between cardiovascular outcomes and late-onset depression. We evaluated this hypothesis in the Johns Hopkins Precursors Study, a cohort of medical students that has been prospectively followed since

1948. **Methods:** We assessed the association of cardiovascular outcomes with onset of depression after age 50 in a cohort of 1,090 white male medical students. Diagnoses of depression and cardiovascular outcomes, which included coronary heart disease, stroke, and cardiovascular disease, were determined based on self-reports of the doctors and chart reviews in clinical consensus panels. We used Cox proportional hazard analyses to determine associations between cardiovascular outcomes and late-onset depression. **Results:** Participants contributed 21,510 person-years between age 50 and depression onset or censoring. After adjusting for age, diagnoses of coronary heart disease (Hazard ratio, HR = 1.42, 95% confidence interval, CI: 1.04, 1.92), stroke (HR = 1.89, 95% CI: 1.38, 2.59), and cardiovascular disease (HR = 1.82, 95% CI: 1.35, 2.46) were associated with hazards of developing late-onset depression. **Conclusions:** Findings are consistent with the vascular depression hypothesis that cardiovascular outcomes increase the risk of developing late-onset depression, which could help clinicians better identify late-onset depression after screening patients for cardiovascular diseases.

### CONCEPTUALIZING SUB-THRESHOLD GENERALIZED ANXIETY DISORDER IN OLDER ADULTS

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Symptoms and disorders of anxiety are highly prevalent among older adults, yet remain underdiagnosed. Previous findings have suggested that sub-threshold anxiety is more highly prevalent and of comparable clinical significance compared to full-blown anxiety. However, these studies have all conceptualized sub-threshold anxiety differently. The objective of this study was to determine the nature of differences between existing sub-threshold GAD criteria. A sample of 13,420 adults aged 55 years and older was derived from Wave 1 of the National Epidemiological Survey of Alcohol and Related Conditions (NESARC). Participants were stratified into asymptomatic (n=12,247), 12-month GAD (n=206), and one of two sub-threshold groups: at least 6 months of worry symptoms not meeting 12-month GAD criteria (n=635), or lifetime GAD without a 12-month diagnosis (n=332). The weighted prevalence of 12-month GAD, sub-threshold GAD with worry, and sub-threshold GAD with lifetime history were 1.36%, 4.53%, and 2.49%, respectively; and the combined prevalence of sub-threshold GAD was 7.03%. Both sub-threshold groups were interposed between 12-month GAD and asymptomatic groups based on disability and health variables. Both sub-threshold groups were very similar in terms of current health and disability; however, the lifetime group had greater lifetime psychiatric morbidity. Sub-threshold GAD is highly prevalent among older adults and represents a middle-ground between asymptomatic and full-blown GAD status. More work is needed to determine appropriate interventions, and their efficacy, in this sub-group.

### THE EFFECT OF ANTIDEPRESSANTS ON THE RISK OF STROKE AMONG OLDER ADULTS WHO DEVELOP DEPRESSION AFTER A TRAUMATIC BRAIN INJURY

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**Objective:** Traumatic brain injury (TBI) affects more than 80,000 adults 65 or older each year. TBI increases the risk of serious negative outcomes such as stroke. Elderly TBI patients have a high prevalence of depression and are often prescribed antidepressants, which can further increase the risk of stroke. The primary aim of this study was to determine if antidepressants increase the risk of stroke among older adults with incident depression following TBI. **Methods:** This was a ret-

spective cohort study of Medicare beneficiaries 65 or older who were diagnosed with depression post hospitalization for a TBI during 2006-2010. The primary exposure was new antidepressant use following TBI. New use was defined as having no antidepressant use during the six months prior to TBI. Antidepressant use was obtained from Medicare Part D prescription drug event files, and was categorized as selective serotonin reuptake inhibitor (SSRI) use, all other antidepressant use, or no use. The primary outcome was the occurrence of ischemic or hemorrhagic stroke, defined by inpatient claims. **Results:** Of the 8,095 beneficiaries with incident depression post-TBI, 5,475 (67.6%) were new users of antidepressants. In adjusted regression analysis, the relative risk of stroke was 0.96 (95% confidence interval (CI): 0.81, 1.14) for SSRI use and 0.95 (95% CI: 0.75, 1.20) for all other antidepressant use, compared to no use. **Conclusion:** These results suggest that there is not enough evidence to indicate a significant association between antidepressant use and risk of stroke among older TBI patients with incident depression.

### LOW SELF-RATING OF OUTGOING FREQUENCY CAUSES MENTAL DISTRESS AMONG COMMUNITY-DWELLING ELDERLY PEOPLE?

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**OBJECTIVE:** The aim of this study was to confirm low self-rating of outgoing frequency are predictors of future mental health outcomes among community-dwelling elderly people. **METHODS:** We conducted a population-based cohort study of 24 months term with the elderly population (age 65-89) in rural community of Akita Prefecture using self-administered questionnaires. 69.6% of the baseline participants (1,259 out of 1,808 people) responded for the follow-up survey. Mental distress was assessed using the 6-item Kessler Psychological Distress Scale (K6). The scores of K6 were ranged from 0 to 24, and a score of 9 and above indicated psychological distress. Outgoing frequency was self-rated by asking the following question "How often do you think you get out of the house?" with 4-point Likert scale, "very often", "often", "rare", "very rare". Logistic regression analysis examined correlations between self-rating of outgoing frequency and mental distress, independently of potential confounders. **RESULTS:** 68 (7.6%) of the 893 subjects without mental distress (K6<9) at the baseline was found to have mental distress (K6≥9) at follow up study. Multiple logistic regression analysis adjusted for age and sex revealed that the adjusted odds ratio of low self-rating of outgoing frequency ("rare" and "very rare") vs. high self-rating of outgoing frequency ("very often" and "often") for mental distress (K6≥9) was 2.36 (95%CI: 1.36-4.11). **Conclusion:** Our results suggest low self-rating of outgoing frequency is a risk factor for mental distress among community-dwelling elderly.

### EMOTIONAL DISTRESS IN OLDER ADULTS WITH DIABETES: A MULTILEVEL LONGITUDINAL STUDY

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**Background:** Approximately 27% of older adults living with diabetes are affected by depression. Health and Retirement Study data were used to examine factors influencing emotional distress in older adults with diabetes, and to learn whether these distress trajectories differ from older adults without diabetes. The model investigated the influence of life course factors, and internal, external, and health-related resources on distress over ten years among a nationally representative sample of older adults ages 50-89. **Methods:** This longitudinal panel study tested a multilevel random intercept multinomial ordered categorical model with a two-nested-level structure using empirical Bayes Markov-chain-Monte-Carlo (MCMC) estimation. The model examined individual differences in distress over ten years (2000-2010), testing multiple potential predictors which were either time-variant within-person or time-invariant between-person data. **Results:** Overall, 52.8% of

the sample reported one or more depression symptoms in 2000, and by 2010, the number decreased to 51.0%. Individuals with diabetes had a 63% probability of having depression symptoms in 2000, and 61% in 2010, compared to 48% and 47% respectively of those without diabetes. Significant two-way interaction effects were detected between having diabetes and absence of spouse/partner in the home, and having diabetes and rating their perceived health to be less positive; each resulted in higher probabilities of depression symptoms. Conclusions: Individuals with diabetes were more likely to have symptoms of depression than those without diabetes; differences persisted over time. Having a spouse/partner in the home and positive perceived health were protective factors against the probability of having symptoms of depression.

### **DEPRESSION AND PERCEIVED STRESS AMONG WOMEN DEMENTIA CAREGIVERS: EXAMINING THE INFLUENCE OF SPIRITUALITY AND RESOURCEFULNESS**

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Providing care for elders with dementia has been linked with increased stress and depressive symptoms. Although research suggests that caregivers with greater resourcefulness and spirituality may have better health outcomes and psychological well-being, studies have not examined whether caregivers who are highly resourceful as well as spiritual have greater psychological well-being than those who are less resourceful and spiritual. This secondary analysis of data obtained from 138 women caregivers of elders with dementia, examined the combined effects resourcefulness and spirituality on the caregivers' stress and depressive symptoms. Using the median split technique (e.g., high spirituality above median), four groups were formed: Low spirituality and Low resourcefulness (LSLR); Low spirituality and High resourcefulness (LSHR); High spirituality and Low resourcefulness (HSLR); and High spirituality and High resourcefulness (HSHR). Findings from regression analyses reveal lower depressive symptoms among all three groups compared to LSLR group. However, only HSHR group experienced significantly lower perceived stress. The results suggest that resourcefulness and spirituality had a combined effect on dementia caregivers' psychological wellbeing. Higher resourcefulness and higher spirituality had a negative effect on depressive symptoms and perceived stress among the women dementia caregivers. This study highlights the significance of resourcefulness and spirituality for enhancing caregiver's psychological well-being and it provides evidence for the need to incorporate these components into future interventions to reduce stress and depressive symptoms among women dementia caregivers.

### **TRENDS IN SUICIDE RATES AND ASSOCIATED MEDICAL CONDITIONS IN THE UNITED STATES AMONG PERSONS AGED 65 AND OLDER, 2000-2010**

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Introduction: Death due to intentional self-harm (suicide) is the 10th leading cause of death in the United States. We examined national multiple-cause-of-death (MCD) data to better understand the trends and distribution of suicide mortality and associated conditions among older adults. Methods: Records of deaths caused by suicide in adults aged 65 and older were examined for 2000-2010. Using MCD data, decedents were identified using ICD-10 coding for "intentional self-harm" (X60-X84). Poisson regression analysis was performed to model mortality trends over time. A matched case-control analysis was conducted to describe the relationships between suicide and comorbid conditions that contributed to death. Results: A total of 60,315 deaths from suicide were identified. A majority were whites (92%, n=55,454) and males (84%, n=50,924). The age-adjusted rate ratio for males, using females as the referent group, was 7.04 (95% CI 6.90-7.18). Those aged 85 and

older had the highest age-specific mortality rate (17.03 per 100,000 population, 95% CI 16.69-17.38), as compared to the 65-74 and 75-84 age groups. Mortality rates indicate a downward trend over the 10-year study period, decreasing .41% per year (p<0.01). Several comorbid conditions were found to be associated with suicide: Depression (MOR = 18.33; 95% CI 17.04-19.71), pain (MOR = 3.61; 95% CI 3.11-4.19); and bipolar disorder (MOR = 2.15; 95% CI 1.67-2.77). Discussion: Elderly suicide's association to manageable conditions such as depression and pain suggest that it can be prevented. Suicide mortality is substantial and public health can play a stronger role in its reduction.

### **ANXIETY AND RISK OF COGNITIVE IMPAIRMENT IN OLDEST OLD WOMEN**

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Cognitive impairment in older adults is a significant public health problem. Accumulating evidence suggests that depression may increase risk of dementia. However, few studies focused on other common mental health problems, such as anxiety, as potential risk factors. In these analyses, we were interested in assessing whether anxiety, independent of depression, is associated with an increased risk for cognitive impairment. We utilized data of 1425 community-dwelling women aged 80 years and older (mean = 82.8 years) from the Study of Osteoporotic Fractures (SOF), a prospective cohort study. Goldberg Anxiety Scale (GAS) was used to assess anxiety symptoms at baseline (2002-2004) and an expert clinical panel adjudicated dementia and mild cognitive impairment (MCI) at follow-up (2006-2008). A total of 190 (13%) women met criteria for anxiety (GAS ≥ 5); 16% developed dementia and 24% developed MCI. After assessing bivariate associations between anxiety and our outcomes, we fit multivariable logistic regression models of dementia and MCI by anxiety, adjusted for potential confounders. At baseline, we found that women with clinically significant anxiety symptoms were more likely to have depressed mood, poor sleep, history of stroke and more functional impairments compared to those with fewer anxiety symptoms. In addition, they performed worse on 2 neuropsychological tests: Short Mini-Mental Status Exam at baseline and Category Fluency Test at follow-up. Nevertheless, our models showed that baseline anxiety was not associated with incident dementia, MCI or both combined. Despite their poor overall health, oldest old women with anxiety are not at increased risk for incident cognitive impairment.

### **LINKING WORK-STRESS TO NEGATIVE AND POSITIVE EMOTIONAL SUPPORT: FINDINGS FROM THE HEALTH AND RETIREMENT STUDY**

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Work stress plays an important role in the development and maintenance of cognitive functioning and health throughout adulthood and old age. However, relatively little is known about the role that work stress can have on the quality of social relationships and interactions outside of the workplace. Using data from the nationwide Health and Retirement Study (n = 2,768; M age = 61.03, SD = 8.37; 54% women), we examined the extent to which work stress is associated with positive and negative emotional support from one's spouse or partner. We used data from the psychosocial questionnaire administered in 2006 and 2010 to evaluate our research question. Results revealed that higher levels of work-related stress was associated with 4-year increases in negative emotional support and 4-year decreases in positive emotional support with one's spouse or partner. Put differently, lower levels of work-related stress was associated with 4-year increases in positive social interactions and less negative social interactions. Additionally, the effects of work stress remained significant regardless of socio-demographic factors (age, gender, and education). Our results suggest that stressors that occur in the workplace play an important role in relationship quality in midlife and

old age. Our discussion focuses on the importance of stress management in the work place for maintaining positive social interactions with loved ones, as well as developing further constructive social relationships.

#### **DEVELOPMENT OF SCALES TO DETERMINE THE ABILITIES OF PEOPLE WHO IMPLEMENT GROUP REMINISCENCE THERAPY**

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[Purpose]The present study was conducted to develop scales (questionnaire- and observation-based) to determine the ability to implement group reminiscence therapy, and examine their reliability and validity. [Methods]Scenes of group reminiscence therapy were recorded, observed, and classified into categories according to their similarities. A survey was conducted to develop the above-mentioned scales, and relationships with similar concepts, including Cronbach's alpha coefficient, professional autonomy, burnout, and coping, were taken into account to examine reliability and validity. In the development of the observation-based scale, the observation of three persons implementing reminiscence therapy was conducted twice using the recorded data to calculate Kendall's coefficient of contingency and examine the reliability of the scale. [Results]A scale including 35 items was first developed based on the observation results, and it was modified into a scale consisting of 27 items and six factors following simulation-based factor analysis. Cronbach's alpha coefficient of the questionnaire-based scale consisting of 27 items was 0.949, and moderate and significant correlations with similar concepts were noted. Kendall's coefficients of contingency of the observation-based scale for Subjects A, B, and C were 0.365, 0.330, and 0.291, respectively; all coefficients were significant. [Discussion]The reliability and validity of the scales (questionnaire- and observation-based) to determine the ability to implement group reminiscence therapy were established. It will also be necessary to create manuals, in addition to conducting further examinations of the reliability and validity, to increase the usefulness of the scales in practical settings. This work was supported by JSPS KAKENHI Grant Number 22592615

#### **SESSION 1025 (POSTER)**

##### **ACUTE CARE**

#### **CAUSES, INJURY TYPES, INJURY PLACES, HOSPITALIZATIONS AND DAYS LOST FROM WORK DUE TO INJURY AMONG OLDER ADULTS, UNITED STATES 1997-2013**

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Injury is recognized as an important contributor to the global burden of disease and initiatives in injury prevention and control are a major health concern. However, detailed information on injury causes, places and consequences among older adults is limited. Characterization of the nature and consequences of injuries in the older population is needed in order to direct priorities for prevention and evaluate the effectiveness of prevention programs in reducing the incidence of serious injury. An injury here refers to the traumatic event in which the person was injured from an external cause (e.g., fall). Data representing US older adults aged 65 years or older between 1997 and 2013 were retrieved from the Integrated Health Interview Series (IHIS), a harmonized database of the National Health Interview Surveys. The objective was to identify the cause of injury, the type of injury, where the person received medical advice, treatment, or follow-up care and gender differences in patterns of injury. We also explored what the person was doing at the time of the injury episode, and the place of occurrence. The consequences from injury such as hospitalizations and days lost from work were also investigated. Moreover, the IHIS allows us to make consistent comparisons across time of changes in injury. All individuals who completed injury

interviews were included and the analysis was performed in Stata. Our analysis addresses several gaps in the literature related to injury among older adults. The empirical investigation will help define intervention needs and enable more effective targeted, long-term preventions.

#### **DELIRIUM IN CATHETER-ASSOCIATED URINARY TRACT INFECTIONS**

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Background and aims. Indwelling urinary catheter (IUC) is a device commonly used in acute hospital wards, particularly in older patients. Its placement is related to negative outcomes like catheter-associated urinary tract infections (CAUTI) and delirium, both very frequent. Aim of this study is to evaluate if delirium develops more frequently in CAUTI than in UTI non-IUC related. Methods. Retrospective analysis of all patients directly and consecutively admitted to the Geriatric Clinic of San Gerardo University Hospital in Monza (Italy), between September 2012 and October 2013. A comprehensive geriatric assessment was obtained for all patients on admission. Delirium was screened with the Confusion Assessment Method algorithm. Results. We considered 209 patients who developed an UTI: 80 of them (38.3%, group 1) had no IUC; 129 (61.7%, group 2) had a CAUTI according to 2009 HICPAC guidelines. Prevalence of delirium was higher in group 2 than in group 1 (58.7% versus 32.5% respectively,  $p < 0.001$ ). Patients with CAUTI had lower mini-mental state examination scores, Katz's activities of daily living score, and albumin serum levels. On the contrary, they displayed higher C-reactive protein and creatinine serum concentrations than their non-IUC counterparts. Conclusions. In our study, patients with CAUTI had a higher prevalence of delirium. These patients were also more demented, disabled and malnourished. It is not possible to define if delirium prevalence was higher because of CAUTI or because these subjects were frailer. Anyway, these results suggest that more attention is needed in placing IUCs as they are the main risk factor for CAUTI.

#### **UNINTENDED CONSEQUENCES OF FALL PREVENTION STRATEGIES AMONG HOSPITALIZED OLDER ADULTS**

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Background: Falls among hospitalized older adults can result in longstanding pain, functional impairment, disability, premature nursing home admission, prolonged length of hospital stay and mortality. Patient falls are considered a nursing-sensitive quality indicator and responsibility for falls are often placed directly on nursing staff. Little is known about how nurses respond to this responsibility in their care of fall-risk patients. Method: Grounded Dimensional Analysis was used to explore how hospital registered nurses (RNs) care for older adult fall-risk patients. Forty RNs from two large hospitals in the Midwest were interviewed using open and focused questions. Open, axial, and selective coding was used to analyze the data. Results: Nurses indicated their care is focused on preventing falls through three primary strategies: general announcement of fall risk, structuring the patient, and structuring the staff. General announcement included using alarms and putting "fall risk" paraphernalia on the patient, the patient's medical record, and the patient's room. Structuring the patient included use of physical (low beds, bulky chairs) and/or verbal restraints (constant reminders to not move) to prevent the patient from moving. Structuring the staff included management enforcement of the staff rounding hourly, rushing to alarms, and being with the patient in the bathroom Conclusion: Consequences of the described fall prevention strategies include restrictions in patient privacy, mobility, and independence. Restricting mobility is especially concerning, as it may actually increase an older adult's risk



for falls. Research is needed to further explore the implications of such consequences.

### **THE IMPACT OF THE ENHANCED SENIORS TEAM (EST) ON ACUTE CARE OUTCOMES FOR FRAIL AND/OR AT-RISK OLDER ADULTS**

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The Enhanced Seniors Team (EST) is an interdisciplinary evidence-based gerontological model (e.g., nursing, case managers, occupational and physical therapy) created to screen incoming frail elderly patients identified as at risk of cognitive decline and/or loss of functional capacity. The EST was implemented in an urban hospital in British Columbia with the goals of reducing unnecessary health care utilization and the promotion of excellence in gerontological care. Analyses of administrative data compare the EST (n=662) to the control group (n=1763) on selected outcomes that include acute hospital days and discharge disposition (e.g. home, skilled nursing care, etc.). Independent t-test analyses indicate that patients in the EST group had 1.7 fewer acute hospital days ( $p < .001$ ) than the control group. Logistic regression models and odds-ratios indicate that patients in the EST group were 3 times more likely to be discharged home ( $p < .0000$ ) than patients in the control group. Multivariate regressions, controlling for age and comorbidities, indicate that the EST intervention was a significant predictor in reducing number of acute hospital days, days awaiting placement, and total hospital days. This evaluation suggests that the presence of a geriatric team had a significant impact on gerontological care. The availability of timely geriatric patient assessment, early, goal-oriented care planning, evidence-based interventions and improved coordination and collaboration between health professionals resulted in significantly shorter lengths of hospital stay and a greater likelihood of the frail older patient being discharged to home.

### **EDMONTON FRAIL SCALE (EFS) AND ITS ASSOCIATION WITH RECENT FALLS IN HOSPITALIZED ELDERLY - A PILOT STUDY**

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Background: Frailty is a state of increased vulnerability to catastrophic functional decline typically seen in older adults. The Edmonton Frail Scale (EFS) is a valid, reliable tool to assess frailty. The association between EFS and falls has not been tested in the hospitalized elderly. Objective: This study examined the association between EFS and falls. Methods: In this cross-sectional pilot study, subjects were recruited from the University of Alberta Hospital Geriatric and General Internal Medicine units. Those with medical instability, delirium or impending death were excluded. Frailty was assessed using the Edmonton Frail Scale (EFS). A dichotomous variable was to indicate absence or presence of recent fall prior to this hospital admission. Logistic regression analysis was performed to analyze the association of frailty with recent fall. Statistical analysis was performed with SPSS. A p-value of  $< 0.05$  was considered as significant. Results: 40 subjects were recruited [males=20, females=20, mean age 80.6 years (SD: 8.03)]. Sixteen subjects had recent falls (40%). The mean EFS score was 7.20 (SD 2.20). In the logistic regression analysis, there was a significant association between EFS and recent falls with more than 2-fold increase in the odds of recent fall (OR: 2.46; 95% CI: 1.21- 5.01;  $p < 0.01$ ) after adjusting for age, sex, postural hypotension, post-prandial hypotension, vision problems and osteoporosis. Conclusion: EFS were significantly associated with recent falls in this population. Routine screening for

frailty is indicated given this high prevalence and the potential that this knowledge may help to prevent falls.

### **ASSOCIATION OF HOSPITAL ADMISSION RISK PROFILE SCORE WITH NURSING FACILITY DISCHARGES IN HOSPITALIZED OLDER ADULTS**

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Introduction: The Hospital Admission Risk Profile (HARP) is a validated tool which identifies patients at risk for functional decline following a hospitalization. Its association with discharge disposition in hospitalized older adults has not been studied. Methods: We retrospectively identified 235 hospitalized patients aged  $\geq 70$  years old from a medical-surgical inpatient unit in a tertiary care hospital from October 2013 - February 2014. Patients with hospitalizations  $> 14$  days were excluded. All patients on admission were evaluated with a comprehensive geriatric assessment that included the HARP score based on patient age, an abbreviated mini-mental status examination, and pre-admission Instrumental Activities of Daily Living. Results: Mean age of the cohort was  $80.5 \pm 7.2$  years, 128 (54%) were female, with a mean length of stay of  $4.64 \pm 2.75$  days. We identified 70 (30%) high, 80 (34%) intermediate, and 85 (36%) low HARP score patients. Patients with high HARP scores were more likely to be female (60% vs. 40%;  $p = 0.053$ ), had similar length-of-stay (4.41 vs. 4.35 days;  $p = 0.087$ ), and were significantly more likely to be discharged to a nursing facility (43.5% vs. 27.1%;  $p = 0.026$ ) when compared to the low HARP score patients. Conclusion: The HARP score may potentially identify patients at increased risk for nursing facility discharge at the time of admission. Early identification of patients at risk for nursing facility discharge would allow for targeted inpatient interventions to prevent functional decline, more time for shared decision making with patients/families about post-acute care needs, and expedite discharge planning which could reduce unnecessary hospitalization time.

### **CONDITION OF CARE FOR PATIENTS WITH DEMENTIA AT ACUTE HOSPITALS IN JAPAN: COMPARISON WITH CARE FOR ELDERLY PATIENTS AND ANALYSIS OF THE EFFECT OF DEMENTIA STUDY EXPERIENCE**

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Purpose The purpose of this study was to investigate the condition of care for patients with dementia at acute hospitals as compared with that for general elderly patients, as well as the effect of dementia study experience. Methods Cross-sectional exploratory research design was conducted using self-description questionnaires. Participants were nurses working at acute hospitals in Tokyo possessing more than 300 beds. This research was conducted after approval from the first presenter's Institutional Review Board. Results Respondents were 335 nurses (318 female; mean nursing experience  $11.3 \pm 8.1$  years; mean age  $34.9 \pm 8.3$  years). The comparison between elderly patients and patients with dementia comprised contents on assessment, nursing practice, attitude toward patients, ensuring privacy, and considering the family. Significant differences ( $< .05$ ) were confirmed for each content topic. For assessment, scores for patients with dementia were significantly higher than those for elderly patients, whereas for attitude toward patients, ensuring privacy, and considering the family, scores were significantly lower. Nurses who participated in dementia lectures had significantly more knowledge about dementia, consideration of BPSD prevention, and work satisfaction. Discussion Nurses performed assessment of

patients with dementia more carefully than that of elderly patients, taking in consideration their patient's way of thinking. However, care that protects human dignity and ensures privacy was less performed than for elderly patients, so that an approach to improve the perception of nurses for patients with dementia is required. Co-researchers in Sweden and Thailand will also use the questionnaire and the three countries' results will be compared.

#### **THE BRIDGE PROGRAM: EARLY POST-DISCHARGE NURSE PRACTITIONER AND SOCIAL WORKER HOME VISITS REDUCE EMERGENCY ROOM VISITS AND READMISSIONS**

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Introduction: The transition from hospital to home is a vulnerable period for older patients. We will report on 6 month data from the Cleveland Veterans Affairs Medical Center "Bridge" program: a Nurse Practitioner (NP) and Social Worker (SW) conduct early - 2 and 5 days respectively - post-discharge home visits for patients 65 and older. The Bridge team addresses discharge plan non-adherence, lingering medical problems, and caregiver issues. Standard Home Based Hospital Primary Care (HBPC) visits by a registered nurse, dietitian and a physical/occupational therapist follow. Methods: This descriptive report of a convenience sample (the first patients to complete 6 months in Bridge) compares emergency room (ER) visits and hospitalizations 6 months pre and 6 months post Bridge initiation. Controls were discharged from the same hospital wards to the traditional HBPC program 1 year prior to Bridge. Results: 79 Bridge patients (MEAN age= 81) had 184 ER visits 6 months prior to index hospitalization and 99 ER visits 6 months post (46.2% reduction). The 91 Controls (MEAN age=75) had 71 ER visits 6 months prior and 111 ER visits 6 months post (56.3% increase)(chi square = 30.25, df = 1, p <.001). Bridge patients had 69 hospitalizations pre and 64 readmissions post (7.2% reduction), compared to Controls with 29 hospitalizations pre and 65 readmissions post (124% increase) (chi square = 9.93, df = 1, p = .002). Conclusions: A transitional care program consisting of early NP and SW visits with HBPC can reduce 6 month hospital ER visits and readmissions.

#### **HOSPITALIZATION FOR TOTAL HIP REPLACEMENTS: UNITED STATES, 2001-2010**

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Total hip replacement (THR) is performed to restore movement to patients whose hips have been damaged by osteoarthritis, late-stage degenerative bone and cartilage disease, or other injuries and disease. The number of THRs is expected to continue to increase in the coming decades. Artificial hips are expected to last 15 or 20 years before a revision is needed. This poster uses data from the National Hospital Discharge Survey (NHDS) to present trends in THR by age group. The number and rate of THRs have increased significantly between 2001 and 2010 among all age groups. The largest increases in absolute numbers and percentages were among those aged 55 to 64. The distribution by age group has also changed significantly. While in 2001, 61% of total hip replacements among adults were performed among those 65 and older, by 2010, this had dropped to 52%. The mean age among women decreased between 2001 and 2010 from 69 to 66. For all age groups under 75 years old, a routine discharge to the patient's home was the most common outcome. Among the 75 and older age group however, the most common outcome of hip replacement was a discharge to a long-term care facility, suggesting different locations for post-surgical rehabilitation by age group. The combination of decreasing age at THR and increasing life expectancy suggest that increasing numbers of people may need to replace an artificial hip replacement during their lifetime. These trends have implications for planning for rehabilitative care and hospital utilization in the coming decades.

#### **WAS THIS BROKEN BONE DUE TO ABUSE? CHARACTERISTICS OF POSSIBLE RED FLAGS FOR ELDER ABUSE IN OLDER ADULTS WITH FRACTURES**

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Background: Literature and clinical anecdotes suggest possible red flags for elder abuse, including bruising, head injury, burns, strangulation, malnutrition, dehydration, abrasion, laceration, pressure ulcers, weight loss, and signs of neglect. Fractures are also possible sequelae of physical abuse. This study examines the relationship between abuse/neglect red flags and characteristics of patients with fractures. Methods: Data on all medical center patients age 65+ (N=652) with a primary diagnosis of fracture over a 3 year period (2010 -2012) were examined. Variables included age, gender, race, fracture type, cause (E-codes), comorbidities (ICD-9), point of service, and number of visits. Eleven potential abuse/neglect indicators were summed. Descriptive statistics (t-tests and chi-squared tests) and regression models were analyzed. Results: The sample was 39% 80+, 58% female, 60% white. Falls accounted for 50% of fractures and 29% had multiple, most common being hip (26%), followed by chest (20%), head (18%), back (18%), arm (15%), and leg (11%). Younger elders (65-79) were more likely to have fractures of arm, chest, and leg. Older (80+) elders were more likely to have hip fractures. In a regression analysis predicting red-flag indicators, 80+ age (B=0.173, SE=0.073), seen somewhere than emergency department (B=-0.402, SE=0.097), multiple visits (B=0.123, SE=0.048), and back (B=0.284, SE=0.078) or head fracture (B=0.593, SE=0.097) were significantly associated with more red flag indicators of possible abuse or neglect. Conclusions: These preliminary findings suggest ways in which clinical markers may be used to explore the complex manifestation of elder abuse or neglect. Practice and research implications will be discussed.

#### **HOSPITALIZATION RATES OF FALL-RELATED EMERGENCY DEPARTMENT CASES INFLUENCED BY CELLULITIS LOCATION**

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Falls caused >21,000 unintentional injury-related deaths among adults  $\geq$  65 years in 2010 alone. Fall-related costs exceed \$81 billion annually. In addition, the care and treatment cost for cellulitis is great: with ~24/1000 (person-years) Americans affected and over 9 million office and emergency department (ED) visits, costing >\$98 million annually. Cross-sectional population-based data were evaluated using the 2009 Nationwide Emergency Department Sample, to assess hospitalization rates for ED patients admitted following a fall. The exposures of interest, upper extremity (UE) and lower extremity (LE) cellulitis, were identified from ICD-9 coded ED-diagnoses. The outcome of interest, hospitalization rates (/100,000), were estimated using weighted, tabular age-specific stratified analyses. Overall, hospitalization rate was associated with age. Among patients that presented to the ED with a fall as an external cause of injury, those with LE cellulitis showed 1.8-5.6 fold higher rates of post-ED hospitalization than did similar patients unaffected by cellulitis (p-values $\leq$ 0.05). Children older than 1 year, adolescents and adults with LE and UE cellulitis showed 2.2-8.2 fold higher hospitalization rates than unaffected ED patients (p-values $\leq$ 0.05). UE cellulitis increased hospitalization risk slightly for those 65 years of age or older, (RR=1.19, (1.18, 1.20)); conversely, similarly diagnosed adults and children younger than 65 years were less likely than those without cellulitis to be hospitalized (RR= 0.40-0.94, p-values  $\leq$ 0.05). Thus, while hospitalization rates increase with advancing age, location and co-occurrence of cellulitis among fall-related ED cases significantly influence hospitalization risk for infants, children and adults.

## DEMENTIA/DELIRIUM

**PAIN IN PERSONS WITH DEMENTIA: ASSOCIATION WITH DELIRIUM AND FUNCTION DURING REHABILITATION**

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Inadequate pain management for older adults during post-acute care may be a risk factor for delirium, a prevalent and costly neuropsychiatric syndrome. Unresolved pain is also a risk factor for poor physical function in this population. In older adults with cognitive impairments, pain is frequently unrecognized and under-treated because communication problems interfere with adequate assessment. Little data describe the association of pain with rehabilitation outcomes in people with dementia. The purpose of this exploratory study was to examine the effect pain has on delirium and functional outcomes in older adults with dementia who receive rehabilitation services. Data from an ongoing randomized clinical trial were used to address the aim of the study (ClinicalTrials.gov identifier: NCT01267682). Participants were 109 older adults with adjudicated dementia and delirium diagnoses on admission to post-acute care and who were randomized to control. These participants had a mean age of 86 years, a Charlson Co-morbidity Index of 2.79, and a Clinical Dementia Rating scale score of 1.21; 66% were female. We took daily observational measures of pain, delirium and function using the PAIN-AD, Confusion Assessment Method (CAM), and Barthel Index respectively. Controlling for age, gender, race, dementia stage, co-morbidity and facility, we used multilevel modeling to examine the daily relationship of pain to delirium and function. On days when pain was greater, delirium scores were higher ( $p < 0.0001$ ) and function was lower ( $p < 0.0006$ ). Adequate pain management is important to prevent adverse outcomes in this vulnerable population.

**IMPLEMENTATION OF THE CONFUSION ASSESSMENT METHOD ON THREE GERIATRIC UNITS**

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**Background:** The Confusion Assessment Method (CAM) is a validated tool used to screen for delirium. Elderly patients are at significant risk for developing delirium in hospital. Early identification and treatment of delirium results in improved outcomes, decreased mortality rates and shorter hospital stays. **Purpose:** To evaluate the training and implementation of the Confusion Assessment Method (CAM) on three geriatric units. **Methods:** A learning plan was developed to train nurses to screen for delirium using the CAM. This included a web-based independent component and group sessions. Post evaluation surveys of the training and implementation were completed. A retrospective chart review was conducted. Patients admitted less than 48 hours were excluded. **Results:** There was a strong correlation between liking the training and implementation of the CAM into practice. ( $p < 0.0001$ ) Overall the scores in evaluating the training and the perception of how helpful the CAM will be in clinical practice were high, 3.4 to 3.8, on a 4 point likert scale. The more the nurses liked the training the better they felt the CAM would be integrated into practice. Nurses who rated patients with a positive CAM found the CAM to be more helpful in screening for delirium than nurses who had not, scoring higher on confidence and helpfulness of the tool. An audit of 88 admission CAMs on three units revealed a compliance of 85.2%. **Conclusion:** This evaluation demonstrates the importance of providing educational modules with capacity building skills, best practice champions and a unit process for completing the CAM.

**MEDICATION NONADHERENCE AND HEALTH RESOURCE UTILIZATION IN COMMUNITY DWELLING PERSONS WITH MEMORY LOSS**

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Adherence to medication regimens is of vital importance to individuals undergoing treatment for chronic disorders, with cognitively impaired older adults representing a key group at risk for nonadherence. This study examined the relationship of medication nonadherence to health resource utilization among older adults with memory loss whose medications are being managed at home by a family caregiver. Patients with memory loss and their caregivers ( $n=91$  dyads) were recruited from the community for a randomized controlled trial of an intervention to promote safe medication management by caregivers in this population. Baseline interviews included measures of demographic and clinical characteristics, as well as frequencies of patients' unplanned medical office and emergency room (ER) visits. Medication nonadherence was measured using the Morisky Medication Adherence Questionnaire. Medication taking deficiencies were measured using an investigator developed Medication Deficiency Checklist. On average, patients had  $9+3.8$  chronic illnesses and took  $10+5.3$  daily medications. Twenty-seven percent of patients had an unplanned medical office visit and 12% percent had visited an ER within 60 days of study baseline. Binary logistic regression analyses showed that lower levels of medication adherence were associated with ER use (OR=0.03; 95% CI: 0.00-0.78), and revealed a trend toward a positive association between number of medication deficiencies and ER use (OR=1.34; 95% CI: 0.96-1.87). Neither medication nonadherence nor deficiencies were associated with unplanned medical office visits. Given the relationship between medication nonadherence and ER use, interventions to maximize adherence within this population have the potential to positively impact patients' health status and healthcare costs.

**HOSPITAL DISCHARGE COMMUNICATION REGARDING COGNITIVE STATUS FOR PATIENTS WITH DEMENTIA**

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Twenty-five percent of Medicare beneficiaries discharged to a Skilled Nursing Facility (SNF) experience re-hospitalization within 30 days. The majority of SNF patients have dementia, which increases re-hospitalization risk by 40%. Dementia patients also have an increased risk for hip fracture, which represents the largest category of readmissions from SNF. Research suggests that poor quality written hospital discharge communication contributes to re-hospitalization for dementia patients, who often cannot communicate their care needs. SNF providers have identified communication about patients' cognitive status as frequently missing, vague or inaccurate in discharge summaries—typically the only written discharge communication available to SNFs. The purpose of this study was to examine the extent and content of hospital discharge communication regarding cognitive status for SNF patients with dementia. Retrospective medical record abstraction of discharge summaries for patients with Medicare-documented dementia and a primary discharge diagnosis of hip fracture discharged from an academic hospital to a SNF during 2006-2008 identified prevalence of discharge communication of dementia diagnosis and vague statements about cognitive status ( $N=69$ ). Vague statements regarding cognitive status were transcribed verbatim and subsequently analyzed using Summative Content Analysis. Thirty-three percent of discharge summaries omitted information about dementia diagnosis completely. Only 13% included any statement regarding cognitive status, and all were vague. These included the words: "confused/confusion," "mental status change,"

“sundowning,” “waxing/waning,” “cognitive changes,” “cloudy mental state” and “disoriented.” Lack of detailed discharge communication regarding cognitive status may limit the SNF’s capacity to implement a safe plan of care and to identify meaningful changes in condition.

### **A BLENDED EDUCATIONAL INTERVENTION FOR DELIRIUM ASSESSMENT AND INTERVENTION AMONG NURSES ON A MEDICAL UNIT**

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Delirium is a serious health issue associated with poor clinical outcomes which include increased morbidity and mortality, increased use of chemical and physical restraints, and falls. Despite the high incidence of delirium and, its adverse outcomes and costs, it is often unrecognized, misdiagnosed or undertreated, by healthcare professionals and poor rates of delirium recognition remain a serious issue. The purpose of this study was to assess the feasibility and efficacy of a blended educational intervention for delirium assessment and intervention using a one-group pretest-posttest quasi-experimental design Data were collected from a delirium educational intervention (DEI) implemented among a nurses on a medical unit. The nurses received an educational packet, on site delirium education, followed by bedside teaching and utilization of a delirium assessment and intervention tool. After the training the nurses conducted assessments and provided non-pharmacologic interventions on their patients (N=643). There was no significant difference on the nurses’ pre-test (7.3) and post-test (8.93) delirium quiz knowledge scores. This may indicate that participants had some baseline nursing knowledge about delirium but may not have been screening due to lack of a standardized tool assessment tool or understanding of delirium interventions. Seven of 12 intervention categories were used more than 50% of the time. There were no significant gender differences for those patients diagnosed with delirium, patients with delirium were statistically significantly older. Data show the a blended educational intervention may improve patient outcomes and ultimately reduce healthcare costs for those at risk of delirium.

### **LONGITUDINAL ANALYSES OF FACTORS RELATED TO REJECTION OF CARE AND ABUSIVE BEHAVIORS IN DEMENTIA**

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Objective: The aim of this study is to analyze factors related to rejection of care (resistiveness to care) and abusive behaviors in nursing home residents with dementia. Methods: Relationship of lack of understanding, depression, psychosis and pain to rejection of care and abusive behaviors was explored using longitudinal Minimum Data Set (MDS) information on 1101 residents of Dutch nursing homes with dementia and four assessments within a period of 15 months. Presence of depressive symptoms was ascertained using a validated scale, and presence of lack of understanding, rejection of care, psychosis and pain through the individual MDS items. A structural equation modeling (SEM) approach and latent growth models were used to investigate the longitudinal relationship between changes in rejection of care and abusive behaviors and changes in lack of understanding, pain, depression and psychotic symptoms. Results: Changes in rejection of care were predicted by changes in lack of understanding and there was also a relationship between changes

in depression and rejection of care. Changes of abusive behavior related to changes in lack of understanding and depression. Pain and abusive behavior were unrelated. A mediation model suggested that a relationship of lack of understanding and depression with abusive behavior was mediated by rejection of care. Conclusions: These results indicate that the lack of understanding and depression are the most important factors in development of rejection of care, which may escalate into abusive behavior. Improvement in communication between residents and caregivers, and effective treatment of depression may prevent or ameliorate these behaviors.

### **LOW FREE LEPTIN AVAILABILITY AS RISK FACTOR FOR DEMENTIA IN CHILEAN OLDER PEOPLE**

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Background. Adipokines acting in certain brain regions. have been involved in the association between obesity and dementia. Objective To study the contribution of obesity and adipokines in developing dementia Methods. Follow up of ALEXANDROS cohorts, designed to study disability associated with obesity in Chilean older people. At baseline, 1374 subjects were free of dementia. Available participant in 2010 were 664 (71.2% women), 416 were died and 294 were lost to follow up. Among the 664 participants evaluated in 2010, 425 had frozen baseline blood samples available. Among the later, 29 (68.4% women) incident cases of dementia were identified. Leptin, soluble leptin receptor (sOB-R) and adiponectin were measured. Free leptin index (FLI) was calculated as the ratio of leptin over sOB-R. Dementia was defined with a MMSE score <22 and a score >5 in the Pfeiffer activities questionnaire. Results. At baseline a U shaped association between IMC categories and dementia was observed. No differences in Adiponectin were observed. Leptin was lower in cases (19.7ng/mL) than non-cases (25.0ng/mL), p=0.058; sOB-R was higher in demented than in non-demented (49.4 vs 33.6 ng/mL, p<0.001). FLI was lower in cases (0.53) than controls 1.04), p=0.05. After logistic regression analysis the sex, age and BMI adjusted OR of having dementia increased with higher log sOB-R (OR=3.44; 95%CI: 1.15-10.28, p=0.012) and the lower the log FLI (OR=0.62, 95%CI 0.419-0.919, p=0.017). Conclusion. Our results demonstrate lower availability of free leptin in demented than in non-demented indicating a role of leptin in cognition. Further studies are needed to clarify the mechanisms involved. Funded by Fondecyt grant 1130947

### **ASSOCIATION BETWEEN PHYSICAL FUNCTION AND RISK OF DEMENTIA**

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Introduction: Recent evidence suggests that physical function loss is associated with dementia symptoms. This prospective study investigated whether low physical function is a predictor for incident dementia in older adults. Methods: The Short Physical Performance Battery (SPPB) was used to measure physical performance at baseline in 3,043 healthy older adults enrolled in the Health, Aging and Body Composition Study. Physical function impairment was categorized according to SPPB scores as: ≤7 (Substantial), 8 (Moderate), 9 (Mild) and 10-12 (None). Incident dementia was determined as hospitalization that was directly related to dementia or was complicated by dementia. Modified Mini-Mental State Examination (3MS) scores were used to evaluate the effect of global cognition on the associations. Results: Baseline

3MS median score was 92 (Interquartile range: 86-96), indicating a predominantly cognitively healthy cohort of older adults (73.6±2.9 years). Over 11±4.73 years of follow-up, 582 (19.13%) participants developed dementia. Individuals with substantial impairment had a higher likelihood of incident dementia (Odds Ratio: 1.69; 95% Confidence Interval: 1.07-2.66) than individuals with no impairment after adjusting for demographics, 3MS score, socioeconomic factor, co-morbidities, ApoE4, alcohol use, smoking, and cytokines. Additionally, SPPB scores were similarly associated with risk of dementia in subgroups stratified at the median baseline 3MS score. Conclusions: Despite normal baseline cognition, older adults with low physical function are at increased risk of incident dementia. Further studies are needed to assess whether interventions to improve physical function may prevent or delay development of dementia among older adults.

#### **MOBILIZING SYSTEM-WIDE IMPLEMENTATION OF A DELIRIUM PROTOCOL**

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Rowan University-School of Osteopathic Medicine (ROWAN-SOM), New Jersey Institute for Successful Aging, was awarded a 5-year grant (7/1/2010-6/30/2015) by the U.S. Department of Health and Human Services-Health Resources and Services Administration, Bureau of Health Professions (DHHS-HRSA, BHP), to fund the New Jersey Geriatric Education Center (NJGEC). Inspira Health Network (IHN) is a consortium partner in the NJGEC and has undertaken an evidence-based interprofessional education/training and quality improvement project based on system-wide implementation of a delirium evidence-based practice. To ensure successful implementation in two hospitals of a comprehensive delirium assessment and intervention protocol in those patients identified as being "at risk" for developing delirium, critical foundational elements were put in place to prepare staff and provide the structure and processes to support protocol implementation. A nurse serving as the consortium site leader, a physician champion, and a Geriatric Resource Council of nurse champions spearheaded the effort. Delirium protocols and guidelines were developed. Based on feedback from a pilot program, a web-based training program via Healthstream was implemented between June 1, 2013-December 31, 2013. Of 350 nurses on adult floors caring for patients 65 and older, 99.43% (N=348) completed the training. Results of pre/post knowledge assessments for those nurses who consented to participate in the study will be presented. Uptake of the practice will be reported based on results of a retrospective chart review for the presence of accurate, complete delirium assessment tools. These will include a Mini-COG and CAM for patients meeting inclusion criteria. The poster will present challenges and lessons learned.

#### **COGNITIVE STATUS OF OLDER NURSING-HOME RESIDENTS: RESULTS OF A PREVALENCE STUDY IN TUSCANY, ITALY**

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Background and purpose. In the last 20 years, the case-mix of Italian nursing homes (NH) has deeply changed, especially for the increasing prevalence of residents with dementia-related problems and the consequent burden of care. At our knowledge no studies analyzed changes in cognitive status after institutionalization and prevalence of advanced

dementia in older NH residents in Italy. Our research, part of an Italian Ministry of Health Project, aimed to assess cognitive changes by Short-Portable-Mental-Questionnaire (SPMQ) in two waves 12-month apart and the prevalence of advanced dementia (stage 7 at the Global Deterioration Scale) in a large sample of older NH residents in Tuscany. Data were collected by trained NH staff. Results: 2732 residents in 67 NH (23% of those registered in Tuscany), were examined. When baseline and follow-up data were compared, 54% of residents showed no cognitive changes, whereas 20% deteriorated and 14% improved. Prevalence of advanced dementia was 28% of the sample (n=751), significantly larger in resident in NH for ≥12 months than in resident for <12 months (32% vs 18%, p<0.001). Conclusions: In our analysis, the great majority of older NH residents in Tuscany shows a preservation of cognitive function at one-year follow up, maybe due to appropriate assistance and therapeutic strategies. On the other hand, prevalence of advanced dementia in NH older resident is large, that entails the need of urgent adaptation of assistance strategies and staff-training to provide adequate end-of-life quality of care.

#### **PERCEPTIONS OF DEMENTIA AMONG ELDER CAREGIVERS**

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There are many misconceptions among adults of what dementia is and if it is a normal process of aging. There may be much anxiety and fear associated with getting older among young-old adults because of misconceptions. Palmore's seminal work indicated older adults, as well as younger aged college students, equally hold these misconceptions. The purpose of this study was to examine how older adults define dementia and if they think it is part of normal aging. The study participants are currently enrolled in the Louisiana Aging BRAIN Study (LABrainS), a prospective study on dementia development among older adult community-dwellers. Thirty three older adults, primarily women and Caucasian, were asked two open-ended questions: 1) Define dementia; and 2) if dementia is related to normal aging, and in what ways. The majority of these older adults signed up for the Project because they either had a positive family history of dementia in their first degree relatives (often parent), and/or are a caregiver of a family member with dementia. Interestingly, approximately one-third (33%) of the older adults had misconceptions about dementia, i.e., just a bad case of forgetting; the remaining noted it was a disease, brain damage. When asked if just a normal part of aging and to explain, 21% did not know if it was normal aging; the remaining noted that increased age increases likelihood of the disease. The results suggest there are many myths surrounding the disease process of dementia and many older adults may fear aging because of these misconceptions.

#### **FEASIBILITY OF PHYSIOLOGICAL AND OBSERVATIONAL METHODS IN PERSONS WITH DEMENTIA**

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The objective of this study was to test the feasibility of using a BioHarness system (BioHarness), the Cohen-Mansfield Agitation Inventory (CMAI), and the Verbal Behavior Scale (VBS) with older adults with moderate to severe dementia. The BioHarness consists of a garment belt with built in skin contacts worn around the torso with a monitoring device which collects and transmits physiological data (heart and respiration rate, and body temperature) and accelerometer data to a laptop. This observational study piloted the BioHarness in four participants, 2 male and 2 female; all African American, the mean age was 81 with a mean Mini Mental State Examination score of 9.5. Each participant was individually observed wearing the BioHarness for 2 hours. A checklist to determine tolerance of wearing the BioHarness was developed to guide the observation. The BioHarness was found to

be well tolerated and easy to put on and remove, transmitted a strong signal, and did not create restlessness or agitation. The participants were able to continue with their usual activities, and they did not try to remove the BioHarness. The results of the CMAI and VBS which were completed during the same observation period provided further support that the BioHarness did not precipitate behavioral disturbances. The BioHarness is a noninvasive method to collect biophysical data with persons with dementia without exacerbating behavioral disturbances. This study provides support for the use of the BioHarness as a method to measure biophysical data in persons with dementia during behavioral disturbances.

#### **WHAT BEHAVIORAL DISTURBANCES ARE EXHIBITED BY OLDER ADULTS DURING TRANSPORTATION TO AND FROM A PACE CENTER?**

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The purpose of this study was to explore van assistants' and van drivers' experiences with transporting older adults to and from a Program for All-Inclusive Care for the Elderly (PACE) center. Currently, no evidence exists regarding the scope or impact of behavioral disturbances on van transportation safety for elders accessing day services. This qualitative study solicited van assistants' and drivers' experiences with transporting 89% of one centers' members on vans. A total of 4 focus groups were held, 2 for van assistants (all Certified Nursing Assistants) and 2 for van drivers in August 2012. Our convenience sample consisted of 19 van assistants and 11 van drivers. Directed content analysis was used to analyze focus group data. Three prominent behaviors emerged from the data. The employees described: 1) being disturbed by PACE members' restlessness; 2) vocally abusive behaviors toward staff and other PACE members; and 3) physical aggression toward the van assistants and van drivers. Restlessness while the vans are in motion was identified as the most frequent disturbing behavior and includes members unbuckling their seatbelts and attempting to get out of their seats, and attempting to get off the van before arriving at the appropriate destination. The behaviors identified pose potential safety risks to the PACE centers' van assistants, the van drivers, and the members on the vans. This study is the first step in examining this important issue and in developing additional strategies for evaluating and managing behavioral disturbances and safety issues that occur among PACE center members.

#### **H2-RECEPTOR BLOCKER AND ANTIFUNGAL COMBINATION THERAPY IN MANAGING NURSING HOME RESIDENT WITH INAPPROPRIATE SEXUAL BEHAVIOR**

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Case study: An 87 y/o long-term, fully dependent Caucasian NH male with advanced Alzheimer's dementia, who began approaching female nursing home residents, staff, and visitors with hypersexual behavior. He was making inappropriate verbal and frequently physical sexual advances. His behavior was escalating during personal care which was found extremely disruptive and upsetting by nursing staff. These behaviors would occur randomly throughout the day and night without any precipitating factors. Non-pharmacological strategies, including redirection techniques were initially enacted with no success. Ativan was administered and caused more outbursts and agitation in the patient. Patient's Risperdal was tapered up but did not affect the frequency or intensity of the inappropriate behavior. After conducting a family meeting to review treatment options, Cimetidine, as an anti-androgenic agent, was started. Within one week, there was a 50% reduction in sexual behavior reported by nursing staff. Due to sub-optimal control of his sexual behavior, Ketoconazole was added to this regimen. Over the course of six weeks, inappropriate sexual behavior decreased to 10%. In an effort to de-escalate therapy, Ketoconazole was discontinued, and frequency of symptoms remained stable on Cimetidine.

dine alone. Patient remained on Cimetidine for the management of inappropriate sexual behavior without any apparent medication side effects. Discussion: This case illustrates the challenges faced by nursing homes, staff and medical providers in identifying, describing, and managing inappropriate sexual behaviors displayed by demented patients. This is an occurrence that frequently goes unreported with few off-label treatment methods available for use. Allowance for these behaviors can compromise the care provided in the nursing home and affect the morale of staff. With a lack of research data to support treatment interventions, and also potential side effects of hormonal therapy, effective miscellaneous agents such as H2 receptor blockers and antifungal medications, alone or in combination, could be tried first in the attempt to manage inappropriate sexual behaviors in demented patients.

#### **ADRD IN THE WORKPLACE: A CHALLENGE FOR EMPLOYERS**

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The Alzheimer's Association estimates that 5.3 million Americans have Alzheimer's Disease (AD) or a related disorder (ADRD) with approximately 500, 000 of these persons younger than 65. Moreover, the number of people affected by the disease will increase 350% by the middle of this century. Although there is some research on organizational policies with regards to caregivers, very little is known about how organizations deal with employees who are themselves experiencing the first stages of ADRD. This paper reports on a pilot study of 103 employers' responses to dementia as it impacts both caregiving employees and employees who themselves may be experiencing symptoms of cognitive impairment. Utilizing a web-based survey of human resource professionals, it examines the types of policies and practices that employers have for each of these groups and the areas in which they feel further assistance is needed. The particular questions being addressed explored the ways in which human resource professionals are responding to employees who are caregivers of persons with ADRD and how they respond to employees who may be showing symptoms of the disease. Generally, they were more familiar in working with caregivers than with impaired employees but they also felt that with the aging of the workforce, the subject was very important and that it was necessary to be proactive rather than reactive. Among their recommendations were more training in understanding the symptoms of ADRD and more flexible workplace policies that could better accommodate both caregiving employees and those employees who may have symptoms of ADRD.

#### **SESSION 1035 (POSTER)**

##### **CARDIOVASCULAR DISEASE**

##### **MANUAL OCCUPATION AND GOUT IN OLDER ADULTS: RESULTS FROM THE ATHEROSCLEROSIS RISK IN COMMUNITIES STUDY COHORT STUDY**

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Objective: We examined gout incidence in adults age fifty-five and older and tested whether socioeconomic status as indicated by working in a manual occupation in middle age and education predicted gout onset in older age using the Atherosclerosis Risk in Communities (ARIC) cohort. Methods: ARIC is a prospective population-based cohort study of adults (1987-1989) with ongoing follow-up (analytic population=11,958). The adjusted HR and 95% CI of incident gout by occupation type, education, and traditional risk factors in middle age were estimated using a Cox Proportional Hazards model. Results: The mean age of onset for participants with gout was 67.9 (SD 8.0) in women and 65.4 (SD 7.5) in men. Working in a manual occupation during middle age increased gout risk in older age for women (HR 1.36; 95% CI 1.03-1.80), but not for men (HR 0.89; 95% CI 0.71-1.13;

p=0.02 for interaction). Educational attainment was not associated with gout risk. Conclusions: Working in a manual occupation in middle age increased the risk for new-onset gout in women age fifty-five and older. Considering occupational history in addition to traditional risk factors could help identify those at risk of gout in older age.

### ELDERLY PATIENTS WITH ADVANCED HEART FAILURE IN GERMANY: A QUALITATIVE LONGITUDINAL STUDY ON THE PATIENTS' NEEDS AND EXPERIENCES

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Aims: Heart failure is a major cause of death in Germany and worldwide. In advanced stages it is associated with a high symptom burden and poor long-term prognosis. This study aims, for the first time in Germany, to prospectively explore the experiences and needs of elderly patients with advanced heart failure. Methods: Qualitative longitudinal study with 25 patients with advanced heart failure (NYHA III/IV), aged  $\geq 70$  years. Initial interviews were carried out during hospital admission followed by interviews at the patients' home every 3 months for up to 18 months. Interviews were tape-recorded and transcribed verbatim. Qualitative content analysis was conducted across and within the cases. Results: The mean age of the patients (14 female, 11 male) was 85 years (71-98 years). Overall 95 interviews were carried out. Qualitative analyses show that the patients do not focus heart failure as a genuine disease. Moreover, discomforts due to acute crisis or overlapping disease are central, as well as age associated health problems which progressively limit the activities of daily living. The salient loss of familiar concepts such as mental vigour, body image and autonomy matters most. Open questions about emerging needs of support or end of life-issues are recurrently unmet. Although the need for information and dialogue varies depending on changing conditions and individual preferences, a reliable person (e.g. family carer, family doctor) available to address these issues is highly appreciated. Conclusion: The needs of elderly patients with advanced heart failure are various and exceed the capabilities of a single person, e.g. a family doctor. To ensure continuity of care a multidimensional model is required which should be established including both various professions in the community and available family carers. Advanced care planning could be a start to communicate relevant issues of emerging care needs. Key words: advanced heart failure, end of life-care Funding: Robert Bosch Foundation

### CARDIOVASCULAR DISEASES AND LOWER HEMODYNAMIC PARAMETERS ARE ASSOCIATED WITH FRAILTY AMONG ELDERLY OUTPATIENTS: DATA FROM FRAGICOR I

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The association between Frailty and Cardiovascular diseases (CVDs) has been documented among older adults from community dwelling, but not yet among elderly outpatients. We hypothesized that, as more as any CVDs higher will be the association with frailty. Additionally, lower hemodynamic parameters (HPs) will increase this association. Aim: To evaluate the association among CVDs and lower PHs with frailty in elderly outpatients. Methods: Cross sectional analyses of FRAGICOR-I an epidemiologic study of 1 year about frailty and its outcomes among elderly outpatients of Cardiology Division of University (UNIFESP) Sao Paulo, Brazil. Variables at base line: CVDs (Diastolic or systolic heart failure -HF, atrial fibrillation -AF, Myocardial infarction

(>3months) -MI, Angina pectoris-AP, hypertension-HP) as individually as 3 or more (CVD3+) and PH: systolic (SBP) and diastolic blood pressure (DBP), heart rate (HR), ejection fraction (EF) categorized by quartiles; Frailty phenotype was classified by Fried Criteria. Results : 172 older adults, mean age of 77 ( $\pm 8,4$ ) years old initiate the cohort. Frailty was prevalent in 39.8%, pre frail 51.5% and robust 8.7%. Among Frailty, 60.3% were Caucasian and 67.7% female. Frailty was associated with MI, CVD3+, and lower quartile of SBP and DBP, described on table I. Table I – Binomial and Multinomial logistic regression analysis of CV and non CV actors and Frailty. Conclusion: Our data suggest that myocardial infarction and 3 or more any CVDs were significantly associated with Frailty. Additionally, lower diastolic and or systolic blood pressure was associated with Frailty independently of CVD. Binomial Multinomial OR CI(95%) p OR CI(95%) p Age (years) 1.08 1.02 – 1.14 0.005 Medication 1.20 1.05 – 1.37 0.007 Disability 4.12 2.13-7.95 <0.001 2.37 0.99-5.67 0,053 MI 2.41 1.41 – 4.12 0.001 3.01 1.09 – 8.34 0.033 CVD3+ 2.42 1.26 – 4.62 0.007 2.98 1.06-8.35 0.038 DBP <70 mmHg 21.50 3.88-118.93 <0.001 11.47 1.91-68.77 0.008 SBP<120mmHg 10.20 1.87-55,38 0.007 2.66 1.05-6.70 0.038 SBP and DBP 9.50 2.00-45.05 0.005 <9 years of education 0.39 0.18 – 0.88 0.023  $\geq 9$  years of education 0.2 0.06 – 0.84 0.026

### RENAL FUNCTION HAS A DIFFERENT EFFECT ON PREDICTING CVD RISK IN VARIOUS POPULATIONS - A CHINESE LONGITUDINAL STUDY

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Background: Chronic kidney disease (CKD) is generally considered an independent risk factor for cardiovascular disease (CVD) development, but rates in individuals with estimated glomerular filtration rate (eGFR)  $> 60$  ml/min/1.73 m<sup>2</sup> are uncertain. The purpose of this study was to examine the association exists between eGFR and Framingham global CVD risk score (FRS) in a Chinese population with no CKD or CVD. Method: A total of 333 participants were divided into three groups based on FRS. The Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation and CKD-EPI equation for Asians (CKD-EPI-ASIA) were used to measure eGFR. Result: A significant inverse association between eGFR and FRS was confirmed with Pearson correlation coefficients of -0.669, -0.698 (eGFRCKD-EPI,  $P < 0.01$ ) and -0.658, -0.690 (eGFRCKD-EPI-ASIA,  $P < 0.01$ ). This association gradually diminished with progression from the low- to high-risk groups (eGFRCKD-EPI,  $r = -0.615, -0.282, -0.197, P < 0.01, P < 0.01, P > 0.05$ ; similar results according to the CKD-EPI-ASIA equation). In the low- or moderate-risk new-groups, this association became stronger with increased FRS (eGFRCKD-EPI-ASIA,  $r = -0.557, -0.622$  or  $-0.326, -0.329, P < 0.01$ ). In contrast to the results from 2008, eGFR was independently associated with FRS following adjustment for traditional cardiovascular risk factors ( $P < 0.05$ ). Conclusion: Renal function has a different effect on predicting CVD risk in various populations. With increasing FRS and decreasing eGFR, it is also independently associated with CVD, even in individuals with eGFR  $> 60$  ml/min/1.73 m<sup>2</sup>.

## THE RELATIONSHIP BETWEEN STRESSFUL LIFE EXPERIENCES AND SELECTED CARDIOVASCULAR DISEASE RISK FACTORS IN MID-LIFE AND OLDER AFRICAN AMERICANS

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Cardiovascular disease (CVD) is the leading cause of death in the U.S. African Americans (AAs) have higher age-adjusted rates of CVD than Caucasians. Stressful life experiences are associated with CVD risk, especially hypertension and overweight/obesity. AAs may have higher cumulative stressful life experiences due to racism and discrimination, but few studies have examined the link of cumulative stress and CVD risk in this population. The purpose of this study was to determine the relationship of stressful life experiences (four items of Satisfaction with Life Scale,  $\alpha = .86$ ) and selected CVD risk factors (diastolic and systolic blood pressure [BP], BMI, and waist, abdomen, hip and waist/hip ratio circumferences) in mid-life and older African Americans participating in a 18 month church-based health intervention that included reducing stress as a key component. Participants were 104 mid-life and older African Americans (45+) from the broader study conducted in North Florida. Using the Transtheoretical model of change (TTM), analyses were performed at baseline, 6, 18 and 24 months to examine (a) how stressful life experiences are associated with CVD risk factors, and (b) how changes in participants' psychological competence and vulnerabilities over the course of intervention moderate the relationship between stressful life experiences and selected CVD risk factors. Results are discussed in relation to TTM theory and implications are provided for church-based health programs.

## AGING RELATED CHANGES IN BONE MINERAL DENSITY AND ITS ASSOCIATION WITH SUBCLINICAL ATHEROSCLEROSIS BIOMARKERS IN HEALTHY POPULATION IN CHINA

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Objective Both osteoporosis and atherosclerosis-related disease belong to the ordinary diseases of elderly. The aim of this study was to explore the changes of bone mineral density (BMD) with aging and its association with subclinical atherosclerosis biomarkers in healthy population in China. Method 505 qualified healthy subjects were screened from 1500 participants from fifteen communities in Shenyang between September 2007 and June 2008. The BMD was measured at the total hip and lumbar spine using dual-energy x-ray absorptiometry and categorized into the normal BMD (T score  $> -1.0$ ), osteopenia ( $-1.0 < T$  score  $< -2.5$ ), or osteoporosis (T score  $< -2.5$ ) groups. The ABI, PWV, and CIMT were measured to assess subclinical atherosclerosis. Results In women the lumbar BMD ( $r = -0.587$ ,  $p < 0.001$ ) and total hip BMD ( $r = -0.575$ ,  $p < 0.001$ ) were significantly correlated with age. However, in men only total hip BMD were significantly correlated with age ( $r = 0.251$ ,  $p < 0.001$ ). Total hip BMD was correlated with ABI in women after adjustment for age ( $r = 0.156$ , per SD decrease in ABI:  $-0.130$  g/cm<sup>2</sup>,  $p = 0.022$ ), and was borderline significant after full adjustment ( $P = 0.045$ ). Total hip BMD and lumbar spine BMD were not associated with ABI, PWV, and CIMT after full adjustment in participants without a fracture history. The risk of osteoporosis was not associated with ABI, PWV, and CIMT. Conclusion The changes of BMD with aging are different between women and men. The association between low

BMD and subclinical atherosclerosis biomarkers depends on the aging, blood pressure and internal environment.

## URINARY INCONTINENCE ABSORBENT PRODUCT USE IN ADULTS WITH HEART FAILURE

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Background/Introduction: Urinary Incontinence (UI) is prevalent among adults with heart failure (HF), but little is known about how they manage it. Understanding factors that explain use of widely available absorbent products may help clinicians target screening and patient education efforts to ensure evidence-based practices are incorporated into self-management. The aim of this study was to identify the factors that increased the odds of absorbent product use in incontinent adults with HF. Methods: An existing dataset from 296 adults with HF was used to determine prevalence of UI absorbent product use. Personal and disease-condition characteristics were examined using bivariate analyses and logistic regression. Results: UI was present in 134 (45%) adults with HF and 54 (40.3%) used absorbent products to manage UI. Majority were women (76%), white (74%), and single (51.8%). Mean age was 65.6 years (SD 16.5). About half reported becoming incontinent after HF diagnosis, and 65.8% did not seek help for UI. Variables significant at the  $p < 0.05$  level were entered into a regression model. No significant risk factors (age, HF stage, UI change over time, level of priority for UI treatment and help-seeking behavior) were identified except sex (female): OR 15.5 95% CI 6.49-37.23. Conclusion: Women with HF who use absorbent products to manage UI are potentially living with additional disease burden. Clinicians need to proactively ask about UI to learn about self-management strategies women are using and to provide evidence-based strategies to achieve optimal continence status and potentially improve the quality of life in this population.

## SESSION 1040 (POSTER)

### END OF LIFE CARE

#### THE ELDER PROJECT: EVALUATING END OF LIFE KNOWLEDGE AMONG HEALTH CARE PROVIDERS

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Purpose: This phase of the "Expanded Learning and Dedication to Elders in the Region" (ELDER) project focused on educating nurses, nursing assistants and healthcare professionals (N=60) from five long term or home care agencies about EOL care. Methods: EOL curriculum based on best practices from the EOL Nursing Education Consortium (ELNEC) (2009) was used to inform 10 sessions per agency over one year. Innovative teaching strategies used in sessions included role play, case study analysis, values clarification and self reflective exercises. Cultural variations, teamwork and collaboration in EOL care were emphasized. The ELNEC Knowledge Assessment Tool (KAT), adapted from the original works of Ferrell et al., (2005) was further modified to address participant variation in role and educational level, and was used to evaluate change in EOL knowledge. Qualitative data regarding benefits, challenges, and future opportunities derived from participation were also gathered. Outcomes: ELNEC-KAT mean post scores improved in all nine instrument subscales. Despite the heterogeneous sample, p values indicated significant improvement in four categories, suggesting improved knowledge post session participation. Additionally, qualitative results revealed participants: found sessions helpful; were able to list new EOL care knowledge obtained; stated



they had better understanding of palliative care and the way cultural differences may affect EOL decisions. Implications: Use of interactive group sessions for interprofessional education on EOL care was an effective venue in long term and home care settings. In this sample of heterogeneous health care workers, the modified ELNEC-KAT was effective in measuring changes in EOL care knowledge.

#### **PREDICTORS OF CARE SETTING TRANSFERS AT THE END OF LIFE**

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**Objective.** Transfers between different care settings at the end of life have been identified as potentially problematic. The objective of this study was to examine personal and system-related factors that predict transfers across care settings. **Methods.** The study was based a complete cohort of individuals aged 65 or older who had died in fiscal years 2003–04 to 2005–06 in the province of Manitoba, as determined from Vital Statistics data (N = 23,052). Administrative health care records (hospital, nursing home, home care) were used to identify transfers from one care setting to another in the last six months of life before death. We considered settings to be: home, home with home care, hospital, palliative care unit, and nursing home. **Results.** The number of transfers ranged from zero to 25; 30% of decedents had no transfers and 10% had 5 or more transfers. In multiple regression models, decedents 75–85 and 85+ years old were less likely to have transfers than those aged 65–74, and certain causes of death (sudden death, dementia, and acute myocardial infarction) were associated with fewer health care transitions. Higher hospital bed rates in the health care region, and higher home care use rates were associated with more transfers; higher physician rates and higher nursing home bed rates per region were associated with fewer transfers. Similar patterns emerged when comparing decedents with the most transfers (5 or more) to those with fewer transfers. **Conclusion.** There is considerable heterogeneity in transitions across health care settings among older adults who die in Manitoba. Transfers at the end of life are impacted by both personal factors and system-related factors.

#### **PROGNOSTICATION: A CONCEPT ANALYSIS**

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Prognostication of illness is of vital importance to older adults. Older adults have a great need for information regarding the expected time frame for their death. If their time to death is not as long as expected, they may not have had sufficient time to prepare their loved ones or their resources in a timely manner. If they live longer than expected, families may face a burden in caring for their loved one over a longer period of time. While this unexpected longer life is usually celebrated and families find it to be a joyful time, resources are stretched thin and expectations of family members may grow. A concept analysis of the term prognostication was performed. Part of this analysis included a literature review. Findings of the literature review revealed a substantial amount of scholarly sources including research articles and books. Topics covered by the articles were easily transferable to an older adult population including frailty and cancers often suffered by this cohort. The Palliative Prognostic Index was discussed. Often not used in the United States, the Palliative Prognostic Index is a reliable tool in assisting the health professionals accurately predict prognosis. Defining and exploring the topic of prognostication is the first step in learning how to apply this important concept.

#### **FEASIBILITY AND ACCEPTABILITY FOR ADVANCE CARE PLANNING READINESS AND GOAL-SETTING IN VETERANS**

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**Background:** Planning for future medical decisions is important for achieving end-of-life (EOL) wishes. Identifying readiness for an advance care planning (ACP) discussion can facilitate tailored patient-centered interventions. **Purpose:** To assess the feasibility and acceptability of ACP readiness assessment and goal setting in older Veterans. **Methods:** In a pilot study with chronically ill, older Veterans in long-term and outpatient settings, (n=23), subjects were assessed for readiness using a validated Steps in Planning tool and then were offered option to set an ACP goal. **Results:** Subjects (all male) were age 71.8±12.1 years, mostly white (90%), with some college (63%), urban/suburban (63%) and had all health care provided at VA (73%). In this chronically-ill sample with high healthcare utilization, stage of change at baseline was action/maintenance for naming a proxy (72.7%) and having a living will (95.5%). However, most subjects were precontemplative for other important components of ACP such as talking to their provider about EOL (54.5%) or quality vs. quantity of life (63.6%) and for discussing quality vs quantity with someone they trust (40.9%). With the intervention, these precontemplative scores decreased to 38.1%, 47.6% and 28.6% respectively. A month later, most subjects who remembered a goal reported completing it (91.7%). Satisfaction scores were high; subjects were comfortable with questions (85.7%) and discussing topic (81%), and satisfied with assessment process (95.3%). **Conclusions:** ACP is a multifaceted process. Assessing stage of change is feasible and may be an important first step in providing tailored, patient-centered care to assist patients in achieving their end-of-life wishes.

#### **ENABLING ADVANCE DIRECTIVE COMPLETION BY RURAL ALABAMA VETERANS: A PILOT STUDY – PRIMARY OUTCOMES**

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**Objectives:** The objectives of this study were to (1) test the feasibility of recruitment, randomization, and retention; (2) test the feasibility of a standardized Nurse-Supported Advance Care Planning Intervention; (3) evaluate the feasibility of the assessment process and data collection procedures; (4) evaluate the Veterans' satisfaction with the intervention and their Advance Directive decisions; and (5) evaluate preliminary effects of the Nurse-Supported Advance Care Planning Intervention. **Methods:** Alabama Veterans (N = 50) who received care through the Tuscaloosa VA Medical Center were randomized to either the Nurse-Supported Advance Care Planning Intervention (n = 33) or Care-as-Usual (n = 17) in a 2:1 ratio. The Nurse-Supported Advance Care Planning Intervention was a manualized education, support, and guidance session provided by a Registered Nurse that included information about risks, benefits, and alternatives of specific choices. **Results:** Predetermined expected outcomes for recruitment, randomization, retention, and data completion were met. Thirty-one (94%) of the participants randomized to the Nurse-Supported Advance Care Planning Intervention received the intervention. Thirty (94%) of the participants in the Nurse-Supported Advance Care Planning Intervention group completed an Advance Directive, and all reported satisfaction with their new Advance Directive decisions. **Conclusions:** The study design

is feasible with regard to recruitment, randomization, retention, assessment processes, and data collection. The Nurse-Supported Advance Care Planning Intervention can be conducted in a full-scale randomized controlled trial as in the pilot.

### **RACIAL/ETHNIC DIFFERENCES IN SITE OF DEATH AMONG US HOSPICE ENROLLEES: RESULTS FROM A NATIONAL STUDY**

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Recent research identifying racial/ethnic differences in care planning and utilization following hospice enrollment suggests that additional variation in other care quality indicators may exist. Notwithstanding, population-level research investigating racial/ethnic differences in site of death (SOD), a critical within-hospice outcome, remains relatively scarce. Identifying differences in SOD among hospice decedents is essential understanding disparities and improving the care quality of vulnerable populations at end of life. Using the 2007 wave of the National Home Health and Hospice Care Survey (NHHCS), this study investigated SOD differences among 3,661 White, Black, and Hispanic hospice decedents ages 65 and older. When weighted for national representation, these data represent 800,872 older adults. Adjusted mixed effects models were employed to test for racial/ethnic differences in 1) home death and, 2) hospital death. Tested predictors included patient age, gender, race/ethnicity, marital status, primary diagnosis, number of chronic conditions, and documented advance directives. Compared to White patients, Hispanic patients were less likely to die in the home (OR=0.643;  $p<.001$ ), and more likely to die in the hospital (OR=7.899;  $p<.001$ ). Additionally, patients with a documented advance directive were less likely to die in the hospital (OR=0.363;  $p=.002$ ). Although previous research has suggested that racial/ethnic differences in SOD may exist among hospice decedents, this study is among the first to report that such differences do exist, and that they persist following adjustment for care planning. Additional research is needed to better understand the factors associated with SOD among Hispanic hospice decedents, and to investigate SOD preference congruency in this population.

### **SESSION 1045 (POSTER)**

#### **LONG TERM CARE**

##### **EFFECTS OF A PREVENTIVE HOME VISITS WITH STRUCTURED ASSESSMENTS ON QUALITY OF LIFE IN FRAIL ELDERLS**

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The purpose of the randomized controlled trial (RCT) was to investigate effects on quality of life (QoL) of a preventive home visit program for frail elders living at home who were certified as being in the two lowest care levels under the Japanese long-term care system. The present program started in 2011 and included care manager visits every three months for two years, utilizing a structured assessment to prevent elderly frailty by systematically clarifying problem lists. A total of 360 elders living in three Japanese communities were recruited and randomly assigned to the intervention group (IG:  $n=179$ ) or the control group (CG:  $n=181$ ). QoL parameters (including ADLs, IADLs depression, cognitive capacity, daily life satisfaction, and self-efficacy for health promotion) were measured using a postal questionnaire at baseline and at 12- and 24-month follow-up visits. At 24 months, 15 persons in the IG had died vs 7 in the CG, and 5 persons in the IG were

in nursing homes vs 9 in the CG (not significant). The scores of ADLs in the CG declined more than those in the IG ( $p=0.0041$ ), particularly in the subgroup who had at least one ADL dependency at baseline ( $p=0.0297$ ). Changes over this period in scores for IADLs, depression, daily life satisfaction, cognitive capacity, and self-efficacy for health promotion did not differ between groups. The results suggest that a preventive home visit program could effectively reduce on ADL decline among frail elders, especially those with baseline ADL dependency.

##### **RANKING GOALS PRIORITY OF PRESCRIBING DRUG THERAPY FOR NURSING HOME (NH) RESIDENTS AMONG THE 3RD YEAR MEDICAL STUDENTS: A PILOT NEW WAY TO TEACH PHARMACOLOGY**

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Background: integrating patients' value and preference of goals is not covered in traditional way to teach pharmacology. Previous study has shown that goals priority of drug therapy for geriatric patients from clinic and nursing home was symptom relief and improving function among patients, families, and medical interns. However, it is unknown how medical students rank goals priority of drug therapy for frail NH residents. This pilot study is to explore the third medical students how to rank goals priority of prescribing drug therapy for NH residents among five goals: 1). Relieve symptoms; 2). Reduce complications; 3). Live longer; 4). Reduce hospitalization; 5). Improve independent function. This could help medical educator design a new way to teach pharmacology in undergraduate medical education. Methodology: It was an observational study. Two-week geriatrics rotation was required for all third year medical students. One of clinical rotation sites was NH. After the 3rd year students interviewed and examined patients, they presented the case to the preceptor (author). At the end of presentation, the author asked students to rank goals priority of drug therapy for the NH residents they saw. Five goals were ranked from most important to very important, important, less important, and maybe important. Descriptive analysis was performed using SPSS. Results: twenty seven 3rd year medical students rated goals priority of drug therapy for NH residents they saw. 48% medical students ranked preventing complications as most important or very important goal and 74% ranked living longer as less important or maybe important goal of prescribing drug therapy for their patients. However, ranking goals priority varied among medical students. Conclusions: This small pilot study demonstrated that the 3rd year medical students ranked preventing complications as top goal priority of drug therapy for NH residents. Life-prolonging was ranked as the lowest goal priority of drug therapy, which was consistent with previous findings. This could reflect the immediate effect of the organ-based teaching pharmacology in pre-clerkship and brief exposure of geriatrics. Patients' value and preference in drug therapy should be integrated with teaching pharmacology in undergraduate medical education.

##### **CLINICAL PLACEMENTS AND LONG TERM CARE: A SURVEY ASSESSMENT OF STUDENT NURSE ORIENTATION**

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Background: With the projected rise in the need for older adult nursing care, difficulties in recruitment and retention of nurses for gerontological nursing practice are identified in the literature as a significant societal concern. Research indicates that nurses find nursing home work to be less prestigious than other specialties that may require more technological proficiency. Researchers also report that a strong, supportive and welcoming orientation to this nursing specialty, when provided by the nursing leadership in the long term care (LTC) facility, may increase a student nurse's intention to choose this career specialty. The theory of reasoned action provides a useful framework for understanding the issues that guide a nurse's intention to follow a particular career

pathway. Purpose: To evaluate orientations for student nurses as they begin their placements in LTC facilities. Methods: A survey was first conducted via email with eleven associate nursing degree programs. The second phase included telephone interviews with 27 Directors of Nursing Services from the LTC facilities that provided placements for the nursing programs. Quantitative and qualitative survey data was analyzed. Results: In 22 of the 27 LTC facilities, orientations were accomplished with new hire employee orientations. The nursing programs reported gerontology-specific coursework used in pre-placement, with only 4 of the 11 reporting an orientation in the specific facility. Conclusions/Implications: Research is needed regarding the potential for student nurse orientations to increase the number of nurses who choose gerontological nursing as a career specialty and best strategies for structuring such orientations.

### **SLEEP AND DAYTIME ACTIVITIES IN ASSISTED LIVING RESIDENTS WITH DEMENTIA: PILOT OF A PERSON-CENTERED CARE INTERVENTION**

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Introduction: Evidence suggests that more daytime physical and social activities enhance the normal sleep-wake pattern in people with dementia. Person-centered dementia care (PCDC) aims to improve the well-being of people with dementia by fulfilling their individualized needs and engaging them in meaningful physical and social activities. This pilot study aimed to examine the effects of training staff in PCDC on sleep in assisted living residents with dementia. Methods: Pre-post controlled study of twenty-nine residents living in two dementia units at different assisted living facilities. Staff were trained in PCDC with 3 modules of classroom-based experiential learning plus supervision and support in practice. The sleep-wake patterns and daytime physical activities were measured using Actiwatch for three consecutive days. Dementia care mapping was used to estimate social activity. Statistical analyses were performed using descriptive statistics, independent t-test, Chi-square, and paired t-test statistics. Results: Seventeen residents from intervention unit and six residents from control unit completed the study. The intervention group had significantly more nighttime sleep at posttest than pretest. After adjusting for baseline differences, intervention group exhibited significantly less daytime napping and higher physical activity as measured by actigraphy. No significant differences were found in nighttime sleep, sleep latency, sleep efficiency, and social activities between two groups. Conclusions: PCDC approaches may be effective for improving sleep of residents with dementia. Randomized controlled studies of larger sample size are needed to confirm the beneficial effect of PCDC on sleep of assisted living residents with dementia.

### **THE UTILITY OF DO-NOT-HOSPITALIZE ORDERS IN REDUCING INAPPROPRIATE HOSPITALIZATIONS IN LONG-TERM CARE**

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BACKGROUND: Do-not-hospitalize (DNH) orders have been proposed as a mechanism for reducing burdensome care transitions for long term care residents, but they are infrequently used. Little work has been done to understand the role of these directives in nursing homes. METHODS: Data from LTCFocUS.org were used to identify nursing homes in Connecticut with hospitalization rates in the highest and lowest deciles. In-depth, semi-structured interviews are being conducted with key respondents, including physicians, nurses, social workers, and administrators. Interviews are ongoing to reach thematic saturation; 12 have been completed, at 3 facilities. Qualitative content analysis is being performed concurrently with data collection. RESULTS: Major themes emerging from the data are: (1) End-of-life hospitalizations are

not a priority. Nursing home staff concentrate efforts to reduce hospital transfers on identifying medical problems that can be treated in the facility. DNH orders are recognized as a way of limiting hospitalizations for end-of-life care, but such hospitalizations are not a primary focus. (2) A champion is needed. DNH orders are utilized more frequently when there is a leader who coordinates discussions and has a unified team. (3) Family perceptions remain a major barrier to DNH orders. Patients' families often lack the nursing home staff's understanding of the risks of hospitalizing frail elderly. CONCLUSIONS: Our interim analysis demonstrates that the limited use of DNH orders may reflect a need for nursing home staff to focus attention on end-of-life hospitalizations and more actively educate patients and families about the hazards of hospital transfers.

### **BURDEN OF HEPATITIS C AMONG ELDERS IN LONG-TERM CARE SETTINGS: A SYSTEMATIC REVIEW AND META-ANALYSIS**

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Background: Although hepatitis C virus (HCV) is the most frequent cause of acute viral hepatitis in elders, there is a paucity of data on HCV prevalence in older residents of long term care facilities (LTCFs). The objective of this study was to estimate HCV burden in LTCFs and identify risk factors for disease transmission. Methods: A systematic search of MEDLINE, PubMed, and Scopus was performed to identify original research on HCV prevalence in elders living in LTCFs, using PRISMA guidelines. HCV risk factors were identified and included if statistically significant in regression analysis. A pooled HCV prevalence was estimated using a random effects meta-analysis model; heterogeneity was assessed with Cochran Q and I<sup>2</sup> statistics. Results: Six studies met inclusion criteria. For all studies, primary objective was to assess HCV prevalence among institutionalized elders and primary outcome was HCV antibodies. Three were conducted in Europe and one each in the US, Canada, and Iran. All but one used a cross-sectional design. HCV prevalence varied from 1.4% to 11.8%. A pooled HCV prevalence of 3.3% (95% CI: 1.5%-7.2%) was estimated based on data from 1,920 LTCF residents; substantial heterogeneity was (Q=51.1, p<.001; I<sup>2</sup>=90.2). Significant risk factors for HCV include older age, female gender, transfusion history and short duration of LTCF residence. Conclusions: HCV infection is not uncommon in LTCFs. Precise estimation of prevalence was limited by heterogeneity between and within studies, as well as variation in sampling and recruitment methodologies. Routine surveillance for HCV infection of residents in LTCFs is warranted.

### **EVALUATING THE IMPACT OF ELDER-CLOWNING: AN INNOVATIVE APPROACH TO PERSON-CENTERED DEMENTIA CARE**

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Elder-clowning, which draws on artistic modalities such as music, humor, and slapstick, is a novel person-centered intervention for long-term care residents with dementia. The objectives of this study were to evaluate the impact of elder-clowning on challenging resident behaviors and quality of life, and health care practitioners' burden of care. Twenty-three residents and 16 practitioners in an urban long-term care home in central Canada participated. Each resident received two interactions per week with a pair of elder-clowns (approximately 9.5 minutes/visit) for 12 weeks. Outcome measures included the Neuropsychiatric Inven-

tory-Nursing Home Version, Dementia Care Mapping, the Cohen-Mansfield Agitation Inventory, and the Modified Nursing Care Assessment Scale. A significant decrease in challenging resident behaviors and a corresponding increase in quality of life were observed over 12 weeks. The results for burden of care were conflicting. Findings suggest that elder-clowning can reduce challenging behaviors and improve quality of life in residents with dementia.

#### THE INFLUENCE OF PERCEIVED PERSON-CENTERED CARE ON RESIDENTS' LIFE ADJUSTMENT AND SATISFACTION IN LONG-TERM CARE SETTINGS

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The recent trend of emphasizing person-centered care and homelike supportive environments in the care of older adults has become prevalent within long-term care settings. The term person-centered care is widely used and its underlying components have been well articulated in the literature. However, there are few valid instruments to measure the concept of person-centered care. Moreover, there is little empirical evidence delineating the relationship between person-centered care and the resulting outcomes in long-term care settings. The purpose of this study was to examine the relationship between perceived person-centered care and psychological outcomes (life adjustment and life satisfaction) for long-term care residents using a validated instrument to measure person-centered care. A total of 113 long-term care residents who were cognitively able to respond to the questionnaires were recruited from five long-term care facilities. Most participants were white (97%) and primarily women (73%) with a median length of stay of 240 days. Controlling for age, gender, race, length of stay, ADL function and type of facility, residents who perceived the care provided as more person-centered were likely to indicate higher levels of life adjustment to the facility ( $\beta=0.50$ ,  $p\text{-value}<.0001$ ) and higher levels of life satisfaction ( $\beta=0.44$ ,  $p\text{-value}<.0001$ ). The study findings highlight the importance of person-centered care to improve residents' life adjustment and satisfaction in long-term care settings. Further analysis of specific items within the perceived person-centered care scale may help develop strategies to improve residents' psychological outcomes, such as improving the interpersonal skills of staff and respecting residents' routines and preferences.

#### SALIVARY CORTISOL, DEPRESSION, AGITATION AND QUALITY OF LIFE IN RESIDENTS WITH DEMENTIA

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Difficulties in caring for residents with dementia in long term care often stem from what are regarded as unpredictable behaviors including aggression, agitation, and resisting care-related activities. Challenging behaviors and poor quality of life are usually explained as inevitable consequences of neurological damage and to be expected in dementia. In person-centered care, residents' agitated behaviors are hypothesized to be related to the person-caregiver interaction and the cultural milieu of the facility as much as the degree of neurological damage. In this framework agitated behavior represents a distress response. To test these hypotheses, our study aimed to examine the associations between these variables. For 29 residents in two assisted-living dementia units, we analyzed relationships among salivary cortisol (over 2 days), Cornell Scale for Depression in Dementia (CSDD), Quality of Life-Alzheimer's Disease (QOL-AD), Cohen-Mansfield Agitation Inventory (CMAI) and Dementia Care Mapping (DCM) (structured observation of residents' behavior, mood and engagement). Residents had moderate-severe dementia, mean age 85, 80% female. About 55% presented flattened diurnal salivary cortisol profiles (FDSCP), 16% displayed early evening elevations; the remainder demonstrated relatively normal diurnal pat-

terns. FDSCP was significantly associated with higher CMAI and staff rated CSDD and lower DCM Well/III Being scores (WIBs). In addition, DCM WIBs were significantly positively correlated with CMAI and staff rated QOL-AD, and negatively correlated with staff rated CSDD. Findings suggest that residents with moderate-severe dementia showed signs of chronic stress and may be particularly susceptible to stress dysregulation resulting in behavioral and emotional stress responses affecting quality of life.

#### PERSON-CENTERED CARE STAFF TRAINING AND OUTCOME IN LONG-TERM CARE FACILITIES: A SYSTEMATIC REVIEW

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**Purpose and Background** Providing quality dementia care and retaining staff is challenging in long-term care (LTC) facilities. Culture change involving the training of the LTC work force focusing on person-centered care (PCC) is recommended to increase staff satisfaction and improve the quality of care (QOC). Method PubMed, CINAHL, EBSCO and ProQuest databases were searched with published dates from 2003-2013, producing 98 journals. Review of the abstracts revealed 12 papers (randomized, quasi-experimental designs, mixed methods, systematic reviews and descriptive studies) for inclusion. Results Communication skills trainings, train-the-trainer model, mentoring and experiential evidence-based online learning approaches are effective in increasing staff knowledge about PCC and dementia. Web-based training programs are time and cost-effective training methods. However, knowledge of PCC did not always translate into daily practice and was identified as a gap. Conclusions and Implications PCC interventions are multifactorial and successful implementation of PCC necessitates management support. Staff education and training are significant strategies in promoting PCC. However, if knowledge does not impact daily care practices, the focus should shift to nursing schools before RNs are influenced by other traditional methods of care delivery. Integrating PCC-philosophy in undergraduate nursing education is essential as Registered Nurses (RN) lead the health care team in the LTC settings. Future research is required to examine the best staff development strategies for LTC staff in promoting PCC. Training will equip RNs to mentor CNAs and other nurses in improving QOC, thus enhancing the quality of lives of residents.

#### CAN SPECIFIC PHYSICIAN ORDERS ABOUT PAIN MEDICATIONS IMPROVE PAIN MANAGEMENT IN LTC?

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**Aim of Investigation:** to determine if specific physician pain orders would improve pain outcomes in the NH setting. **Methods:** This was a longitudinal quality improvement project with a pre and post intervention among (N=43) NH residents. Trained research staff abstracted information from medical records, medical information, and their most recent MDS assessment. Two MDS scales were used to assess cognition (CPS) and physical functioning (ADLS). In addition to research staff observing routine delivery of care, chart documentation of pain medication administration was collected before and after the intervention. Finally, each participant was approached for interview by research staff before and after the intervention. **Results:** Median age=84, 76% were female, 67% were Caucasian, and 37% had dementia. The median LOS was 13 months. Participants were mild to moderately cognitively-impaired (CPS=3) and moderately physically-impaired (ADLS=17of 28). All participants were able to provide self consent. Prior to intervention,

nurses were observed to ask participants about their pain in 21% of routine medication passes and this increased to 68% ( $p < 0.001$ ). Participants were observed to report pain at a rate of approximately 13% at baseline and this rate increased to 23% ( $p = 0.065$ ). Conclusions: Results confirm that specific pain orders resulted in nurses asking about pain more frequently and administering more PRN pain medications. Our baseline observational data indicated that licensed nurses did not routinely ask residents about pain. Nurses anecdotally reported, as part of this study, that they knew which residents had pain and who preferred pain medicine although our study results indicated that this was not the case.

#### **THE INFLUENCE OF THE LENGTH OF STAY ON RESIDENTS' LONG TERM CARE FACILITY ADJUSTMENT** Z. Yu<sup>1</sup>, J. Yoon<sup>1</sup>, B. Grau<sup>2</sup>, 1. *School of Nursing, University of Wisconsin Madison, Madison, Wisconsin*, 2. *UW Health, Madison, Wisconsin*

Moving into a long-term care facility is internationally recognized as a major life transition for older adults. It is important to explore how residents adjust to their new life environment over time after admission so health professionals can develop timely appropriate interventions to improve residents' quality of life. Despite several qualitative studies exploring life adjustment processes after admission, more research is still needed to understand how residents' life adjustment changes over time in long-term care settings. The purpose of this study was to examine the influence of length of stay in long-term care facilities on residents' life adjustment. Data were collected from four nursing homes and two assisted living homes by interviewing residents using validated questionnaires. A total of 113 cognitively intact residents completed questionnaires. Controlling for age, gender, race, ADL function, and type of facility, a regression analysis showed that a longer length of stay was associated with better life adjustment for long-term care residents ( $\beta = 0.34$ ,  $p\text{-value} = 0.0009$ ). However, additional ANOVA analyses indicated that the means of life adjustment scores by length of stay classifications did not show a linear pattern (95.1 [0–3 months], 92.2 [3–12 months], 97.8 [1–3 years], and 105.6 [over 3 years]). The study findings indicate that a longer length of stay might lead to better life adjustment for residents, but life adjustment may be an on-going dynamic process not a static state after stabilization. Further exploration is needed on why and how residents' life adjustment changes over time with a longitudinal research design.

#### **LONG-TERM CARE AND OFFSPRING MENTAL HEALTH: EVIDENCE FROM THE HEALTH AND RETIREMENT STUDY**

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Introduction Forty percent of individuals over 65 will require long-term care. Adult children frequently have an active role in the often-stressful decision of whether their parents move into a long-term care facility. To date there is limited research on how this transition affects the mental health of adult children. Methods Data come from the 2002-2010 waves of the Health Retirement Study. The sample is restricted to respondents with at least one living parent at baseline ( $N = 7161$ ). Depressive symptoms were assessed using the Center for Epidemiologic Studies-Depression scale. Generalized estimating equations with a Poisson function were used to assess the longitudinal association between parental residence (community-dwelling or long-term care) and depression within respondents before, during, and after a parent transitioned to long-term care, and between respondents who had a parent transition during the study period and those that did not. Models were stratified by age (50-60 and 61+) and adjusted for demographic and health characteristics. Results Over the study period 16% of respondents had a parent transition into long-term care. Among the younger cohort, parental transition was not associated with depressive

symptoms (IRR: 0.96 CI: 0.88-1.03). Among the older cohort, there was suggestive evidence ( $p\text{-value} = 0.07$ ) that respondents with a parent who transitioned had a 10% decline in depressive symptoms (IRR 0.90 CI: 0.80-1.01). Conclusion Parental transition into long-term care does not have a lasting impact on the mental health of adult offspring, but further research is needed to assess the role of caregiving stress related to this transition.

#### **THE PERCEPTION OF MOBILITY AND ACCESSIBILITY FOR RESIDENTS, STAFF AND VISITORS IN AND AROUND LONG-TERM CARE FACILITIES**

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This study examines how residents, staff and visitors of long-term care facilities experience accessibility in and around long-term care facilities in the Belgian province East-Flanders, and which barriers to mobility they experience. Both quantitative and qualitative designs were used. The preliminary quantitative survey ( $N = 88$  long-term care facilities) presented an overall view on accessibility. Based on the results thereof we selected 4 care facilities where participants reported relatively high levels of accessibility. In each one we conducted 3 focus groups with respectively residents ( $N = 24$ ), staff ( $N = 22$ ) and visitors ( $N = 19$ ). The focus groups aimed to give a deeper insight in the meaning of accessibility and mobility. The findings demonstrated five important dimensions of mobility of residents, visitors and staff of long-term care facilities: (1) Internal spatial component (e.g. importance of accommodation for social interaction nearby the resident's room); (2) external spatial component (e.g. the location and the age-friendly design of the neighborhood of long-term care facilities); (3) transportation component (e.g. low use-rate of public transportation); (4) Individual component (e.g. importance of the emotional aspect of the life in long-term care facilities); and (5) time component (e.g. time of season). Our findings stress the need for recognizing the various multidimensional facets of mobility in and around long-term care facilities. Simple guidelines and recommendations are therefore inadequate. Nevertheless, this study gives insight into the meaning of mobility and gives handles to improve the mobility for residents, visitors and staff.

#### **PAIN, RACE AND FUNCTIONAL IMPAIRMENTS IN NURSING HOME RESIDENTS WITH ARTHRITIS**

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There are 1.4 million nursing home (NH) residents in the United States and the majority has pain and functional impairments. The purpose of this study was to examine the effect of pain and race on functional impairments in NH residents with arthritis. Data from the first comprehensive Minimum Data Set (MDS 3.0, 2013) were used in this study. Subjects included NH residents aged 65 years and older with arthritis who reported experiencing pain 5 days prior to assessment. Subjects ( $N = 5,852$ ) had a mean age of 78.4 years ( $SD = 8.3$  years) and the majority were female (76.4%). Seven percent were black ( $n = 414$ ), 3% were Hispanic ( $n = 201$ ), and 89% ( $n = 5,237$ ) were white. The mean functional impairment score of the study sample was 15 (range: 0-28); and 50% reported having mild pain, 26% reported having moderate pain, and 24% reported having severe pain. Pain was a significant predictor of functional impairments ( $p < .05$ ) such that more severe pain was significantly associated with increased functional impairment. Race also significantly predicted functional impairments ( $p < .001$ ), such that Hispanics and blacks reported significantly greater impairment than whites. Also, race and pain significantly interacted to predict functional impairment. Specifically, pain was a stronger predictor of functional impairment in Hispanics and blacks compared to the whites ( $p = .01$ ). These findings add to the growing literature regarding ethnic and racial

influences on pain. Further investigation is needed to ensure that racial disparities in functional impairment are ameliorated.

#### **LONG-TERM CARE ARRANGEMENTS AND POTENTIALLY AVOIDABLE HOSPITALIZATION**

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**Background:** Potentially avoidable hospitalization (PAH) is an important quality of care indicator for people with long-term care (LTC) needs. The information of whether LTC arrangements influence the risk and medical utilizations of PAH is limited. The aim of this study is to examine the effects of LTC arrangements on PAH. **Methods:** We analyzed the data of a nationwide representative sample of 12054 persons aged 50 years or older from the 2002 National Long-Term Care Need Survey in Taiwan. The PAHs were identified according to the ambulatory care sensitive conditions. Four categories of LTC arrangements were defined: family care or home- and community- based services (HCBS), without caregiver, private care assistant, and LTC institutions. Multivariable logistic regression and generalized linear models with Poisson or gamma distribution and log link were applied to analyze the risk, frequency, length of stay (LOS), and medical cost of PAH in 2003. **Results:** After adjusting for other covariates, being in the care assistant group significantly increased the risk of experiencing a PAH by 16% (95% confidence interval (CI) = 1.02-1.32), number of PAHs by 19% (95% CI = 1.09-1.30), LOS by 41% (95% CI = 1.18-1.68), and cost by 32% (95% CI = 1.13-1.54) over the family care or HCBS group. The effect of LTC institution was even stronger (odds ratios ranged from 1.49 to 2.03, all with  $p < 0.001$ ). **Conclusions:** The findings indicated different LTC arrangements could influence the risk and medical utilization of PAH. Integration between LTC and medical care is needed to improve the quality of care and control medical costs.

#### **SESSION 1050 (POSTER)**

#### **FROM HEALTH PROMOTION TO END-OF-LIFE CONCERNS**

#### **PREDICTING SNAP PARTICIPATION IN OLDER ADULTS: DOES AGE CATEGORIZATION MATTER?**

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**Purpose:** Prior, Supplemental Nutrition Assistance Program (SNAP) research reveals limited age cohort analyses that may not accurately reflect nuanced age differences in SNAP participation. The purpose of this study was to add depth to older age analysis and SNAP participation via four models of age categorizations. **Methods:** This secondary data analysis used a sample of 10,116 older adults from the 2010 Health and Retirement Study. Logistic regression tested four age categorization models, controlling for demographic, socioeconomic, and physical factors. Model A reflected Third Age (ages 60-79) and Fourth Age (80 and over) groupings. Model B consisted of young-old, middle-old, and oldest-old cohorts. Model C reflected decade cohorts. Model D reflected continuous age. **Hypotheses:** for each model predicted older age as negative to SNAP participation. **Results:** Significant predictors of SNAP participation included female gender, nonwhite non-Hispanic and Hispanic ethnicities, lower household income, inadequate food budget, and difficulty in self-dressing. Odds ratios confirmed age as a negative factor to SNAP participation. Addition of age categorizations into each model yielded nominal, effect size change. Yet, addition of age into the models changed the relationship between control variables and SNAP receipt, namely gender (higher female odds) and Hispanic ethnicity (lower odds). **Implications:** While age categorizations offered marginal effect predicting SNAP participation, difficulty dressing most strongly predicted increased participation across all models. This finding is relevant, as standard SNAP participation models for younger individuals

rely heavily on socioeconomic indicators. These results suggest future research modeling SNAP participation in older individuals that emphasizes physical/medical issues.

#### **ADVANCE CARE PLANNING AMONG OLDER ADULTS: DOES SOCIAL STRATIFICATION PLAY A ROLE?**

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Older adults are often encouraged to engage in advance care planning (ACP), including completing written advance directives and having conversations with family members and friends, to increase the likelihood that the treatment they receive at end-of-life will be in accordance with their values and preferences. Existing research has generated mixed results with regard to rates of ACP behaviors and the extent to which social stratification factors predict these behaviors among older adults. We conducted a pooled regression analysis of data regarding 6,062 deceased individuals (mean age at death = 80.11 years, SD = 10.60) whose proxies were interviewed between 2002 and 2010 as part of the Health and Retirement Study. We studied three specific ACP behaviors: discussing end-of-life care preferences, providing written instructions for end-of-life care, and appointing a durable power of attorney. Results indicated that ACP behaviors increased among older adults between 2002 and 2010. Contrary to our hypothesis, social stratification factors (i.e., older age; higher education, income, and wealth; White race) did not significantly predict ACP behaviors or explain changes over time. Instead, time (i.e., year data were collected) and having an expected (vs. unanticipated) death were the only two variables that statistically significantly predicted all three types of ACP behaviors. Health-specific factors such as memory problems, cause of death, duration of illness, and location of death were significant predictors for certain ACP behaviors, providing potential target areas for ongoing efforts to increase ACP among older adults.

#### **OLDER ADULTS' MOTIVATIONS FOR DRINKING: FINDINGS FROM A CONTINUING CARE RETIREMENT COMMUNITY**

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Few studies have examined older adults' perspectives about their own drinking habits, and very little of this research has examined use among those residing in Continuing Care Retirement Communities (CCRC). The current study explored beliefs and attitudes about drinking among residents in a CCRC. We carried out in-depth individual interviews with eleven CCRC residents defined as regular drinkers (drank 6 of 8 days) based on data from a diary study conducted at a large CCRC in the Baltimore/Washington DC metropolitan region. Participants reflected the population of older adults in CCRCs in that they represented the "oldest-old" (mean age=82 years) and the majority were female (55%). In-person interviews focused on older adults' perceptions of their own current use of alcohol as well as in relation to their own drinking history, their experience of drinking in retirement, their understanding of alcohol use and health, the social context of their drinking, and perceptions of alcohol use as part of living at a CCRC. Older adults reported alcohol use as a long-term habit and normalized their drinking as a form of routine socialization carried forward from earlier life stages. Data suggest that older adults recognize that they may drink more as a result of being in the company of peers who are drinking and perceiving the CCRC as a setting where alcohol is readily available. Drinking may provide older adults living in a congregate

setting with a sense of continuity from before retirement and preserve their identity and autonomy.

### **CORRELATES OF DEPRESSION AMONG OLDER PUBLIC HOUSING RESIDENTS**

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Depression affects 6.5 million Americans over the age of 65 (NAMI, 2009). Research indicates older adults living in deprived neighborhoods have heightened risk for depression (Kubinsky, 2005). The current study examined the level and predictors of depression among older (50 years +) public housing residents (N=187). The Social Antecedents Model of Psychopathology was used to guide the rational selection of predictor variables. Over half (54.5%) of the participants were male, 74.9% were African American, and mean age was 66 (SD= 7.58). Eighteen percent were identified as having clinically significant depression. Because BSI depression scores were non-normally distributed, the generalized linear model with gamma distribution and a log link was used. Variables identified as being significantly correlated with depression (pain, functional impairment, health, years smoking, social support, opioid misuse, funds sufficiency, number of medical conditions) were entered into the regression model. Results indicated that pain, self-reported health, years smoking, social support, and opioid misuse predict depression  $LR \chi^2(10) = 88.519, p < .001$ . Participants who misused opioids were 73.8% more likely to have increased depression than those who did not. For each unit increase in pain, depression increased by 5.8%. Each unit increase in self-reported health resulted in a 19.2% decrease in depression. For each additional year of smoking, there was a .9% increase in depression. A one unit decrease in social support resulted in a 2.9% increase in depression. Thus, current negative health conditions and behaviors and poor social support exerted the greatest influence on depressive symptomatology. Implications discussed.

### **SELF-RATED HEALTH AMONG OLDER ADULTS IN CHINA: FINDINGS FROM THE WHO STUDY ON GLOBAL AGEING AND ADULT HEALTH (SAGE)**

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The secondary research is based on the WAVE I (2010) of the WHO Study on Global AGEing and Adult Health (SAGE). This study analyzed a nationally representative sample aged 60 and older from China (n = 4,817). Health status and residency differences were examined (urban=2,962; rural=1,853). Data showed that urban residents were older than their rural counterparts (mean age: 69.3 vs. 66.8), there were more women in the rural setting than in the urban area (64.9% vs. 52.3%), and urban elders were more educated (high school or above schooling) than rural elders (35% vs. 3%). In terms of physical well-being, rural elders reported poorer health than urban elders. Almost 26.2% of the rural elders reported poor to worse health conditions versus 16.3% of the urban elders. However, rural elders reported fewer numbers of chronic illnesses than urban elders (1.0 vs. 1.6). Data suggests that rural elders were less able to identify types of chronic illnesses that may be affecting them. Multiple regression results indicate that the elders who reported poorer self-rated health tended to be rural residents, male gender, not married, less sense of control, less financial satisfaction, lower level of psychological well-being, and more chronic illnesses. Findings point to the importance of taking into account all these correlates in designing health promotion and intervention programs to enhance the sense of physical well-being among the older population in China.

### **PREDICTORS OF ONLINE HEALTH INFORMATION SEEKING AMONG ELDERLY CANCER SURVIVORS**

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The Internet can play a crucial role for elderly cancer survivors by providing health information, but little is known about online health information seeking (OHIS) by older cancer survivors. Drawing upon the Comprehensive Model of Information Seeking (CMIS, Johnson, 1997), this study examined predictors of whether elderly cancer survivors use the Internet for health information. Data came from 212 elderly cancer survivors (age  $\geq 60$  years, who reported ever having been diagnosed with cancer) in the 2012 Health Information National Trends Survey from the National Cancer Institute. OHIS was measured by whether the respondent uses the Internet to seek information about health or medical topics (yes/no). Four predictors were investigated: family cancer history (yes=62%/no=38%), salience (0=low to 6=high), self-efficacy (0=low to 4=high), and trust in the Internet (0=not at all to 3=a lot). Demographics (age, gender, education, income, employment status, and marital status), self-rated health, and cancer characteristics (cancer type and years since diagnosis) were control variables. Binary logistic regression results showed that odds of using the Internet for health information seeking were significantly higher for male than female survivors (OR = 2.26), and for survivors with higher levels of education (OR = 1.14), higher levels of salience (OR = 1.72) and higher trust in the Internet (OR = 1.80), all else equal. Findings highlight that survivors' perceptions to the Internet are significantly related to OHIS and that understanding the relationships between perception and Internet use provides a broader view of survivor's health care and self-management.

### **GERMANIMPACT: A COLLABORATIVE CARE MODEL FOR LATE-LIFE DEPRESSION IN THE GERMAN PRIMARY CARE CONTEXT**

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GermanIMPACT is an ongoing cluster-randomized controlled trial on the implementation of a collaborative, stepped care model to treat late-life depression in German primary care. We developed the concept as an evidence-based adaptation of a successful US American model (IMPACT). The model's key mechanism is the close collaboration of three professional care providers: a general practitioner, a specialized care manager, and a supervising mental health specialist. This "treatment triad" works with the patient to design an individually tailored, stepped intervention plan. Core elements of this plan, applied by the care manager, include: patient education, behavioral activation, relapse prevention, and training of problem solving techniques as needed. To evaluate the efficacy and cost-effectiveness of the intervention, we are comparing the development of depressive symptoms in 300 primary care patients (60+ years of age) with moderate depressive symptoms (ICD-10 diagnosis) who either receive treatment as usual or treatment according to GermanIMPACT. Positive outcomes will support the future integration of specialized care managers into outpatient depression treatment in Germany. A further purpose of the study is to evaluate the model's applicability to the German primary care setting, which

differs significantly from the American context (e.g., regarding general practice office structures). Experiences gathered during the development and implementation of the study protocol yielded valuable insights with respect to care manager training, identification and enrollment of patients, and the establishment of communication structures between patient, care manager, general practitioner, and mental health specialist. GermanIMPACT is funded by the German Federal Ministry of Education and Research.

#### **OLDER ADULTS ARE SUPPORTIVE OF GOVERNMENT AND INDUSTRY SODIUM REDUCTION EFFORTS IN LOS ANGELES COUNTY**

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**Introduction:** Knowledge of daily recommended sodium intake is generally lacking in the population in spite of health marketing efforts to educate the public. This is especially relevant to older adults who are at higher risk of hypertension and cardiovascular disease. Recent efforts to reduce sodium in the food supply have focused on increasing demand for lower sodium food products through policies or business practices such as healthy food procurement. To date, a paucity of studies has examined public support for wide use of these approaches. This study addresses this gap. **Methods:** A telephone survey of registered voters in Los Angeles County was administered in English and Spanish among a registration-based-RDD sample of eligible adults. Interviews using a CATI system were carried out in October 2013. The interviews included questions on participant knowledge, attitudes and views about food access, food policy, program planning, and socio-demographics. **Results:** A total of 1,007 interviews were completed yielding a cooperation rate of 65.7%. Overall, 17.8% of the sample (n=179) were aged 65+; of this group, 36.9% (n=66) were male, 42.5% minorities (n=76), and 43.0% (n=77) reported being in very good/excellent health. More than 90% of older adults (aged>65) reported being supportive of policies or business practices that reduce sodium content in food industry products. **Discussion:** Survey participants, including older adults, are supportive of government and industry sodium reduction efforts in Los Angeles County. These efforts could complement national efforts to reduce cardiovascular disease morbidity such as the Million Hearts and National Sodium Reduction Initiatives.

#### **PROVISION OF PALLIATIVE CARE BY HOSPICES IN FLORIDA: A STATEWIDE SURVEY**

E. Sikorska-Simmons, H. Pletcher, C. Kursewicz, *UCF, Orlando, Florida*

Hospice was originally established as a specialized form of palliative care (PC) for terminally ill patients. With its emphasis on palliative medical treatments and psychosocial support, hospice aims to improve the quality of life for dying patients. Under the Medicare Hospice Benefit, treatments, including aggressive ones (e.g., chemotherapy, radiation, surgery), are covered if their goal is to relieve suffering and manage symptoms of terminal illness. Despite the recognition that palliative treatments are critical in quality hospice care, the extent to which hospices incorporate them has not been systematically assessed. This study examined the extent to which palliative medical treatments are provided by hospices in Florida. All 222 hospices (as listed by the National Hospice and Palliative Care Organization, NHPCO) were included. Data were collected from the NHPCO website and on-line searches of hospice programs. Of the 222 hospices, 58 (26%) offered PC consultation, including 39 (18%) that specialized in pediatric PC. According to NHPCO, 7 (3%) hospices had an "Operational PC Status," and 2 (1%) were in the planning stage. The contents of PC programs were examined according to the disease specific aspects of palliative treatments, the palliative care team, and the frequency of symptom assessment. This

review suggests that few hospices offer access to palliative medical treatments. Delivering high quality hospice care to the rapidly growing population of older patients in Florida remains a major challenge.

#### **URBAN-RURAL RESIDENCE, AREA ECONOMIC DEVELOPMENT, AND DEPRESSION OF OLDER ADULTS IN CHINA: A MULTILEVEL ANALYSIS OF THE CHARLS**

L. Li, J. Liu, *School of Social Work, University of Michigan, Ann Arbor, Michigan*

This study aimed to investigate how urban-rural residence and area economic development are related to depression in older Chinese. We used data from the 2011 survey of the Chinese Health and Retirement Longitudinal Study (CHARLS) and included respondents aged 60 or older in our sample. Depression was measured by the 10-item Center for Epidemiological Studies Depression Scale (CESD-10). A community survey conducted by the CHARLS provided information about the type of community (urban or rural) that respondents lived in. Area economic development was indicated by GDP per capita of prefectures, obtained from Statistics Yearbooks of China. We merged the individual-level dataset with the community survey and prefecture-level data. A total of 4,692 individuals, 443 neighborhoods, and 125 prefectures were included in the analysis. Descriptive findings show that depression prevalence among older adults in China was 33.5%, and the rate was higher for those living in rural (37.3%) areas than it was for those in urban (23.0%) areas. Results from the 3-level logistic regression analysis show that effects of prefecture GDP on depression varied by community type; higher GDP was negatively correlated with depression for those living in rural communities, whereas prefecture GDP was not significantly correlated with depression for urban elders. Findings suggest that urban-rural differences in late-life depression vary by economic development of the area, and that rural elders living in economically backward prefectures are particularly vulnerable to depression.

#### **THE IMPACT OF HEGEMONIC MASCULINITY ON THE HEALTH OF OLDER MEN**

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This overview of recent research and interventions explores current efforts to improve men's health-related behaviors with special attention given to the hegemonic masculinity framework and its influence on those behaviors. Attention is focused on whether men's health-related behaviors change as they age, do men modify masculinity precepts in later life to better fit their changing health needs? If so, what influences these actions? Themes in the review include whether hegemonic masculinity and masculine gender scripts promote bad-for-you health-related behavior, the influence of age on men's health behaviors, and whether marital status modifies men's health behaviors. Also included is a discussion of the existing evidence that aging adults can change health-related beliefs and behaviors. For example, working with a group of 49 older adults (ages 52-91) Stephan and colleagues (2013), were able to successfully manipulate the older adults to feel younger through positive performance messages about a handgrip test; the older participants improved their scores of handgrip strength simply because they felt younger, no physical indicator had changed. Other examples of efforts to improve men's health-related behaviors include NIMH's Real Men/Real Depression campaign, North Carolina's PRECEDE health planning model, and interventions that deliver health education in male-friendly settings such as barbershops and bars. Given the current attention being paid to men's health, e.g. their higher risk of morbidity and mortality, and the associated health care costs tied to those risks, the implications of this enhanced attention to improving men's health is quite timely.



## LONELINESS AND DEPRESSION OF EMPTY NESTERS IN CHINA

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Empty nesters refer to individuals whose children have all grown up and moved out of the household. This population will be over 100 million by 2014 in China. There are concerns about the well-being of the aging parents in the empty nest households. This study examined how socioeconomic status, social relationships and health status are related to depression and loneliness of empty nesters. The sample (N=500) was obtained from Western China through stratified sampling procedures. The respondents were equally distributed in gender, with 71.4% aged between 60 and 70, 66.4% living with spouse, 40.6% urban residents and 59.4% rural residents. Geriatric Depression Scale (GDS) and UCLA Loneliness Scale were used to assess depression and loneliness. Multiple linear regression was conducted to examine how socio-demographic characteristics (age, gender, urban/rural, socioeconomic status), social relationships (with children, relatives and neighbors), and health status (ADL) were related to depression and loneliness. Descriptive statistics show that 13.48% of the sample had significant depressive symptoms and 47.4% reported somewhat lonely. Regression results indicated that poor relationship with neighbors, living in rural areas and more ADL limitations were significantly associated with higher levels of depression. Being female, low economic status, poor relationship with children, poor relationship with neighbor, and more ADL limitations were significantly associated with higher levels of loneliness. Our findings suggest that some empty nesters are quite vulnerable and in need of service support.

## RACIAL DIFFERENCES IN THE MEASURE OF RELIGIOSITY AND SPIRITUALITY FOR AFRICAN AMERICAN AND WHITE ELDERS

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Recent research has highlighted the role of religiosity/spirituality as a source of internal and/or external resources for aging populations. Religiosity/spirituality has been linked to improved family relationships, prosocial behaviors, forgiveness, social integration, and increased health and mental health, especially with elderly populations. The multi-dimensional nature of religiosity and spirituality has been elaborated on in past studies. Measurements used to capture religiosity and spirituality include religious identification, religious practices, religious participation, religious/spiritual coping, and spiritual experiences. This study aims to critically examine the cross-cultural psychometric properties of three measures of religiosity/spirituality newly created for the second wave of the Mid-Life in the US data: Religious/Spiritual Coping, Daily Spiritual Experiences, and Mindfulness. These measures capture a deep-felt sense of connection to others and to a higher power. Reliability and confirmatory factor analyses were conducted for separate samples of Whites (n = 2873) and African Americans 50 and older (n = 132). Results indicated that the Daily Spiritual Experiences and Mindfulness Scales have good internal consistency for both samples (Cronbach's Alpha > 0.84), while the Religious/Spiritual Coping Scale did not do as well for Whites (Cronbach's Alpha = 0.70) or African American elders (Cronbach's Alpha = 0.64). Additionally, confirmatory factor analyses suggest that African American elders perceive religious/spiritual coping differently, where abandonment from God was more strongly represented with African American elders compared to White elders. Results suggest that the perception of religiosity and spirituality is intertwined with structural issues of racism in the US.

## PSYCHOLOGICAL FACTORS AND URBAN/SUBURBAN/RURAL HEALTH DIFFERENCES: FINDINGS FROM THE HRS

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Healthy aging is influenced by many factors that have been extensively examined in research. However, the role of psychological variables (i.e., mastery, self-efficacy, and constraints) on differences in health status among older adults living in urban, suburban, and rural areas is not established. Thus, the purpose of this study was to investigate demographic, functional, health behaviors, geographic residence, and psychological factors associated with health status among older community dwelling adults. We were especially interested in the role of rural residence and Hispanic origin as it relates to health. Data from the HRS Leave Behind Questionnaire (2010 wave) were analyzed. Our nationally representative sample consisted of 7,352 older adults (50+) living in the community with an average age of 65 years old. 58% of the sample was female, 60% of the sample was married, and 10% was either separated or divorced. Also, nearly 20% of this sample lived in rural areas. Logistic regression analyses showed that rural residence had no statistically significant relationship with health. However, significant relationships were found for demographic, functional, health behaviors, and psychological variables including marital status (OR 1.46), race (OR 0.52), education (OR .90), activities of daily living (OR 1.72), instrumental activities of daily living (OR 1.22), body mass index (OR 1.03), regular exercise (OR 0.55), cigarette smoking (OR 1.71), self-efficacy (OR 0.81), mastery (OR 0.89), and constraints (OR 1.18) (Pseudo Rsq 0.23, p<.01). The results show the role of psychological variables on health as it relates to older adults living in various geographic regions.

## STAFF KNOWLEDGE AND PERCEPTIONS OF SEXUALITY OF OLDER ADULTS IN NURSING HOMES

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Introduction: A number of barriers exist for older adults' sexual expression in nursing homes. One of them is staff's lack of knowledge about sexuality and their attitudes towards sexuality among older adults. Nursing home staff attitudes impact upon how older adults perceive and manage their sexuality. However, how sexuality in later life is perceived and managed by nursing home staff remains relatively unexplored. Out of the few studies conducted on the subject, most examined Western cultures, and even less is known Eastern cultures. The purpose of the study was to explore cultural beliefs regarding sexuality in nursing homes in Poland. Methods: Fifty nursing home personnel who were involved in providing care for older adults, were asked to complete the Brief Sexual Attitudes Scale and the Aging Sexual Knowledge and Attitudes Scale. Results: A majority of participants indicated that they felt embarrassed talking about sexuality and viewed older adults' sexual expression as problematic (75%). The responses to ASKAS showed that nursing staff had limited knowledge about older adults' sexuality. The positive attitudes toward sexuality in the elderly was positively correlated with permissive attitudes towards sexuality. Older participants had more positive attitudes towards sexuality among older adults than younger participants. Conclusion: The results suggest that staff's knowledge of sexuality supports the need for educational interventions on sexuality in nursing homes. Sexuality of older adults should be discussed during trainings for nursing home staff. There is also a need for creating a clear guideline for staff that address sexuality of older adults.

## PSYCHOLOGICAL PREDICTORS OF EATING PATHOLOGY IN OLDER WOMEN

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At any age, the physical repercussions of an eating disorder are myriad, but the risks are even greater for older women than for younger women. The older body is generally more vulnerable, as organ systems have weakened or become diseased. Eating disorders are generally considered to affect females during adolescence and early adulthood, but there has been a growing recognition that eating disorders occur in middle aged and older women as well. The current research employed a sample of 245 women aged 60-90, obtained using an Internet survey, and designed to assess the psychological risk factors associated with eating pathology in this age group. A hierarchical regression analysis was used to examine the relationship between eating pathology and predictors. Results indicated that the variables significantly associated with eating pathology—perfectionism, depression, and sociocultural pressure to be thin—closely parallel those previously reported for both younger and middle aged women.

## DOES THE CANADIAN MEDIA PROMOTE NEGATIVE STEREOTYPES ABOUT AGE-RELATED HEALTH CONDITIONS?

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Negative stereotypes about people with health conditions (e.g., presbycusis, macular degeneration) can influence help seeking behaviours. The current discourse analysis study examined how health conditions and assistive technologies are presented in print media. Specifically, newspaper articles from *The Globe and Mail* (2009-2013) were selected if they included text on specific search strings (i.e., seniors, vision, hearing, health, and assistive devices). Of the 1248 articles identified, 68 fit the inclusion criteria for the study: the article had to refer to an individual with a health condition as well as to a stereotype related to that health condition. A qualitative discourse analysis of these texts was conducted. Coding of the text revealed stereotypes of: inevitable decline, economic and family burden, as well as incompetence. Consequences of the stereotypes associated with health conditions included: isolation, shame, discrimination and a reduction in help seeking behaviours. A subset of the articles were coded 'stigma layering', such that they included ageist stereotypes as well as stereotypes about a health condition, or stereotyping of multiple health conditions, a "double-whammy". The discourses about assistive technologies (ATs) were both negative and positive. Although the articles described ATs as facilitating communication and functional autonomy, they also included negative characterizations of AT users. Health promotion campaigns addressing age-related health conditions and assistive technologies may help reduce stigma, and increase social inclusion and help seeking behaviour.

## TRAJECTORIES OF BODY MASS INDEX AND ALL-CAUSE MORTALITY: FINDINGS FROM THE NATIONAL SURVEY OF THE JAPANESE ELDERLY

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Background: Little research has addressed the association between the heterogeneity in long-term changes in body mass index (BMI) and

all-cause mortality in old age, particularly in a non-Western population. Such researches could provide useful recommendations on weight management to improve the health status of older adults. Methods: We evaluated this relationship by applying latent class trajectory models to data derived from the National Survey of the Japanese Elderly, which consisted of 4,869 adults aged 60 and older, with up to seven repeated observations between 1987 and 2012. Results: Four distinct trajectories of BMI were identified: (a) underweight (BMI=18.8 at baseline) with a slow decline over time (23.8%); (b) normal but slowly decreasing weight (BMI=21.9 at baseline) (44.6%); (c) high-normal (BMI=24.8 at baseline) with a slight decrease (26.5%), and (d) persistently high-overweight (BMI=28.7 at baseline) (5.2%). Survival analysis with average follow-up of 13.8 years showed that the underweight subgroup had higher risk of dying (HR=1.12), while the high-normal-weight and high-overweight subgroups had lower risk of dying (HR=0.82 and 0.73, respectively), compared with the normal-weight subgroup. These results were robust, even after controlling for demographic and socioeconomic characteristics, health behaviors, chronic diseases, self-rated health, and functional status at baseline. Conclusion: In sharp contrast with prior observations made in Western populations, our research from Japan identified the trajectory of underweight and found that this trajectory was a significantly higher risk of mortality in old age. On the other hand, trajectories characterized by high normal weight and high overweight were associated with lower mortality.

## MARITAL STATUS AND SEVERITY OF DISABILITY AMONG COMMUNITY-DWELLING ELDERS BETWEEN 2000 AND 2010

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Background Marital status has been found to influence various functional outcomes of older adults. Being married appears to be most beneficial for elders with disability in terms of receiving help as compared to being widowed, divorced or never married. However, it is unknown whether marital status is associated with the severity of disability. Methods This study included 42,349 unique community-dwelling elders aged 65 years and older drawn from Medicare Current Beneficiary Surveys (MCBS) from 2000 to 2010. Disability was defined as no disability, any limitation to Instrumental Activities of Daily Living (IADL), mild disability (1-2 limitations in Activities of Daily Living), and moderate-to-severe disability (3+ ADL limitations). The impact of marital status on the risk of disability at defined severity levels was estimated by multinomial logistic regression models adjusting for socio-demographic characteristics and self-reported chronic conditions. Results Overall, moderate-to-severe disability among community-dwelling elders had declined by 15% since 2000. Married elders were most likely to be disability-free and least likely to have mild disability compared to never married, divorced and widowed elders. The risk of moderate-to-severe disability was 38%, 34%, and 37% higher, respectively, for widowed, divorced or never married elders, respectively, compared to their married counterparts. Conclusions Independent of the effect of socio-demographic profile and health conditions, marital status affects the risk of disability. Being married confers the greatest benefit in reduced risk of moderate-to-severe disability. Disability interventions targeting community-dwelling elders should consider marital status as a risk factor.

## THE TRANSITION FROM LIVING WITH TO DYING FROM CANCER: HOSPICE ENROLLMENT DECISION-MAKING

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Despite increases in hospice utilization, older cancer patients have shorter enrollments than people with other terminal illnesses. How older cancer patients and their families make hospice decisions is largely unknown. The purpose of this study was to compare decision-making in late-stage cancer in people who enrolled in hospice with those who declined or were ineligible. In-depth interviews included open-ended questions about the illness trajectory and decision-making process as well as scaled measures of quality of life, activities of daily living and social support. Study participants included 42 patients (24 non-hospice and 18 hospice) and 38 caregivers (15 non-hospice and 23 hospice) for a total sample of 80. Concepts from the Carroll and Johnson (1990) decision-making framework guided the development of a hospice decision-making model. The phases include: Recognition, Information and Communication, Formulation, Alternative Generation, and Evaluation. Recognition that the cancer had become advanced was similar in both groups. Information and communication needs were present in both groups across the illness trajectory. Formulation: Hospice patients reported greater physical decline, higher symptom burden that was life changing; non-hospice participants described the changes as livable. Alternative Generation: The availability of cure-focused treatment was highly influential; hospice patients had no options while 80% of the non-hospice patients were either eligible or receiving active cancer treatment. Evaluation of hospice enrollment was understood as a future option in the non-hospice group. Hospice patients described enrollment as a substantive cognitive shift and an identity transformation. Practice implications: provider sensitivity about this life-changing decision is crucial.

## THE IMPACT OF FLORIDA'S NURSE STAFFING POLICIES ON NURSING HOME QUALITY OF CARE

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A report from the Centers of Medicare and Medicaid Services in 2001 recommended a federally mandated increase to 4.1 hours per resident day (HPRD) for direct care staffing in U.S. nursing homes (NHs). In the absence of federal action, many states enacted legislation to improve the quality of care in NHs. Florida was the first state to significantly increase staffing for all facilities allowing examination of changes of quality associated with incentives to increase direct care staffing in 2001 and mandated increases in 2002 and 2003. Utilizing Donabedian's structure process outcome model and data from 1999 to 2007, this longitudinal study analyzes the relationship between legislative staffing efforts and facility-level process and outcome measures and compares quality in 552 Florida NHs to 285 Tennessee NHs, a similar southeastern state which did not implement staffing initiatives to improve quality. Generalized estimating equations with a Gaussian distribution and a log link function were utilized to compare process and performance-based outcome measures. Results indicate that increased mandates for certified nursing assistants were significantly associated with improvement in 4 point ADL decline (Est. = -.003, p<.0001) and bladder incontinence (Est. = -.004, p=.012). Increases in RN staffing was associated with improvement in bladder incontinence (Est. = -.086, p<.001) and bowel incontinence (Est. = .026, p<.0001). Findings illus-

trate the success of Florida's state policy which targeted nursing home quality improvement through legislative efforts to increase direct care staffing levels.

## USE AND PATTERNS OF OSTEOPOROSIS PHARMACOTHERAPY IN MEDICARE BENEFICIARIES WITH OSTEOPOROSIS

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Background: It is unknown how clinicians use the guideline suggested evidence-based medicines to treat osteoporosis in the elderly. Study Design: Pooling from a random 5% sample of Medicare beneficiaries, this study included 90,956 women and 8,465 men with osteoporosis aged 70 years and older enrolled in stand-alone Part D plans from 1/1/2006 through 12/31/2008, or death and examined the impact of residential status on (1) use of any and (2) use of a specific class of the 5 FDA-approved classes of drugs for osteoporosis treatment/prevention. Residential status was defined as community only, LTCF only, and both. A modified Poisson regression was used to assess the impact of residential status on any use and a multinomial logistic regression to measure the effect of residential status on use of a specific class of osteoporosis pharmacotherapy. Principal Findings: Prevalence of osteoporosis medication use ranged from 46.6% to 44% in women and 25.2% to 24.5% in men from 2006 to 2008. Prevalence of use was the lowest among women (35.4% to 31.8%) and men (24.3% to 21.6%) in LTCF only. Bisphosphonates were the top choice of medication prescribed and prevalence of use ranged from 76.4% to 78.3% among female and 91.3% to 93.3% among male medication users. Calcitonin was much more likely to be prescribed to women and men in LTCF only and in both settings than in the community only. Conclusions: Prevalence of use of osteoporosis medication is especially low in LTCF residents, and patterns of osteoporosis pharmacotherapy differ substantially by residential status.

## ANTIPSYCHOTIC UTILIZATION IN MEDICARE PART D BENEFICIARIES WITH SEVERE MENTAL ILLNESS IN WASHINGTON

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Medicare Part D is insurance for people who are either disabled or over 65 years old or suffer from End Stage Renal Disease. It provides coverage for outpatient prescription drugs and is a departure from the traditional Medicare program in which the benefits are uniform. Coverage has a minimum drug formulary packaged in a standard plan or an actuarially equivalent plan that offers more benefits. Objective: (1) to examine the effects of coverage on utilization of select antipsychotic drugs, (2) to understand out-of-pocket expenditure patterns among beneficiaries with schizophrenic and bipolar disorders in Washington State. Design: a cross-sectional, retrospective study design using 2008 Part D Event data derived from beneficiaries with schizophrenia and bipolar disorders (1922 unique individuals). Measurements: utilization of four antipsychotics (in Proportion of Days Covered/PDC) and out-of-pocket expenditures before the gap-in-coverage period (pre-ICL), during the gap-in-coverage period (ICL), and post gap-in-coverage period (post-ICL). Results: For all antipsychotics, the greatest percentage of PDC adherence was during the post-ICL period with the exception of olanzapine. PDC adherence dropped for all antipsychotics during the ICL period except for quetiapine. Out-of-pocket expenditure per prescription fill measured in patient pay amount ranged from zero to \$1169.82. Non-adherent beneficiaries (low PDCs) paid a greater average than adherent beneficiaries: low PDC beneficiaries paid an average of \$27.95 and a median of \$2.25, while high PDC beneficiaries paid an average of \$7.50 and a median of \$0. Conclusion: Utilization of antipsychotics is affected by the extent of coverage of Part D plan designs.

## HOW DO SEXUAL MINORITY OLDER ADULTS NEGOTIATE SEXUAL ORIENTATION DISCLOSURE TO HEALTH CARE PROVIDERS?

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Sexual minority older adults have been shown to have poorer health outcomes as compared to heterosexual individuals of the same age group. There are a number of possible explanations for these health disparities, such as their increased likelihood of living alone, being childless, being single, having had limited access to health care and a history of negative experiences with the health care system. Fear of rejection or discrimination may prevent sexual minority older adults from disclosing their sexual orientation and/or gender identity (SOGI) to their physicians. This study uses qualitative data from the Health and Social Life of Boston-Area Elders that were collected from 22 sexual minority older adults between 2009-2011 to explore the processes of sharing their SOGI with their physicians. Constant comparative analysis was used to understand facilitators of and/or barriers to sexual minority older adults' SOGI disclosure to their physicians. Many participants reported having disclosed to their health care providers; however, there is variation in how they came to share this information. Participants tended to disclose if they either they knew or assumed their physicians were also gay, if participants were HIV positive, or if they were asked directly. Others were unsure whether or not their physicians knew this information about them, highlighting the difference between discussions about sexual health and SOGI. Participants suggested ways in which physicians could communicate support for sexual minority individuals, which could offer a positive step toward beginning to address health disparities among sexual minority older adults.

## TRAJECTORIES OF TERMINAL DECLINE AND THE IMPLICATIONS FOR END-OF-LIFE CARE

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A trajectory is a pattern of change over time. Trajectories of terminal decline has been increasingly investigated and discussed, however, not yet been integrated with the practice of end-of-life care. A systematic review is conducted and fifteen epidemiological studies of terminal trajectories are identified since 2000. Results suggest dying course is complex and heterogeneous, and policy reform is needed to make end-of-life care be available to and benefit a larger elderly population. There are four theoretical trajectories for terminal functional decline: sudden death, cancer, organ failure, and frailty. However, categorization and measurements are inconsistent across studies. Elder individuals often suffer from multiple chronic conditions, a series of social, psychological and spiritual distress, as well as symptom burdens, which make death a complicated event. The current Medicare Hospice Benefit and end-of-life care model were established mainly for people with cancer or people with six-month of life-limiting prognosis. A proper end-of-life must be multi-dimensional over different trajectories, which calls for strategies that drive practical changes. It is important for medical professionals and policy makers to be aware of the variation in terminal trajectories and the unpredictable death events for people with progressive decline, such as frailty and cognitive impairment. After attending the poster session, participants will be able to: 1. Identify different trajectories of terminal functional decline. 2. Understand symptom burdens and the psychological, spiritual and social decline trajectories at the end of life. 3. Discuss the policy implications of terminal decline trajectories on the current end-of-life care system.

## DYING ALONE AND END-OF-LIFE PLANNING: OLDER LGBT ADULTS' PERSPECTIVES AND PERCEPTIONS

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Fear of dying alone is common among older adults in general and is of concern for members of the LGBT community. While the prevalence of dying alone is increasing in many countries including the US, research on this topic is limited. We report on findings from a survey examining issues specific to dying alone and end-of-life planning in the lesbian, gay, bisexual and transgender (LGBT) community. These older adults are less likely to have a partner/spouse, have fewer children, and more likely to live alone than heterosexual counterparts. Our survey was fielded through LGBT advocacy groups and distributed its members. Respondents (N = 85) were highly educated, female (60%), and living with a significant other (59%). A relatively large proportion of respondents had done end-of-life planning (68%); compared to a 28% of the US population in general (CDC, 2012). Nearly half of the respondents were at risk for dying alone (44.9%). This poster will provide an analysis of the respondent characteristics as well as the factors that are associated with end of life planning and concerns about dying alone within the LGBT community, as well as practice and policy implications of these findings. Such implications include encouraging providers working with older LGBT adults who are isolated to address end of life planning issues. Overall, the implications of these findings may be generalized to other groups of older adults who may lack caregiving resources due to geographic dispersion or unavailability of family members and face end-of-life decisions alone.

## SESSION 1055 (POSTER)

### COMMUNITY CARE AND VULNERABLE ADULTS

#### LAWYERS FOR WARDS?: LEGAL AND ETHICAL BARRIERS TO PROTECTING RIGHTS OF OLDER ADULTS

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Approximately 1.5 million adults in the U.S. are subject to guardianship. When a court appoints a guardian for an older person, the person becomes a "ward" and typically loses a wide range of rights, including the right to choose where to live, accept or reject medical treatments, manage finances, and decide with whom to associate. If a ward objects to the guardian's decisions or to having a guardian, her only legal recourse is to seek court intervention. As a practical matter, this requires legal representation. Unfortunately, the ethical rules governing attorney conduct are often interpreted as preventing lawyers from zealously representing wards, or even representing them at all. Our study of U.S. case law and ethics opinions issued by state bar associations finds significant disagreement about what an attorney's role is when representing a ward. Courts and bar associations take three competing approaches: (1) expressed interest advocacy, where the ward directs the attorney much as any other client would; (2) best interest advocacy, where the attorney defines the client's interests; and (3) derivative representation, where the ward's attorney takes directions from the guardian. We propose that expressed interest advocacy, in which the ward directs and defines the objectives of the representation, is the proper model. It is consistent with attorneys' underlying ethical obligations and maximizes the autonomy of wards. However, we identify significant obstacles to implementing this model, including the ward's lack of legal capacity, conflicting ethical duties, paternalistic attitudes, and denial of the adversarial nature of guardianship proceedings.

## HOME AND COMMUNITY-BASED SERVICE USE BY VULNERABLE OLDER ADULTS

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Home and community based services (HCBS) are designed to provide services that meet the increasing and diverse needs of the older adult population who wish to age in place for as long as possible in their homes and community. Yet, little is known about selection of services. The purpose of this study was to assess HCBS use among vulnerable older adults. Andersen's (1995) behavioral model of health services use provided theoretical guidance for selecting and explaining predisposing, enabling, and need-based variables associated with service use within the Community Living Program (CLP) federal initiative. Through consumer direction of services, 18 routine or one-time services were offered to 86 participants enrolled in the Virginia CLP. Two-step cluster analysis identified four distinct, naturally occurring profiles of service users, ranging in size from 7 to 34 members. Services used within the groups ranged from 11 to 16 services. Use of personal care services ( $p=.033$ ) and respite ( $p=.010$ ) were significantly associated with membership differentiation. Within each cluster, the percentage of participants using each service varied greatly. The most important variables that differentiated service user membership were caregiver relationship to participant, participant living arrangement, participant disability type, and length of time caregiver provided care. Between-cluster membership was significantly different with regard to average service cost per day ( $p=.002$ ) and the likelihood of moving to a nursing home if services were not provided ( $p=.047$ ). Findings inform future research and have implications for practitioners assisting vulnerable older adults in selecting services to meet different care needs.

## FAMILY TRANSITIONS IN EARLY ONSET DEMENTIA: A QUALITATIVE FRAMEWORK ANALYSIS

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As the global focus on dementia care increases due to the demand on health, social, legal and financial services it is imperative to further understand the experience of those living with a diagnosis of dementia. Within this area, a particular lack of research focused on younger people (under the age of 65) with dementia exists as this population does not easily fit into current research, policy and practice structures and as such are often located with gerontological services. The study reported here focuses on the family experience of transition in early onset dementia, as transitions have been reported to significantly increase stressors on families living with early onset dementia. These experiences were explored during the course of a qualitative repeated interview study with younger people with dementia and their families. Nine families (20 participants) took part in semi-structured research interviews that were transcribed and analysed using a Framework approach to qualitative analysis, resulting in over twenty hours of interview data. Four overarching themes have emerged from the Framework analysis: 1) Diagnosis; 2) Finances; 3) Relationships; and 4) Meaningful Activity. These themes are discussed in relation to how a greater understanding of the lived experience of early onset dementia may have significant clinical implications in the provision high-quality, age-specific services for this population. Such provision has the potential to decrease the direct and indirect costs of dementia to global economies while also impacting the quality of life for younger people with dementia and their families.

## LIVING ALONE WITH COGNITIVE IMPAIRMENT: A CALL TO ACTION

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Background: In 2012, the Alzheimer's Association proposed a "call to action" to address the needs of older adults living alone with cognitive impairment (CI). The report concluded that studies of those living alone

with dementia are extremely limited—primarily due to the challenges in recruiting participants for research (see Soniat, 2004). While most individuals diagnosed with dementia live with a caregiver, as many as 800,000 of individuals diagnosed with CI live alone—perhaps without any identified caregiver (Alzheimer's Association, 2012; Webber, Fox & Burnette, 1994; Prescop, Dodge, Morycz & Ganguli, 1999; Nourhashemi et al., 2005). As these individuals may have little or no support for conducting activities of daily living (ADLs) (Nourhashemi et al., 2005), they are likely to be even more isolated from formal sources of support (Miranda-Castillo, Woods & Orrell, 2010; Tierney et al., Tuokko, MacCourt & Heath, 1999; Webber, Fox & Burnette, 1994). Further, research has found this population is more likely to be undiagnosed for their CI (Edwards & Morris, 2007; Waugh, 2009). Methods: A cross-sectional survey design was utilized to better understand the population of persons living alone with CI. The National Health and Aging Trends Study (NHATS, 2011) is a nationally-collected and publicly available dataset which annually collects self-reported measures of CI on study participants sixty and older. A sample of 1,554 individuals, living on their own in a private residence met the criteria for the study ( $n=1554$ ). Descriptive statistics were generated to describe the sample of persons living alone with CI. Scale means, standard deviations, and correlations will also be presented. Results: Of those living alone with CI, 73.8% were female. While many had identified formal supports from family, much of the population was utilizing friends and neighbors as care providers. While 49.4% received mild to severely impaired cognitive impairment scores, only 3.0% reported they had been formally diagnosed with a form of Alzheimer's or dementia. Conclusions: Presentation will conclude with some suggestions on how to possibly alleviate challenges diagnosing CI for persons living alone, as well as recommendations for providing a continuum of social support services to this unique population.

## TRAJECTORY OF HEALTH AND FUNCTIONING OF MINORITY IMMIGRANT ELDERS: A LATENT GROWTH CURVE ANALYSIS

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Using 1992 to 2010 longitudinal data from the Health and Retirement Study, this study investigated the health trajectories over the life course for non-immigrants, and immigrants who came to the United States at different age. This research analyzed the initial HRS cohort (born 1931 to 1941) in the US ( $N=8,803$ ). Birth place was examined (foreign born=864). The outcome variables included biennial measure of whether they were still alive or not, self-reported health, number of ADL/IADL difficulties, depression (CES-D), and number of diagnosed diseases. We fit Cox proportional hazards models to identify the risk factors of mortality. Latent Growth Curve (LGC) modeling is performed to estimate changes of different health outcomes across the 18-year period. The results indicated that immigrants are 39% less likely to die than their non-immigrant counterparts. Further, estimates from LGC analysis showed that immigrant elders reported significantly worse health conditions and ADL, with a faster rate of deterioration. Immigrants also reported a higher level of depression. However, the decline rate of mental health was slower among immigrants than non-immigrants. When comparing across the immigrant groups, elders who moved to the United States at the older age (50 or older) had a hazard ratio of 28% comparing with the younger age (below 18) group. Findings point to the importance of considering all these correlates in improving the overall quality of care for minority immigrants to reduce racial and ethnic health disparities among older population in the US.

## CAN YOU DETECT DEMENTIA-RELATED SYMPTOMS? AN INVESTIGATION AMONG COMMUNITY-DWELLING NON-DEMENTIA OLDER ADULTS IN BEIJING URBAN AREAS

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Objective Early detection of the symptoms of dementia is of great importance for early diagnosis and treatment. This study aims to determine if older adults can detect dementia-related symptoms and to investigate their knowledge demands and attitudes toward dementia. Methods We designed 10 simulated cases with typical dementia-related symptoms and 5 cases with normal age-related complain. Totally 182 older adults were recruited from two urban communities in Beijing, China. They were asked to judge whether the actors in the simulated cases had possible dementia or not (will get one point on each case for a correct answer; the total score is 15). Their information demands and attitudes toward dementia were investigated with a self-designed questionnaire. Results The total score on the detection of the 15 simulated cases was  $(8.11 \pm 3.02)$ . The correct detection rate in the 10 dementia cases was 52.86% and the error detection rate in the 5 non-dementia cases was 37.80%; 41.21% of the participants would be hesitant to expose dementia diagnosis to others; 44.51% thought that dementia patients were discriminated. They expected to obtain information on dementia prevention (96.70%), early symptoms (80.22%) and risk factors of dementia (71.43%) through public media (81.32%) and health lectures (78.02%). Conclusion Half of older adults can correctly detect the symptoms of dementia, while 37.8% tend to judge the normal complains of aging as dementia-related symptoms. Public dementia education needs to be further strengthened to improve the detection rate of dementia. [Key words] Aged; Dementia; Symptom Detection; Attitude; Knowledge

## OLDER HISPANICS AND DENTAL CARE PARTICIPATION

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Reducing oral health care disparities is a national priority. Older minority adults are likely to have the poorest oral health care in the US population (Healthy People, 2020). Periodontal disease—a potentially debilitating condition that increases risk of other medical conditions—is greatest among Mexican Americans. Empirical findings support the contributions of increased age and membership in minority population to poor oral health (Centers for Disease Control, 2013). However, few studies have investigated oral health outcomes among the older Hispanic population. Guided by cumulative advantage/disadvantage theory, this paper presents findings from a secondary analysis of the 2010 wave of the Health and Retirement Study to investigate the relationship between dental care, socio-demographic, cost-related factors among older Hispanics. The analytic sample consisted of 2,646 respondents age 50 and older who identified as Hispanic. Multivariate regression models were conducted to identify factors associated with dental care participation. Results indicate that while controlling for demographic factors, older Hispanics who did not see a dentist compared to those who did see a dentist were more likely to indicate their health was poor, less likely to have a high school degree, more likely to have an income less than \$10,000, and more likely not to have dental coverage. Findings suggest that socio-demographic factors similar to other populations remain critical to participation in oral health care for the older Hispanic population. This investigation provides formative data for the development of interventions that will increase older Hispanics' participation in dental care initiatives.

## AN EVALUATION OF MEMORY TRAINING PROGRAM FOR COMMUNITY-BASED ELDERLY

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The purpose of this paper was to evaluate an innovative memory training program for older adults in Taichung, Taiwan. The training program was designed based on the five domains of cognitive functions: orientation, registration, attention and calculation, recall, and language. The program was also administered using recreational therapeutic techniques such as arts therapy, narrative therapy, and pressure-point head massage. A total of 317 older adults age 65 and over living in 10 different communities participated in a weekly program for three months. The research design was a pseudo-experimental design comparing the pre- and post-tests of the Mini Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA). The results showed half of the older adults were illiterate, 25% were living alone and 60% were between 75 and 84 years old. The older adults in all ten communities improved their cognitive scores. The MMSE and MoCA improved by an average of 5.8% and 5.9%, respectively. The subjective ratings of the older adults revealed that memory improvement and age were positively correlated. Based on the conventional assessment tools (MMSE and MoCA) and subjective ratings, this memory training program improved the cognitive functions for older adults (even with increased ages). This paper concludes by making suggestions about where and how this program can be implemented further, by making the content of the program published or developing computer-based training programs, so more older adults can benefit from maintaining their cognitive functions.

## THE EFFECTS OF UNSECURED CONSUMER DEBT ON DEPRESSIVE SYMPTOMATOLOGY AND PSYCHOLOGICAL WELL-BEING AMONG OLDER AMERICANS

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Unsecured consumer debt is an increasing problem among Americans. The deleterious consequences of holding debt transcend economic well-being and also may affect the psychological health of older adults. As older adults experience the effects of unsecured debt, a potentially significant source of stress, control beliefs directly related to the domain of control over personal finances, may be a pathway to improved mental health. We evaluated the association between unsecured debt and two distinct outcomes: depressive symptomatology and psychological well-being. Data from the 2006 Health and Retirement Study were utilized. There were 5,817 adults aged  $\geq 51$  years who responded to a core survey and psychosocial leave-behind questionnaire. Depressive symptoms were assessed using the revised 8-item Center for Epidemiologic Studies Depression Scale. Psychological well-being was evaluated in a leave-behind questionnaire that had 3 dimensions: self-acceptance, personal growth, and purpose in life. Our results indicated that thirty percent of the respondents had unsecured debt. The magnitude or amount of unsecured debt and the occurrence of unsecured debt were significant predictors of depressive symptoms and lower psychological well-being. Perceived control over personal financial circumstances was a significant predictor of higher psychological well-being. Among older Americans, unsecured debt has negative effects on mental health because of the associated depressive symptoms and decreased psychological well-being. The negative effects of unsecured debt on mental health are largely accounted for by perceived control over personal financial circumstances. Interventions enhancing older adults' control

over personal financial circumstances may protect against the psychological decrements experienced by those grappling with unsecured debt.

#### **ANALYSING FACTORS AFFECTING THE SUICIDE IDEATION AND ATTEMPTED SUICIDE OF THE ELDERLY AT RISK FOR DEPRESSION IN RURAL KOREA**

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Suicide rate by age group is rapidly rising in rural Korea. Yet, elderly at risk for depression properly has met community-based interventions against depression. This study examines factors related to suicide ideation and suicide attempt caused by depression for elderly who are living in rural Korea. The participants of this study are elderly suffering from depression and over 65 years old. Among the 7,310 participating respondents, 25.1% experienced suicide ideation and 4.6% attempted suicide. According to the result of logistic regression analysis, elderly under 74 years old living in town, with high level of education, low level of physical function, high depression and stress level, and low level of family relationship and social relation were more likely to have suicide ideation. And elderly under 74 years old living in urban area, with high depression and stress level, low level of family relationship and suicide ideation were more likely to attempt suicide. This study of the result shows that community mental health center systematically has to be managed.

#### **MENTAL HEALTH CARE FOR KOREAN ELDERS: ORGANIZATIONAL AND INDIVIDUAL PERSPECTIVES**

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Low-stigma, community-based settings have the potential to reach underserved older adults with unmet mental health needs. Asian elders have extensive depression needs, but few seek care from mental health specialists. This qualitative study takes a new direction by using a multi-level approach to examine mental health services from the perspectives of an ethnic nonprofit community-based organization and older Korean adult service users. Data were collected in two phases with all participants being from Korean descent (N=30). During Phase 1, organizational stakeholders, including direct service staff, executive administrators, and a board member (n=6), responded to questions about the agency's role in the community, older adults' needs and access to mental health care. Phase 2 involved three focus groups of Korean elders (n=24), where the elders were asked similar questions as organizational interviewees, with additional questions about perceptions of stigma, and mental health help-seeking resources. The study's multi-level findings show differences in the views of mental health care for Korean elders. Organizational stakeholders identified cultural and linguistic enabling factors as the prominent barriers to care. Meanwhile, service users identified issues related to mental health needs as the primary barrier to mental health service use. This study contributes to current literature by using a multi-level approach to examine community, organizational, and individual perspectives on mental health service use in a low-stigma setting. An integrated perspective that merges organizational and community perspectives is necessary to extend culturally-competent mental health care to minority elders.

#### **A SOCIETY-TO-CELLS MODEL FOR UNDERSTANDING DIGNITY AND DISPARITIES AMONG COMMUNITY-DWELLING OLDER ADULTS**

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Aims: The purpose of this discussion is to reframe existing knowledge about the concept of dignity among older adults in order to fill knowledge gaps regarding: (a) how dignity is experienced by diverse groups of community-dwelling older adults; (b) potential relationships

between dignity and health; and (c) which groups of older adults may be at higher risk for a loss of dignity (and associated health consequences). Background: Dignity plays a crucial role in health and well-being in later life. However, there has been little research on dignity among diverse groups of the community-dwelling elderly. This is important because globally, the majority of older adults reside in community settings (as opposed to hospitals, hospice, or longterm care). Methods & Data Sources: Major databases such as PubMed, CINAHL, and Scopus were searched for articles with abstracts available in English containing the word 'dignity' published anytime until July 2013. The Society-to-Cells Model of Resilience for Older Adults was used as a theoretical lens for classification of relevant abstracted findings. Implications: Certain community-dwelling older adults may experience synergistic effects of multiple, concurrent risk factors for a loss of dignity which could translate to health disparities. By reorganizing existing knowledge within a socio-ecological resilience framework, we discuss factors at the individual, family, and societal levels that could play a role in shaping dignity and related health outcomes (including possible physiological and cellular effects). Conclusion: This re-imagined framework provides a potential roadmap for the design of interventions aimed at promoting dignity and health in later life.

#### **AUTHENTICITY & ANXIETY: THEORIZING PUBLIC HEALTH PERSPECTIVES ON PERSON-CENTRED DEMENTIA CARE**

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Historically, dementia has been regarded as a social, rather than medical, problem (Kurz & Lautenschlager, 2010). While this may be the case, a public health perspective currently shapes the appearance of entitlements and supports for individuals with dementia diagnoses and their family and friend caregivers. Within a public health perspective on dementia, the prioritizing of personhood over dementia is ever widely accepted as a strategy healthcare professionals can use to combat the dehumanization of "severe disability" (Kitwood, 1997, p. 14). Within the person-centred philosophy advanced by Kitwood, anxieties concerning dementia are framed both as barriers to optimal care and as symptoms of maladapted relations to self and other. Social life, Kitwood suggests, is episodic; a series of situations. How individuals define and respond to situations has implications for the type of person they become. According to the logic of Kitwood's understanding of person-centred care, personal and collective anxieties about dementia are troubling primarily because of the way they can deplete an individual's "stock of learned [adaptive and experiential] resources for action" (p. 15), leading to a less developed personality (and by implication, a person of an inferior type). This paper draws from the fields of social psychology and critical disability studies to theorize contemporary understandings of person-centred dementia care. It analyzes how the expression 'persons with dementia' operates as a "narrative prosthesis" (Mitchell & Synder, 2000) that supports recognition of dementia as a threshold for the recovery of authentic personhood.

#### **PENSION PROTECTION DIFFERENCES AMONG OLDER INDIVIDUALS IN THE UK: WHAT IS THE ROLE OF ETHNICITY?**

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The receipt of a pension could significantly affect one's economic and social resources in later life. This is particularly important for minority ethnicity groups in the UK as they are less likely to be covered by a pension scheme and more likely to live in poverty than the White British majority population. Using data from the first wave of the UK Household Longitudinal Study, this paper examines the impact

of ethnicity on differentials in pension protection among men aged 65 and over and women aged 60 and over. This paper focuses on three types of pension protection for older individuals: state pension, pension credit (which means a guarantee credit for those people's income below £145.40; or a savings credit for those people who have saved some money towards their retirement) and occupational or private pension. The results show that, after controlling for key demographic, health, work history and socio-economic characteristics, minority ethnicity groups are less likely to receive state pension and occupational/private pensions than the White British; while, Indian and Bangladeshi older individuals are more likely to receive pension credit than the White British. Once the model is separated for men and women, men from minority ethnic groups are much less likely to receive a state or occupational/private pension than White British men; while, they are substantially more likely to receive the pension credit than their White British counterparts. Similarly, women from minority ethnic groups are less likely than White British older women to receive a state or occupational/private pension, however no significant results are found for the receipt of the pension credit.

### IDENTIFYING OLDER VICTIMS OF FRAUD

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Background: Previous research proposes that loneliness and cognitive decline make elders more susceptible to fraud, yet provides little consensus in identifying vulnerable groups. This is the first study to use nationally-representative data to classify U.S. adults over age 50 in the Health and Retirement Study (HRS) based on shared socioeconomic (SES)/demographic characteristics, and to determine which groups are most at risk of fraud and whether they have greater levels of loneliness and cognitive decline. Methods: First, latent class analysis was used to classify the full sample (N=12,703) into five distinct SES/demographic groups based on age, sex, race, marital status, education, and income. Second, multinomial logistic regression was used to determine which groups were associated with fraud victimization, and whether they had higher levels of loneliness and cognitive decline. Results: Five percent of respondents reported fraud. Compared to middle-class married older (65+) adults (reference class), high-SES younger (55 average age) married males (38% of the sample) and low-SES younger (55 average age) unmarried females (18% of the sample) had higher odds of fraud victimization (OR=2.64 and 1.92, respectively). Low-SES younger unmarried females had two times greater odds of loneliness, but neither group was more likely to experience cognitive decline compared to the reference class. Implications: The two populations most susceptible to fraud fall on opposite ends of the SES/demographic spectrum, with the exception that both groups are younger and less impaired than the literature suggests. Prevention efforts need to be tailored to each group specifically and begin targeting adults as young as fifty.

### INCORPORATING INTEGRATION OF EVIDENCE-BASED INTERVENTIONS INTO CLINICAL SETTINGS: AN OVERVIEW OF IMPROVEMENTS IN PRACTICE

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Since 2010, the Health Resources and Services Administration has required that Geriatric Education Centers (GECs) (N=45) identify and train health professionals to implement Evidence-Based Practices (EBP) in the topic areas of Delirium, Depression, Diabetes, Falls Prevention, or Palliative Care. HRSA facilitated the creation of EBP clinical protocols with GEC grantees and clinical experts in order to evaluate the outcomes of education and training. During the first two years of implementation (2011-2013) GEC grantees executed training related to the assessment and interventions of the clinical areas identified. The presentation will focus on practice outcome data of interventions being implemented in

the EBP areas. GECs chose primary disciplines from which to evaluate provider behaviors in clinical settings, with 68% choosing nursing, 22% choosing medicine and 10% choosing other types. A total of 4,657 providers were trained in the appropriate uses of evidence-based interventions, of which 73% were from the identified primary disciplines. Grantees relied on chart audits and other data collection methodologies to report rates of EBPs pre and post training. Post-training rates of implementation for interventions averaged 60% across EBP areas, with a practice change rate of 36% on average across EBP areas. Additional analyses investigating the impact of practice setting, provider type, and EBP area on practice outcome will be presented. This evaluation demonstrates that federal investments in geriatric education have the potential to improve practice and quality of care. Additional investigations into challenges facing EBP adoption are needed in order to alleviate the barriers to implementation for GEC grantees.

### PREDICTORS OF INSPECTION DEFICIENCIES IN FLORIDA'S ASSISTED LIVING FACILITIES: THE CONTRIBUTION OF REGION, SIZE, LICENSE TYPE AND PAYMENT SOURCE

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This study was conducted in response to a rash of forced closures among Florida's Assisted Living facilities (ALs). Structure and process variables are obtained from the ALF license and deficiency data available from the Florida Agency for Health Care Administration. The analysis is based on 3,460 ALs with a capacity to serve 88,306 residents. More than half (53%) accepted public funding. Most served six or fewer residents (N=1,890; 55%) while the remainder were split between 7-16 and 17 or more. Half of the ALs (47%) operated with just a Standard license that is required of all ALs. ALs may hold multiple licenses. Very few ALs (8%) held an Extended Congregate Care (ECC) License. One-third of Florida ALs are located in Miami-Dade while just 4% of ALs are in the Florida Panhandle. During the study time period, there were 16,002 inspections that generated 66,925 deficiencies. The average number and severity of deficiencies per investigation varied by region, size, licenses, and payment source. Multivariate analyses show the relative weight of each on total deficiencies. The results have implications for staffing, use of licenses for very impaired residents, and calibration of investigators in different regions of the state and other approaches to ensuring quality of care.

### HIGHLIGHTING LATE LIFE POTENTIAL THROUGH AN ETHNODRAMA INTERVENTION

J. Eaton, *University of Utah, Salt Lake City, Utah*

One barrier to the expansion of geriatric health care providers is the limited desire of nursing students to work with older adults. The purpose of this study is to evaluate the feasibility of utilizing ethnodrama as an intervention to highlight late life potential with nursing students and older adults. Twelve baccalaureate nursing students were paired with twelve residents of an assisted living facility. The intervention involved transformational learning activities involving self reflection, discussion, and student meetings with adult partners at three time points to complete semi-structured interviews on the topic of late life potential. The intervention culminated in a professional performance of the ethnodrama developed from these data. Data analysis involved reviewing participation logs and journals documenting the process of intervention construction and delivery. Transcripts of initial student meetings, performance, post-performance discussion, and open ended survey questions were analyzed utilizing in vivo and pattern coding in order to examine the ability of this intervention to highlight late life potential. Results demonstrate difficulty in recruitment of nursing students, fear of participating in data collection, as well as positive feedback regarding the overall process. Older adult participants recognized positive late life potential, and emphasized this in their feedback, while students explored potential throughout the lifespan and reflected on its meaning in their



own lives. Negative potential, while presented in the ethnodrama, was not prominent in participant feedback. Increasing discussion about late life potential may alter the stigma associated with aging, increasing student interest in working with the older adult population.

### **HOW DO RACIAL/ETHNIC SEDENTARY OLDER ADULTS JUSTIFY THEIR LOW PHYSICAL ACTIVITY LEVELS?**

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**Background:** Though exercise is an established component in the management of age-related chronic diseases, physical activity declines with age. Many seniors acknowledge the benefits of regular exercise yet do not participate in such activities. Knowing respondents' motivations for physical inactivity might inform interventions to increase physical activity among racial/ethnic minority seniors. **Methods:** Using principles of community-based participatory research, our team conducted 12 ethnic-specific focus groups with Chinese-Americans, Korean-Americans, African-Americans, and Latinos to assess cultural beliefs and practices around stroke and exercise. We enrolled 132 seniors aged 60 and older (mean age = 73) with hypertension history. Participants completed a questionnaire on exercise levels and audio were transcribed and coded by two independent raters. Themes from the transcripts were explored. **Results:** Over 30% (n=33) of participants reported not exercising at least 20 minutes 3 times a week or more. Most were knowledgeable about stroke risk factors and indicated exercise as a proponent of overall good health. Frequent justifications for physical inactivity from sedentary participants were: low perceived efficacy, dislike of exercise, self-reported laziness, medical concerns, and concerns for safety. **Conclusions:** Unstable attributions (i.e. those that can be changed, like perceptions and attitudes) were frequently used to justify physical inactivity. **Implications:** Attribution retraining targeting low perceived efficacy, dislike of exercise and self-reported laziness offers potential as a means to increase physical activity.

## **SESSION 1060 (SYMPOSIUM)**

### **GEROSCIENCE - AGING BIOLOGY AS THE COMMON RISK FACTOR FOR CHRONIC DISEASES**

**Chair:** F. Sierra, *Division of Aging Biology, National Institute on Aging, Bethesda, Maryland*

This symposium will focus on the emerging field of geroscience, an interdisciplinary field that aims to understand the relationship between the basic biology of aging and age-related diseases. A central concept of geroscience is that multiple human diseases arise from a common cause, aging itself. Thus, slowing down the process of aging (as it has been done in animal models) represents a potentially fruitful approach to concurrently address and combat the many chronic conditions of the elderly. The Geroscience Interest Group (GSIG) is a collaborative effort across several NIH Institutes to support the development of new tools, models and paradigms that address the basic biological underpinning of these multiple diseases. By pooling resources and expertise, the GSIG identifies major cross-cutting areas of research and proposes coordinated approaches to identify hurdles and envision solutions to the health problems of our burgeoning elderly population. While most of the effort of the GSIG focuses on increasing awareness within and across the NIH, some activities are also open to the scientific community at large, and these will be discussed. Current GSIG members will discuss progress and initiatives.

### **DRAMATIC EPIGENOMIC CHANGES IN HUMAN CELLULAR SENEESCENCE PRESAGE AGING AND CANCER**

S. Berger, *University of Pennsylvania, Philadelphia, Pennsylvania*

Genomic structure and function is regulated in part through covalent post-translational modifications (PTMs) of histones and altered nucleosomal structure. We are interested in the role of chromatin in regulating lifespan of cells and organisms. We are interested in evolutionarily conserved aspects of chromatin in aging, and study the yeast *S. cerevisiae* replicative cell aging and human primary fibroblast replicative senescence (RS) and oncogene-induced senescence (OIS) as models. We will report recent findings that show dramatic changes in the epigenetic landscape in both RS and OIS human senescent cells, and additional striking differences in OIS, which partially explain their pathway to cancer. These alterations reflect a profound reorganization of chromatin structure, that both alters architecture and gene-specific expression.

### **PSYCHOLOGICAL STRESS, PHYSIOLOGICAL STRESS, AND INDICES OF CELLULAR AGING**

E. Epel, *Psychiatry, UCSF, San Francisco, California*

The basic biology of aging overlaps in part with aspects of the stress response. Important processes such as regulation of inflammatory proteins, oxidative stress, and mitochondrial health are implicated in aging and are affected by chronic psychological and physiological stresses. In recent years a growing body of research has revealed associations between chronic stress or malleable lifestyle factors and indices of cellular aging, notably telomere length. Telomere length in turn is a reliable and significant predictor of early onset of many chronic diseases of aging, and may be helpful indicator of the aging process. New intervention studies that modify stress and/or health behaviors have used telomerase activity or telomere length as a barometer, with promising findings. Both the obstacles and promises of this intervention research for both biomarkers of aging and healthy lifespan will be discussed.

### **BIODEMOGRAPHIC MODEL FOR ANALYSES OF GENETIC EFFECTS ON PHYSIOLOGICAL DYSREGULATION IN AGING**

K.G. Arbeev, L.S. Arbeeva, D. Wu, A. Kulminski, I. Akushevich, S.V. Ukraintseva, A.I. Yashin, *SSRI, Duke University, Durham, North Carolina*

Recent advances in biodemography of aging resulted in development of mathematical models of aging incorporating several essential mechanisms of aging-related changes and development of approaches for assessing associations of physiological dysregulation with age and mortality. We implemented the novel measure of physiological dysregulation (DM) based on the statistical distance of biomarker profiles (Mech. Ageing Dev. 134: 110-117, 2013) in the frameworks of the genetic stochastic process model (J. Theor. Biol. 258: 103-111, 2009). This approach allows us to analyze genetic effects on physiological dysregulation and to evaluate how they are related to different aging-related characteristics (such as decline in stress resistance and adaptive capacity) indirectly from age trajectories of biomarkers and data on mortality collected in longitudinal studies. DM also allows working with multiple biomarkers in a one-dimensional setting instead of using multidimensional modeling. We illustrated the methodology by application to DM calculated from longitudinal measurements of blood pressure, heart rate, cholesterol, glucose, hematocrit, body mass index and mortality data for carriers of different numbers of single-nucleotide polymorphism alleles associated with survival in the genome-wide association study in the Framingham Heart Study data. We found differential patterns of physiological dysregulation among carriers of different numbers of such alleles and that these groups of individuals also differ in terms of other aging-related processes such as decline in stress resistance and adaptive capacity. This shows that there is a genetic component in such

hidden mechanisms of aging-related changes that may ultimately affect risk of death in carriers of such alleles.

## SESSION 1065 (SYMPOSIUM)

### HEALTH AND FUNCTIONING AMONG OLDER AMERICANS: TIME TRENDS AND COHORT CHANGE

**Chair:** E. Crimmins, *University of Southern California, Los Angeles, California*

This paper will examine changes in physical and cognitive functioning among older Americans over the past three decades using data from both the National Health and Nutrition Examination Survey (NHANES) and the Health and Retirement Study (HRS). Physical functioning has been improving among the oldest old in America in the last two decades but the rate of improvement has slowed in recent years. Cognitive functioning has also improved among these cohorts. We relate changes to levels of disease, health behaviors, and changes in cohort characteristics including education. We also investigate changes in mortality among those with and without functioning problems of both types. The combination of changes has resulted in an increase in physically and cognitively healthy life, with the increases in cognitively healthy life exceeding those in physically healthy life.

### HEALTH AND FUNCTIONING AMONG PEOPLE AGED 90 AND OLDER IN TAMPERE, FINLAND – TIME TRENDS AND ASSOCIATIONS WITH AGE

M. Jylhä, L. Enroth, T. Luukkaala, J. Raitanen, *University of Tampere, Tampere, Finland*

This paper will examine time trends in chronic disease, self-rated health and physical functioning in people aged 90 and older in Tampere, Finland. Data were collected by mailed interviews with everyone in the age group irrespective of health or place of living in 2001, 2001, 2007, 2010, and 2014. In the first four waves, the response rate varied between 79 and 86%. Between 2001 and 2010, the number of chronic disease was stable, but self-rated health worsened. ADL functioning improved slightly but mobility and the combined indicator of functioning did not change. Each year, functioning declined with increasing age, but multimorbidity and self-rated health were not associated with age. Between the years 2001 and 2010, disability-free life expectancy at age 90 increased for men, but remained almost stable for women. In the presentation, we will also include new findings from the year 2014.

### PRESIDENTIAL SYMPOSIUM: RECENT TRENDS IN HEALTH AND FUNCTIONING AMONG THE OLDEST OLD – FINDINGS FROM THREE EUROPEAN COUNTRIES AND THE US

M. Jylhä, J. Robine, *University of Tampere, Tampere, Finland*

Both in Europe and in the US, survival to age 80 or 90 has increased and people who have reached very old age live longer now than they did in the past. Yet it is not clear whether health and functioning among long-lived people have improved or whether more years are spent in poor health and disability at the end of life. Existing findings imply that trends may differ according to the health indicator used, between time periods, and also between the countries. Many studies, however, are limited by exclusion of institutionalized individuals or by low participation rates. In this symposium we will present findings from three representative population-based studies in Northern Europe and the US. The presentations focus on time trends in physical and cognitive functioning, chronic disease and self-rated health, and the differences between the genders. The data presented include the Swedish Panel Study of Living Conditions of the Oldest Old (SWEOLD), the study in cohorts born in 1905 and 1915 in Denmark, the Vitality 90+ Study in Tampere, Finland, and the National Health and Nutrition Examination Survey (NHANES) and the Health and Retirement Study (HRS) in the US. The discussant will bring the results together, focusing on similar-

ities and differences across the studies and addressing the methodological challenges in population studies in very old age groups.

### FUNCTIONING OF PEOPLE OLDER THAN 90 YEARS: A COMPARISON OF TWO DANISH COHORTS BORN 10 YEARS APART

K. Christensen<sup>1,5,6</sup>, M. Thinggaard<sup>1</sup>, A. Oksuzyan<sup>1</sup>, T. Steenstrup<sup>3</sup>, K. Andersen-Ranberg<sup>1</sup>, B. Jeune<sup>1</sup>, M. McGue<sup>2</sup>, J.W. Vaupel<sup>1,4,5</sup>, *1. Danish Aging Research Center, University of Southern Denmark, Odense, Denmark, 2. Department of Psychology, University of Minnesota, Minneapolis, Minnesota, 3. Department of Biostatistics, University of Southern Denmark, Odense, Denmark, 4. Max Planck Institute for Demographic Research, Rostock, Germany, 5. Max Planck Odense Center, University of Southern Denmark, Odense, Denmark, 6. Department of Clinical Genetics and Department of Clinical Biochemistry and Pharmacology, Odense University Hospital, Odense, Denmark*

We compared the cognitive and physical functioning of two cohorts of Danish nonagenarians, born 10 years apart: 2262 born in 1905 and 1584 born in 1915. The chance of surviving from birth to age 93-95 years was approx. 30% higher in the 1915 cohort than in the 1905 cohort. The 1915 cohort scored significantly better on the mini-mental state examination than did the 1905 cohort (22.8 [SD 5.6] vs 21.4 [6.0];  $p < 0.0001$ ). The cohorts did not differ consistently in the physical performance tests, but the 1915 cohort had significantly better activities of daily living scores than the 1905 cohort (2.0 [SD 0.8] vs 1.8 [0.7];  $p < 0.0001$ ). Despite being 2 years older at assessment, the 1915 cohort scored significantly better than the 1905 cohort on both the cognitive tests and the activities of daily living score, which suggests that more people are living to older ages with better overall functioning.

### TRENDS IN HEALTH AND DISABILITY AMONG THE OLDEST OLD IN SWEDEN

S. Fors, M.G. Parker, J. Fritzell, *Aging Research Center, Stockholm, Sweden*

As the oldest old population in Sweden, as in most other countries, have grown in numbers as well in the proportion of the total population, a crucial question is whether or not this trend has been accompanied by changes in the health status of the oldest old. We study the development using data from the Swedish Panel Study of Living Conditions of the Oldest Old (SWEOLD), a nationally representative study of older people (aged 77+). The first wave of SWEOLD was conducted in 1992 with follow-up surveys in 2002, 2004 and 2011. The survey comprises both community dwelling individuals and people living in institutions. The interviews encompass a wide range of health indicators as well as objective tests of physical and cognitive functions. Our results indicate increasing prevalence rates of self-reported pain, psychological problems and impaired mobility. However, at the same time we find that an increasing proportion can manage their activities of daily living (ADL) without help. These findings suggest an attenuation of the association between health problems and ADL-disability over the study period.

## SESSION 1070 (SYMPOSIUM)

### WAYFINDING TECHNOLOGIES: KEYS TO OLDER ADULT MOBILITY AND COMMUNITY ENGAGEMENT?

**Chair:** R.H. Hunter, *UNC Center for Health Promotion and Disease Prevention, Chapel Hill, North Carolina*

**Co-Chair:** W. Satariano, *University of California, Berkeley, Berkeley, California*

**Discussant:** J.A. Sanford, *Georgia Institute of Technology, Atlanta, Georgia*

Wayfinding is the process whereby people use environmental information to locate and find their way within familiar and unfamiliar settings. Being able to find one's way from place to place is basic to

daily life and may affect health-related behaviors such as walking and community engagement. This symposium explores the status, strengths and limitations of existing and emerging technologies to facilitate wayfinding in older adults and people with varying functional capabilities. It draws upon a three-year investigation of wayfinding research, practice and policy by the CDC-Healthy Aging Research Network, and it includes findings from a scoping review of the literature specific to wayfinding technologies. Technologies addressed are those that are either user or environmentally based or permit user-environment interaction. Presenters will establish the relevance and importance of wayfinding to older adults and people with varying functional capabilities, building on established person-environmental models. Presenters will summarize key findings from a review of literature on wayfinding technologies and older adults, people with visual impairments and people with cognitive limitations. They will provide insight into the state of wayfinding technologies and the potential to aid wayfinding. In addition, presenters will explore the limitations of wayfinding technologies, either inherent in the applications or uninvestigated effects on safety or other factors important to older adults. Presenters will highlight next steps for research, practice and policy. This work underscores the need for increased attention to the distinctive challenges in older adult wayfinding and the role of technology, especially given our rapidly aging and functionally diverse population.

#### WAYFINDING TECHNOLOGIES: OLDER ADULTS

W. Satariano<sup>1</sup>, M. Maus<sup>1</sup>, R. Hunter<sup>2</sup>, B. Belza<sup>3</sup>, D.B. Friedman<sup>4</sup>, S. Mullen<sup>5</sup>, A.E. Vandenberg<sup>6</sup>, 1. *University of California, Berkeley, California*, 2. *University of North Carolina, Chapel Hill, North Carolina*, 3. *University of Washington, Seattle, Washington*, 4. *University of South Carolina, Columbia, South Carolina*, 5. *University of Illinois, Urbana, Illinois*, 6. *Emory University, Atlanta, Georgia*

Ensuring effective wayfinding (WF) is critical for maintaining mobility among older adults. Reduced mobility, associated with either age or disability, is a public health burden. The purpose of this presentation is to discuss the role of technologies in facilitating WF in older adults. Wayfinding technologies used by people to support mobility and/or navigation include, but are not limited to, smartphones and environmentally-embedded devices, such as “talking signs.” We report the results of a review and synthesis of the literature on technologies as related to WF. We propose new research directions, including the need to better understand the use of these technologies in everyday settings and how they are related to public health outcomes such as increased mobility. We summarize opportunities and challenges of WF technologies, such as those associated with barriers and their equitable distribution in underserved populations.

#### WAYFINDING TECHNOLOGY FOR PEOPLE WITH COGNITIVE IMPAIRMENT: HOW EFFECTIVE, FUNCTIONAL, USABLE, AND USEFUL?

A.E. Vandenberg<sup>1</sup>, B. Belza<sup>2</sup>, R.G. Logsdon<sup>2</sup>, S. Mullen<sup>3</sup>, R.H. Hunter<sup>4</sup>, 1. *Emory University, Atlanta, Georgia*, 2. *University of Washington, Seattle, Washington*, 3. *University of Illinois, Urbana, Illinois*, 4. *University of North Carolina, Chapel Hill, North Carolina*

There is a need for people with age-related cognitive impairment (CI) to go places to remain physically, socially, and productively engaged. An integral aspect of navigation is wayfinding, which recruits executive brain functions and spatial representations and is therefore particularly challenging for people with CI. Yet technological solutions are emerging to overcome these challenges. We examined articles featuring CI wayfinding technologies’ functionality, usability, effectiveness, and usefulness. Salient functional components include just-in-time prompts, dual (caregiver-wayfinder) user interfaces, and routing algorithms based on need. Usability issues include communication modality for least cog-

nitive load. Many studies show proof of concept, but questions remain as to the usefulness of limited testing outside of complex real-world settings and the impact of specific types of cognitive impairment on usability. Findings are contextualized amid a full range of solutions including wayfinding skills training, environmental modification, and policies to track and locate missing elders with CI.

#### WAYFINDING TECHNOLOGIES: OLDER ADULTS AND VISUAL DISABILITIES

M. Maus<sup>1</sup>, W. Satariano<sup>1</sup>, B. Belza<sup>2</sup>, 1. *UC Berkeley, Berkeley, California*, 2. *University of Washington, Seattle, Washington*

Visual disabilities are a major contributor to decreased mobility and impairment among older adults. Way Finding Technology (WFT) is a rapidly expanding area of research and practical application that promises to help address the problems associated with decreased visual function. We will discuss some of the technologies available and being studied that are especially relevant to older adults. Examples of these technologies include wearable interfaces for orientation and wayfinding, smart environments, tactile technology, wearable computers, and GIS systems adapted for the visually impaired. We will also consider the difference between low vision aids and WFT. Finally, we examine the effects of WFT as related to clinical levels of impairment and its effect on navigation, driving, transportation use and walking.

#### SESSION 1075 (SYMPOSIUM)

##### HOUSING FOR LOW-INCOME OLDER ADULTS: INNOVATIVE MODELS

**Chair:** N.J. Webster, *University of Michigan, Ann Arbor, Michigan*

**Co-Chair:** S. Park, *University of Michigan, Ann Arbor, Michigan*

**Discussant:** R. Stone, *LeadingAge, Washington, District of Columbia*

A growing literature focusing on middle and high-income older adults has documented positive influences of independent living retirement communities on residents’ well-being. Nevertheless, more research is needed to better understand the role of housing in the context of fewer economic resources. This symposium focuses on diverse housing options available to low-income seniors, drawing upon multiple methodologies to explore innovative and theoretically grounded models. Using data from the Health and Retirement Study, Park and Kim in their application of the person-environment fit perspective found that among frail and cognitively impaired low-income older adults, living in affordable senior housing compared to other housing types was associated with lower odds of nursing home admission. Lehning and colleagues examined co-op housing offered to low-income older adults, finding three emergent themes: complementary and conflicting functions of service coordinators and member volunteers, bureaucratic barriers to coordination and communication, and member reluctance to seek support. Antonucci and colleagues present findings from a field experiment to adapt and implement the successful aging model in affordable housing communities. They found residents generally were satisfied with their living environment, but less satisfied with their influence on the community. Lewinson describes a community-based participatory research project conducted with older adults living in hotels. Residents developed a community identity and prioritized four areas for improvement: community monitoring, social engagement, walkability, and interior design. These studies document contexts in which senior housing is most beneficial for low-income seniors, as well as barriers encountered. Implications for future application and intervention research will be discussed.

## HEALTH, RESIDENTIAL ENVIRONMENT AND NURSING HOME ADMISSION AMONG LOW- INCOME OLDER ADULTS

S. Park, B. Kim, *University of Michigan, Ann Arbor, Michigan*

Affordable senior housing has been promoted as a long-term care policy for low-income elderly. However, little research exists that empirically examines its role in helping elders age-in-place. Drawing from person-environment fit and person-centered perspectives, this study explores the association between housing type and likelihood of nursing home admission across health contexts among low-income older adults. The 2006 wave data of Health Retirement Study was used ( $N = 1948$ , age range 61-109). Latent class analysis identified four health subgroups (physically impaired, cognitively impaired, frail, and healthy), and propensity score matching technique estimated senior housing. Affordable senior housing (22%) was not related a nursing home admission. However, among the frail and the cognitively impaired subgroup, older adults living in affordable senior housing were less likely to be admitted to a nursing home. The findings provide needed empirical evidence for housing policy and intervention programs for low-income older adults.

## AGING IN PLACE IN LOW-INCOME COOPERATIVE SENIOR HOUSING: THE ROLE OF VOLUNTARY AND PROFESSIONAL SUPPORT

A.J. Lehning<sup>1,2</sup>, R. Dunkle<sup>2</sup>, S. Park<sup>2</sup>, H. Wiseman<sup>1</sup>, *1. School of Social Work, University of Maryland, Baltimore, Maryland, 2. University of Michigan, Ann Arbor, Michigan*

Cooperative housing, which emphasizes autonomy and community, offers a promising setting for aging in place. We examined a co-op model offered to low-income older adults in the Detroit area. These co-ops have historically taken a volunteer approach to service provision through a program in which members provide support to other members. In recent years, however, several co-ops have opted to hire a professional service coordinator. Focusing on 4 co-ops, we analyzed data from multiple sources, including member surveys, service coordinator interviews, observations, document reviews, and interviews with member volunteers. Common themes included 1) complementary and conflicting functions of service coordinators and member volunteers, 2) bureaucratic barriers to more effective coordination and communication between formal and informal support, and 3) member reluctance to seek out assistance from any source of support. Implications for cooperative housing, as well as aging-in-place interventions combining voluntary and professional support, will be discussed.

## SUCCESSFUL AGING MODEL: PRELIMINARY EVIDENCE FROM AN AFFORDABLE HOUSING INTERVENTION

T.C. Antonucci, R.L. Kahn, N.J. Webster, *University of Michigan, Ann Arbor, Michigan*

Application of Rowe and Kahn's Successful Aging Model to senior housing has mostly been limited to continuing care retirement communities (CCRCs) consisting of residents relatively high in income and education. This paper reports findings from a field experiment to adapt and implement the model in affordable housing communities. Comparison of preliminary baseline findings with data from CCRCs suggests considerable demographic and health differences. The affordable housing residents are older, more likely to be female, less educated, less likely to be married, and generally report worse health. Affordable housing residents were generally very satisfied with their living environment, but less satisfied with their influence on their community. These findings guided the intervention's focus on empowering residents. The implementation of programs and activities focused on meals, exercise, computer use, vegetable gardens, and group social outings. Follow-up data on the effectiveness of the ongoing intervention will also be reported.

## WHEN AGING IN PLACE ISN'T ENOUGH, AGE IN COMMUNITY: BUILDING INTENTIONAL COMMUNITIES WITH PHOTOVOICE

T. Lewinson, *School of Social Work, Georgia State University, Atlanta, Georgia*

Although extended stay hotels are welcomed housing solutions for some displaced and chronically-ill older adults desiring to stay independent, many experience challenges with social isolation, resource deficiency, and environmental threats to well-being (Lewinson, 2014). A focus on "aging-in-place" often prioritizes dwelling-based interactions and obscures the influence of complex community conditions affecting the quality of one's home. The concept of "aging-in-community" provides a lens for considering broader community influences and is especially useful for exploring the social worlds of adults residing in unique housing arrangements, like extended stay hotels. This panelist will describe a photovoice project with 16 older adults residing in 9 different hotels that resulted in the formation of one "intentional community" (Thomas & Blanchard, 2009). Through individual photography, four guided focus group discussions, and three teleconferences, participants developed an intentional community identity and prioritized four areas for improved aging-in-community: community monitoring, social engagement, safe walkability, and interior design.

## SESSION 1080 (SYMPOSIUM)

### OLDER ADULTS AND DIABETES: THE SOCIAL AND CULTURAL CONTEXTS SHAPING PATIENTS' ILLNESS MANAGEMENT

**Chair:** S. Chard, *Sociology & Anthropology, UMBC, Baltimore, Maryland*

**Co-Chair:** J. Eckert, *Sociology & Anthropology, UMBC, Baltimore, Maryland*

**Discussant:** R. Rubinstein, *Sociology & Anthropology, UMBC, Baltimore, Maryland*

Diabetes is a leading cause of morbidity and mortality among older adults in the U.S. The Subjective Experience of Diabetes among Urban Older Adults is a 3-year NIA-funded cross-sectional study exploring older adults' diabetes experiences. Grounded in social constructionist theory, this study argues that progress in diabetes control requires understanding patients' own ideas about diabetes, including diabetes' nature, progression, and treatment, as well as how these ideas are shaped through clinical encounters and lay experiences. Our community-based sample of African-American and non-Hispanic white older adults is drawn from the larger longitudinal study, Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS). We employ an adaptation of the McGill Illness Narrative Interview (MINI) for our in-depth interviews. This symposium examines our findings related to how participants' diabetes beliefs and diabetes self-management are heavily grounded in cultural and gendered understandings of diabetes, the body, and social roles. More specifically, in the four papers presented here we explore 1) how participants conceptualize health and well-being in the context of diabetes, 2) how African-American women in particular frame their illness in terms of gender and ethnicity, 3) the unintended ways in which practitioner encounters shape diabetes understandings, and 4) the operationalization of self-management in complex daily lives. Together, these papers illuminate the importance of considering the personal meaning of diabetes in both one-on-one clinical encounters and in the design of diabetes interventions.

### DEFINING 'HEALTHY' ON THEIR OWN TERMS: REFLECTIONS OF OLDER ADULTS WITH TYPE 2 DIABETES

A.M. Reese, *UMBC-Center for Aging Studies, Baltimore, Maryland*

In our ethnographic research examining older African Americans' and non-Hispanic whites' diabetes experiences in Baltimore, partici-

pants express varying notions of what it means to be healthy. These varied subjective understandings of healthiness are embedded in the overall contexts of participants' lives which sometimes include multiple chronic conditions, economic hardships, and providing care for others. This paper explores how participants define healthiness and how they see themselves in relation to both subjective definitions and whether such states of healthiness are obtainable. These subjective understandings of healthiness demonstrate the malleability and the nuanced nature of beliefs about healthiness. They also suggest that participants' understanding of their healthiness is not solely influenced by their current health conditions or by what their physicians tell them; rather, participants' draw from various information sources, including media, friends, family, and their own experiences.

### **EXPLORING AFRICAN-AMERICAN WOMEN'S EXPRESSIONS OF POWER AND STRENGTH AS A MEANS TO MANAGING DIABETES**

B. Harris-Wallace, *Sociology and Anthropology, University of Maryland Baltimore County, Baltimore, Maryland*

This paper uses in-depth, qualitative interviews with African-American women (n=20) to examine and develop gender- and culturally-specific modes for understanding diabetes and disease treatment. In U.S. culture, African American women often take on the role of the 'strong Black woman,' who is resilient against adversity. We contend that as our sample of African-American women struggle to make sense of and master diabetes self-management they exert their strength and power in multiple ways, including taking on the identity of caretaker for others, drawing on faith and spiritual resources for support, and utilizing culturally-influenced lay models of care instead of the physician-recommended traditional medical models of care. Acknowledgement of these power strategies may help healthcare providers in the development of gender and culturally sensitive approaches to diabetes treatment.

### **THE PERLOCUTIONARY EFFECT OF HEALTH CARE PROVIDERS' WORDS ON OLDER ADULTS WITH TYPE 2 DIABETES**

E.G. Roth, L. Girling, *Sociology & Anthropology, UMBC, Baltimore, Maryland*

Literature suggests effective treatment of diabetes is largely dependent on management of lifestyle and diabetes self-care. Provider communications can significantly impact patient adherence. In this paper, we will address the perlocutionary effect of patient-provider communication, where the provider's message (locution) impacts patient behavior (or self-care actions) whether intended or not. This paper draws from in-depth, qualitative interviews with older adults with diabetes mellitus to better understand their subjective interpretations and consequent effect upon health behaviors. In particular, we explore the individual's logic and coping strategies used to negotiate and internalize provider's verbal communications. Providers' messages and their perlocutionary effects will be considered in terms of clinical implications on treatment adherence and health outcomes.

### **OPERATIONALIZING DIABETES SELF-MANAGEMENT: THE PATIENT'S PERSPECTIVE**

S. Chard<sup>1</sup>, C.C. Quinn<sup>2</sup>, 1. *Sociology & Anthropology, UMBC, Baltimore, Maryland*, 2. *University of Maryland School of Medicine, Baltimore, Maryland*

The biomedical model of diabetes presents self-management as key to controlling diabetes. Through a biomedical lens, self-management involves nutritional management, regular physical activity, glucose-testing, and medication. Based on our ethnographic interviews among African-American and non-Hispanic white older adults in a major mid-Atlantic city, this paper examines how participants operationalize self-management. The findings suggest that participants develop complex, highly individualized self-management schema in order to

be "in control." These self-management plans often involve the careful balancing of long-term priorities, the contingencies of daily life, and subjective understandings of biomedical self-management. This paper highlights the importance of exploring how participants themselves conceptualize self-management in efforts to improve patient outcomes.

## **SESSION 1085 (SYMPOSIUM)**

### **LONG-TERM EFFECTS OF MILITARY SERVICE ON THE HEALTH AND WELL-BEING OF AGING VETERANS**

**Chair:** A. Spiro, *MAVERIC/NAS, VA Boston, Boston, Massachusetts, Boston University, Boston, Massachusetts*

**Discussant:** R.J. Waldinger, *Massachusetts General Hospital, Boston, Massachusetts*

We examine the long-term effects of military service, both positive and negative, on the health and well-being of aging veterans. These contributions capitalize on longitudinal studies to conduct empirical analyses and evaluate theoretical arguments concerning the varied nature of these effects. Spiro and colleagues suggest that although most consider short-term negative consequences of military service there are important positive outcomes as well, and they outline an agenda for future research. Stawski and colleagues describe the veteran population of cohorts in the Health and Retirement Study, noting that about 25% report military service. Given its breadth and longitudinal design, the HRS is valuable for examining long-term effects of military service. Franz and colleagues examine the impact of PTSD symptoms on brain structures among Vietnam veterans, and found that having more symptoms was associated with reduced hippocampal and amygdala volumes nearly 20 years later. Landes and colleagues linked the NHIS to NDI to compare mortality between veterans and the general population; while wartime veterans had higher mortality, peacetime veterans did not. Smoking mediated and/or moderated the mortality effects, as did various socioeconomic factors. Silverstein and colleagues found that WW2 veterans in the LSOG showed greater civic engagement than did other veterans or non-veterans, and that this influenced their children's engagement. Our discussant will illustrate how these studies, combined with other ongoing longitudinal studies, can yield evidence of the long-term outcomes of military service, and that both positive and negative effects of military service should be considered in the study of lifespan development.

### **ARE THERE LONG-TERM BENEFITS OF MILITARY SERVICE?**

A. Spiro<sup>1,2</sup>, R.A. Settersten<sup>3</sup>, C.M. Aldwin<sup>3</sup>, 1. *MAVERIC/NAS, VA Boston, Boston, Massachusetts*, 2. *Boston University, Boston, Massachusetts*, 3. *Oregon State University, Corvallis, Oregon*

Most evidence on the effects of military service focuses on short-term negative consequences, especially mental and physical injuries for those deployed to war zones. In contrast, lifespan studies surprisingly reveal long-term effects – both early effects that grow over time and new ones that emerge later. These effects, which exist in a variety of domains of health and well-being, have been found in aging veterans of WWII and the Korean War, and are now being found in veterans of the Vietnam War. There are individual differences in these long-term effects, as well as changes over time within individuals. Each war also has unique characteristics and contexts that modify these effects. We synthesize and evaluate evidence for long-term benefits of service for veterans of different wars, offer possible explanations, and set an agenda for dedicated inquiry into both positive and negative long-term effects of military service on aging and health.

## EXPLORING THE VETERAN MORTALITY DIFFERENTIAL: THE INFLUENCE OF WAR AND SMOKE

S. Landes<sup>1</sup>, M. Ardel<sup>1</sup>, A.T. Landes<sup>2</sup>, 1. *University of Florida, Gainesville, Florida*, 2. *North Florida/South Georgia Veterans Health System, Gainesville, Florida*

Compared with the general population, veterans are reported to have poorer reported health and increased psychological distress. While an important finding, prior research has not fully explored how these health differences influence mortality outcomes. Using a sample of 242,397 adults from the linked National Health Interview Survey – National Death Index, this research explores the veteran mortality differential. Overall, veterans had a higher mortality risk than non-veterans. Exploration by veteran cohorts revealed that the increased veteran mortality risk was evident only for those whose possible service entry year coincided with a major conflict (World War II, Korea, Vietnam). However, smoking status mediated/moderated the veteran mortality differential. Disability status and income also were significant delimiters of the veteran/non-veteran mortality differential for the Korean War and Vietnam War cohorts, respectively. Results show that although a veteran/non-veteran mortality differential exists, it can possibly be addressed by attending to health behavior and socioeconomic circumstances.

## MILITARY SERVICE AND CIVIC ENGAGEMENT OVER THE LIFE COURSE AND ACROSS GENERATIONS

M. Silverstein<sup>1,2</sup>, A.S. London<sup>1,2</sup>, J. Wilmoth<sup>1,2</sup>, 1. *Sociology, Syracuse University, Syracuse, New York*, 2. *Aging Studies Institute, Syracuse, New York*

This paper uses a life-course perspective to investigate the association between prior military service and civic engagement in later life and across generations. Using data on 322 fathers and 758 of their offspring from the Longitudinal Study of Generations, we compare World War II veterans to veterans who served in other periods and non-veterans with respect to volunteer activities between 1971 and 2005. Veterans who served during World War II tended to have high rates of volunteer activity in post-retirement compared to veterans who served at other times and non-veterans. We also investigate whether volunteering by these fathers promoted pro-social values and volunteering among their adult children. Results are discussed in terms of the unique life course position of veterans whose World War II service reinforced a culture of civic engagement.

## PREVALENCE AND TENURE OF MILITARY SERVICE AMONG OLDER ADULTS: FINDINGS FROM THE HEALTH AND RETIREMENT STUDY (HRS)

R.S. Stawski<sup>1</sup>, G.G. Fisher<sup>2</sup>, C. Wu<sup>1</sup>, 1. *Oregon State University, Corvallis, Oregon*, 2. *Colorado State University, Fort Collins, Colorado*

Investigating the impact of military service is important for understanding the effects of major early life experiences and transitions on later-life outcomes. The current study examined the prevalence and tenure of military service among older adults (age 50+), drawing on data from four cohorts of the Health and Retirement Study: HRS Cohort (born 1931-1941), AHEAD (born <1924), Children of the Depression (CODA: born 1924-1930) and the War Baby Cohort (WB: born 1942-1947). Of the 23,691 participants represented across these cohorts 26.5% of HRS, 20.8% of AHEAD, 25.9% of CODA, and 24.6% of WB respondents identified as having served in the military. Average tenure of service was 4.1 years (range 0-37) across all cohorts. Furthermore, on average respondents with military service have 5-7 waves (10-14 years) of longitudinal data (range 1-10 waves). Thus, HRS is a rich resource for examining the impact of military service on health and wellbeing in aging.

## LONGITUDINAL NEUROANATOMICAL CORRELATES OF POSTTRAUMATIC STRESS SYMPTOMS

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Neuroimaging studies contribute to our knowledge of the development and consequences of posttraumatic stress disorder (PTSD). Most research on the neurocircuitry of posttraumatic stress (PTS) focuses on individuals who exceed the diagnostic threshold for PTSD rather than on individuals who are subthreshold but may suffer emotional and functional impairment. 502 Vietnam Era Twin Study of Aging participants were assessed at age 37 for military-service-related PTS symptoms and combat exposure, and underwent magnetic resonance brain imaging at age 55. We observed small but significant negative phenotypic associations of PTS symptoms with hippocampal volume, amygdala volume, and hippocampal occupancy (an indicator of hippocampal shrinkage). Combat exposure was not associated with these brain measures. Associations remained significant after excluding individuals with probable PTSD diagnoses. Thus these effects are not limited to individuals meeting PTSD diagnostic criteria. Given the large cohorts of aging veterans, these longitudinal results have implications for aging and public health.

## SESSION 1090 (SYMPOSIUM)

### CIVIL SOCIETY, GENERATIVITY AND THE THIRD AGE

**Chair:** I.R. Jones, *Social Sciences, Cardiff University, Cardiff, United Kingdom*

**Discussant:** G. O'Neill, *National Academy on an Aging Society, Washington, Washington*

Do the attributes and dispositions which strengthen or weaken social participation vary over time and place and between different social groups? Are we living through a time when the interests of one 'selfish generation', the boomers, clash with the interests of a newer, but equally 'selfish generation', the children of the boomers or so-called 'echo generation' brought up to be even more self-obsessed than their parents? The aim of this symposium is to consider the future of civil society in the light of these changing times. While promoting intergenerational solidarity has been a key aim of policy at national and international levels, others in academia and the media have been prophesying the demise of such solidarity and with it the demise of civil society itself. This symposium will examine the concept of civil society, its relationship with generativity and inter-generational relationships and the extent to which the rise of the third age – as ideology and as cultural practice – might confound the realisation of national and international policy goals associated with social participation and social solidarity across the generations. In so doing the symposium will present theoretical and empirical work addressing cohort and generational differences in volunteering and social participation and the relationships between trust, inequality, democracy and civic engagement in later life.

### CHANGING THEORETICAL PERSPECTIVES ON CIVIL SOCIETY AND LATER LIFE

I.R. Jones, *Social Sciences, Cardiff University, Cardiff, United Kingdom*

Civil Society is subject to often intense theoretical debates about how it should be defined and what it represents. Some scholars, relating associational life with social capital, have suggested we are witnessing its long term decline with deleterious effects for social cohesion. Some see its resurgence in new social movements and protest, while for others it offers a means to social renewal. It is seen as; a third force resisting the systemic colonization of the life world; a non-governmental space of plurality, transparency, rights based approaches and solidarity; a radical reaction to global capitalism and; an alternative to statism most recently conveyed through the rhetoric of a 'Big Society'. It therefore inspires

appeals to virtue and the good life that cross the political spectrum while its negative potential and contradictions are often glossed over. This paper will explore the implications of these debates for later life.

### **THE THIRD AGE, GENERATIVITY AND INTERGENERATIONAL SOLIDARITY**

P. Higgs, *Faculty of BrainSciences, University College London, London, United Kingdom*

Over the past decade European societies have seen the rise of a concern about the relative balance of benefits accruing to different cohorts or generations. Generally this has been expressed in terms of older generations benefitting from the stability and prosperity of the period leading up to the economic recession of 2008 while younger cohorts have suffered greater instability and costs that have in turn constrained their opportunities. The third age has entered into this mix by projecting a habitus for those in retirement that seems to validate these unfair circumstances. As a consequence some political commentators see intergenerational conflict emerging as a line of fracture in European societies at a time of austerity and political re-alignment. This paper addresses the extent to which the third age undermines intergenerational solidarity and interrogates the discourse of the decline of generativity among older cohorts.

### **THE IMPACT OF TRUST, DEMOCRACY AND INEQUALITY ON LATE LIFE VOLUNTEERING IN EUROPE**

M. Hyde, *Stress Research Institute, Stockholm, Sweden*

Aim Studies rarely consider how political and institutional factors influence volunteering. This paper examines cohort differences in volunteering and the relationships between trust, inequality, corruption and democracy on volunteering in later life. Methods The sample comes from the European Social Survey (N=44,243). Doing any voluntary work in the last year and trust in institutions were based on self-reported data. The Corruption Perceptions Index, Gini index and Democracy Index were matched to each country. Results. Older cohorts are less likely to volunteer but this varies internationally. Trust in institutions was positively associated with volunteering in later life. Cross-national comparisons show that this holds for Western and Northern European countries but not elsewhere. Also less corrupt, more equitable and more democratic countries have higher rates of older volunteers. Conclusion. Creating more open, accountable and equitable societies will encourage older people to volunteer, which in turn contributes to a healthy civil society.

### **GENERATIVITY AND GENERATIONAL RELATIONS**

C. Gilleard, *UCL, London, United Kingdom*

This contribution will outline various formulations of Erikson's concept of generativity before considering their applicability to conceptualizations of the third age and civil society. Recent debates concerning 'generational equity' imply that generativity is a quality in short supply amongst current baby boomer cohorts (more particularly, those born in the period 1945-1960). Such arguments suggest that social circumstances influence the patterning of adult development. A distinction can be made between inter-generational familial and intra-generational societal generativity, and the present paper argues that while levels of intra-generational societal generativity may have declined, inter-generational familial generativity has not. While modernity enhanced civil society and reduced the influence of the family, late modernity, I suggest, is reversing that trend.

## **SESSION 1095 (SYMPOSIUM)**

### **SPIRITUALITY, HEALTH AND AGING: MODERATORS OF THE SPIRITUALITY - HEALTH ASSOCIATION**

**Chair:** J.H. Patrick, *West Virginia University, Morgantown, West Virginia*

**Co-Chair:** P.S. Fry, *Trinity Western University, Langley, British Columbia, Canada*

**Discussant:** P.M. Wink, *Wellesley College, Wellesley, Massachusetts*

That religiousness and spirituality are associated with physical health and well being is well documented. Newer research examines the conditions under which the effects of spirituality are attenuated and those under which it is enhanced. This collection of papers discusses various moderators of the spirituality-health relation among diverse samples of adults. Related to age and coping, Graf, Patrick and Henrie discuss the role of age, spirituality, and morbidity among 800+ bereaved adults. Within the context of emotional health, Ronneberg, Miller, Dugan, and Porell examine the effects of religiousness and spirituality. Situating the spirituality-health link within the context of intergenerational relationships, Prem S Fry presents mortality data from 460 adults who engaged in sharing their beliefs, values and ideals with younger family members. Hannum and Black present data in which current and future care needs, social support among childless women, and religious- or spiritually-based faith systems are examined. Finally, turning to specific health contexts, Park, Aldwin, Choun, and George examine the role of spirituality for promoting emotion regulation and reducing mortality among adults with congestive heart failure. Our discussant, Paul Wink, highlights the variety of contexts in which spirituality does and does not influence morbidity and mortality.

### **TO EVERYTHING THERE IS A SEASON: RELIGIOUS BELIEFS, SPIRITUALITY AND COPING WITH BEREAVEMENT OVER TIME**

A.S. Graf<sup>1</sup>, J.H. Patrick<sup>1</sup>, J. Henrie<sup>2</sup>, *1. West Virginia University, Morgantown, West Virginia, 2. Research Inst. on Addictions, SUNY, Buffalo, New York*

Religious and spiritual coping are known to help alleviate grief, contributing to both emotional and physical health (Wortmann & Park, 2008). Other coping mechanisms, such as positive reappraisal and avoidance, are also associated with specific positive and negative health outcomes (Aldwin & Yancura, 2004). It is important to understand how available internal resources come together to reduce detrimental health effects common during bereavement. The current study examined the interrelations and effects of religious beliefs, spirituality, and coping on physical well-being among bereaved adults (N = 766, mean age = 32.53, SD = 11.61, range 18 to 80 years). Age and gender effects were also examined. Using structural equation modeling, an initial test of model fit indicated reasonable fit to the data (Chi sq (18) = 127.27, p < .001, GFI = .971, RMSEA = .089). We anticipated these effects might differ between recently bereaved individuals (< two years; n = 386) and those who have had more time to adjust (> two years; n=380). Multi-group comparisons revealed structural differences between the models (CMIN (24) = 40.177, p = .020), suggesting different patterns of association among the variables of interest. Religious beliefs and spirituality did not directly influence physical well-being for either group in this sample, but indirect effects were found through coping methods. Religious beliefs and spirituality therefore represent important personal resources associated with preventing health declines, especially among the recently bereaved.

## CHILDLESSNESS, CHRONIC ILLNESS, AND RELIGION IN LATER LIFE CARE NEEDS

S. Hannum<sup>1</sup>, H. Black<sup>2</sup>, *1. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 2. University of Maryland, Baltimore County, Baltimore, Maryland*

The latter years of an individual's life are often punctuated with increased morbidity, prompting older persons to seek various sources of support, the balance of which often falls to biological children. For those who remained childless, however, issues of current or future care needs may be a primary concern. We therefore sought to answer: How are conceptualizations of aging and time affected by religious belief in the lives of childless older women? Utilizing data from the Generativity and Lifestyles of Older Women (GLOW) study (N=200), we analyzed relevant qualitative interviews regarding current and future care needs, the role of social support among childless women, and the impact of a religious- or spiritually-based faith system in projections of both the future and future care needs. This paper thus explores emergent themes surrounding care needs and expectations in the lives of childless older women, as affected by religious belief.

## THE PROTECTIVE EFFECTS OF RELIGIOSITY ON DEPRESSION: A 2-YEAR PROSPECTIVE STUDY

C.R. Ronneberg, E.A. Miller, E. Dugan, F.W. Porell, *Gerontology, University of Massachusetts Boston, Boston, Illinois*

This study examines whether religiosity protects against depression and/or aids in recovery. Data are from the 2006 and 2008 waves of the Health and Retirement Study. The baseline (2006) sample consists of 1,992 depressed and 5,740 non-depressed older adults (mean age=68.12 years), for an overall sample size of 7,732. Logistic regressions analyzed the relationships between organizational (OR), non-organizational (NOR), and intrinsic (IR) measures of religiosity and depression onset as well as recovery, at follow-up (2008), controlling for other baseline factors. Results indicate that individuals not depressed at baseline remained non-depressed two years later if they frequently attended religious services (OR), while those depressed at baseline were less likely to be depressed at follow-up if they more frequently engaged in private prayer (NOR). Strategies to prevent and relieve depression among older adults include improving access and transportation to places of worship and encouraging discussions around religious activity with mental health professionals.

## INTER-GENERATIVITY AS A PREDICTOR OF MORTALITY AMONG OLDER ADULTS: A 6.5 YEAR LONGITUDINAL STUDY

P.S. Fry, *Trinity Western University, Langley, British Columbia, Canada*

For purposes of this study, inter-generativity is defined as "concern and activity dedicated to contributing to the well-being of others, especially younger generations" (Erikson, 1982) and is postulated to be a driving motivation for social activity and productive engagement in old age (Narushima 20050). Within the predetermined scope, conceptualization and formalization of the concept of inter-generativity, we also included the concerted attempts of older generations of individuals to share with younger generations their beliefs, values and ideals of spiritualism, religion, universality, and humanity. The study had a sample of 460 older adults between the ages of 70 to 90 years. Results of the longitudinal analysis derived from a set of Cox regressions showed that inter-generativity was a significant predictor of longevity. Participants with low levels of inter-generativity at the time of baseline assessment were at a 35% higher risk of mortality compared with those at high levels of inter-generativity at the time of baseline assessment. Implications of the findings are discussed in terms of successful aging

## DO RELIGIOUSNESS AND SPIRITUALITY HAVE DIFFERING PATHWAYS TO MORTALITY? TESTING THE SELF-REGULATION MODEL IN CONGESTIVE HEART FAILURE PATIENTS

C. Park<sup>1</sup>, C.M. Aldwin<sup>2</sup>, S. Choun<sup>2</sup>, L. George<sup>1</sup>, *1. University of Connecticut, Storrs, Connecticut, 2. Oregon State University, Corvallis, Oregon*

We tested a recently proposed self-regulation model of the effects of religiousness and spirituality on health by examining mortality in a prospective study of 191 congestive heart failure patients (64% male; Mage = 68.6 years, SD = 10.1) followed for five years. Effects of religiousness (e.g., service attendance) were expected to occur through behavioral self-regulation of health habits and adherence, while the effects of spirituality (e.g., self-transcendence) were expected to be mediated via emotional regulation, reflected in positive and negative affect. The model was partially supported: Controlling for age and health status, religiousness was unrelated to mortality, but spirituality had a protective effect, decreasing mortality risk by 70%. Effects of religiousness on mortality were weak and indirect through health behaviors, while effects of spirituality on mortality were direct as well as partially mediated by depressed affect. Spirituality appears to be an important independent protective factor in this very ill sample.

## SESSION 1100 (SYMPOSIUM)

### FOR BETTER OR FOR WORSE? AGE-RELATED DIFFERENCES IN EMOTION REGULATION AND RECOGNITION

**Chair:** G. Luong, *Affect Across the Life Span Research Group, Max Planck Institute for Human Development, Berlin, Germany*

**Co-Chair:** C. Cohnes, *Affect Across the Life Span Research Group, Max Planck Institute for Human Development, Berlin, Germany*

The symposium focuses on understanding emotional competencies (emotion regulation, processing, and recognition) across the life-span. Previous work suggests emotion regulation improves while emotion recognition declines with age. The presentations shed light on potential motivational, contextual, and methodological effects contributing to these age differences. The studies employed diverse methods (e.g., experience sampling, music-selection paradigm, presentation of laboratory stimuli, dyadic interactions) to investigate age-related improvements and limitations in the regulation and recognition of affect. With respect to emotional well-being across the lifespan, implications for daily life and social interactions are discussed. English and Carstensen will present results from a 5-year longitudinal experience sampling study pointing out age-related improvements in emotion regulation abilities in daily life. Cohnes, Wrzus and Riediger will present results from a study investigating age-related differences in the motivation and efficiency to regulate affective states when experiencing tense arousal. Freund and Niktin will discuss age-related differences in frequency estimates of angry and happy faces in a stream of pictures rapidly presented. Ngo and Isaacowitz will discuss the importance of context for the perception of emotion in varying modalities (e.g. faces, objects and scenes) and different age groups. Blanke, Rauters and Riediger will present how age differences in empathic skills relate to communication satisfaction in a naturalistic dyadic interaction.

### AGE-RELATED IMPROVEMENTS IN DAILY EMOTION REGULATION

T. English<sup>1</sup>, L. Carstensen<sup>2</sup>, *1. Psychology Department, Washington University in St. Louis, St. Louis, Missouri, 2. Stanford University, Stanford, California*

Aging is associated with reliable improvements in emotional well-being. Emotion regulation has been suggested to play a role in producing these emotional benefits. In the present study we examine whether there are age-related enhancements in emotion regulation abil-



ity in daily life. Adults ranging in age from 18 to 94 participated in a 5-year longitudinal experience sampling study with assessments occurring five random times a day for one week during two waves of data collection. Older adults reported being better able to control both their inner experience and outer expression of emotion than did relatively younger adults, although this effect was somewhat diminished later in life. Notably, this age-related improvement in emotion regulation ability held even when taking into account valence of the situation, suggesting that older adults do not report being better able to control their emotions simply because the situations that they encounter in daily life are less aversive.

#### **CALM DOWN! – AFFECT REGULATION VIA MUSIC FROM ADOLESCENCE TO OLD AGE**

C. Cohrdes<sup>1</sup>, C. Wrzus<sup>2</sup>, M. Riediger<sup>1</sup>, 1. *Affect Across the Lifespan, Max Planck Institute of Human Development, Berlin, Berlin, Germany*, 2. *Johannes Gutenberg Universität, Mainz, Rheinland-Pfalz, Germany*

This study employed a novel music selection paradigm to investigate age-related differences in the motivation and efficiency to regulate one's affective states when experiencing tense arousal. Participants ranging from adolescents to old age completed a complex task under time pressure. The task difficulty was adjusted to the participants' performance levels in order to elicit comparable arousal levels in all participants. Bogus feedback of either above-average or below-average performance was provided to induce positive or negative affect. Following that, participants freely browsed a pre-piloted music selection, and their listening behavior was recorded. We found age differences in the preference for music with divergent levels of valence and arousal as well as in the course of the regulatory process. The results emphasize that it is important to consider the level of arousal to understand age differences in the efficiency of regulatory processes.

#### **ADULT AGE DIFFERENCES IN FREQUENCY ESTIMATIONS OF HAPPY AND ANGRY FACES**

J. Nikitin<sup>1</sup>, A.M. Freund<sup>2</sup>, 1. *Department of Psychology, UiT The Arctic University of Norway, Tromsø, Norway*, 2. *University of Zurich, Zurich, Switzerland*

With increasing age, the ratio of gains to losses becomes more negative, which is reflected in expectations that positive events occur with a higher likelihood in young adulthood, whereas negative events occur with a higher likelihood in old age. Little is known about expectations of social events. Given that younger adults are motivated to establish new social relations, they should overestimate positive relative to negative signals. Older adults, who are particularly motivated to avoid negative encounters, should overestimate negative relative to positive signals. Two studies (Study 1:  $n = 91$  younger and  $n = 89$  older adults, Study 2:  $n = 50$  younger and  $n = 50$  older adults) supported these hypotheses using frequency estimates of happy and angry faces. Although both younger and older adults overestimated the frequency of angry compared to happy faces, the difference was significantly more pronounced for older adults.

#### **AGING AND EMOTION PERCEPTION COMPETENCE: THE ROLE OF CONTEXT**

N. Ngo, D. Isaacowitz, *Northeastern University, Boston, Massachusetts*

While the age-associated deficit in facial emotion perception is well-established, the traditional emotion perception task in which the target facial expression is presented out of context may not reflect the kind of emotion perception that older adults do in daily life. Context has proved to be important to older adults in various cognitive processes, although not much is known about its role in emotion processing. In two studies (total  $N=144$ ), we explored age differences in contextual influence on emotion perception as a function of types of contextual

cue, target emotions, and top-down attentional control. Across both studies, older adults were more influenced by context than younger adults regardless of context types, target emotions, and instructions to ignore context or view it as irrelevant. Older adults' attention to context seems to result from both an inhibition deficit and motivation to utilize useful cues for emotion perception.

#### **DOES BEING EMPATHIC PAY OFF? – SOCIAL IMPLICATIONS OF EMPATHIC SKILLS IN YOUNGER AND OLDER WOMEN**

E. Blanke, A. Raters, M. Riediger, *Max Planck Institute for Human Development, Berlin, Germany*

Previous research suggests that empathic skills might decline with age. These findings were mostly obtained using paradigms that have been criticized for their lack of ecological validity. Moreover, little is known about potential social implications of such an age-related decline. We compared three indicators of empathic skill (self-reported empathy, emotion recognition from pictures, and empathic accuracy during a naturalistic dyadic interaction) in 102 younger (20-31 years) and 106 older (69-80 years) women, and investigated associations with interaction satisfaction. Younger women outperformed older women in the emotion-recognition task and in empathic accuracy for negative but not positive affect. These age differences, however, seemed to have limited immediate social implications: Only self-reported empathy and empathic accuracy for positive affect predicted interaction satisfaction. In conclusion, age differences in empathic skills might be less pronounced than past research suggested, and older adults' social adjustment may not be strongly affected by their declining empathic skills.

### **SESSION 1105 (PAPER)**

#### **ECONOMICS OF AGING**

#### **IMPACT OF WAGE GROWTH ON PROJECTED INCOMES OF FUTURE SOCIAL SECURITY BENEFICIARIES**

H. Iams, P. Purcell, D. Shoffner, *Office of Research Evaluation and Statistics, Social Security Administration, Bethesda, Maryland*

MINT (Modeling Income in the Near Term) is SSA's premier micro-simulation model for estimating the distributional effects of Social Security reform proposals. SSA uses MINT to respond to requests for estimates from OMB, Congress, and others. Assessing the sensitivity of MINT estimates to underlying assumptions is important for maintaining the quality of the MINT model. The proposed paper assesses the impact of differential wage growth by education level on the projected income of future Social Security Beneficiaries in 2030 using the most recent version of MINT (MINT7). We estimate that there is substantially more wage growth among college educated persons than those with less educational attainment. This differential wage growth may affect the retirement benefits and income of future retirees. To the best of our knowledge, modeling of the future incomes of retirees has not considered the effect of differential wage growth on the projected income of future retirees. MINT7 uses the 2004 and 2008 panels of the Census Bureau Survey of Income and Program Participation (SIPP) matched to SSA benefits and earnings records. SSA researchers previously published the results of MINT analyses in the *Gerontologist* with a simulation of SSA benefit earnings sharing (Vol. 50, no. 4, pp. 495-508).

#### **FINANCIAL FRAUD AMONG OLDER ADULTS: ONE-YEAR INCIDENCE AND CORRELATES FROM A POPULATION-BASED SURVEY**

S. Beach, *University of Pittsburgh, Pittsburgh, Pennsylvania*

Financial fraud and scams targeting older adults is a problem that is receiving increased attention from researchers and policy makers. This paper reports data on financial fraud from a random digit dialing

telephone survey (n = 1,000) of adults age 55 and older in Allegheny County (Pittsburgh), PA (U.S.A.) Two items – In the past 12 months, “Have you paid for a product or service that was never received?,” “Have you been billed for a product or service that you had not agreed to purchase?” – were included in a survey covering a broad range of financial, health and quality of life indicators. The paper presents one year incidence of financial fraud, and significant financial, health, social support, and other correlates of fraud. Preliminary results show a one year incidence (yes to either question) of approximately 12%. Significant bivariate correlates of financial fraud from preliminary analyses include being single or divorced; living alone; frequent internet use; use of internet social networking sites; having difficulty paying for basic necessities; receiving SSI/government assistance; high debt levels; knowing few and rarely talking to neighbors; low social support; feeling left out and isolated; poor self-rated health; high stress in past month; taking medication for a mental health problem; and low overall life satisfaction. The final paper will include multivariate discriminant analyses to determine variables that best distinguish those reporting fraud from those not reporting. Findings will have implications for theory development, screening, detection, and potential interventions to prevent financial fraud and scams in older adults.

### **HOSPITALISTS AND HOSPITALS’ BOTTOM LINE: IS THERE A BUSINESS CASE?**

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Hospitalists are a group of hospital-based physicians specializing in the provision of hospital medicine. Hospitalists have grown unprecedentedly since first introduced in the U.S in the mid-1990s. Studies on hospitalists have mainly focused on efficiency as measured by costs and length of stay (LOS). The purpose of this study is to explore the association between the use of hospitalists and financial performance. This longitudinal study (2007-2010) consisted of a national sample of U.S. acute care hospitals (N=3,792). Data for this study was extracted from the American Hospital Association (AHA) Annual Survey, the Area Health Resource File (AHRF), and CMS’ Medicare costs reports and Case Mix Index (CMI) files. A panel design with facility and year fixed effects regression was performed to assess these relationships controlling for organizational and market factors. We found that an increase in the use of hospitalists is associated with both higher costs and higher revenues. Our study also showed that an increase in the use of a low proportion of hospitalists is associated with both lower costs and lower revenues, while an increase in the use of a high proportion of hospitalists is associated with both higher costs and higher revenues. This increased/decreased costs and revenues offset one another and does not translate into increased profitability. As stakeholders in the health care industry explore strategies to reduce costs, the adoption of hospitalists is a staffing strategy which may necessitate further exploration to determine if this staffing strategy holds its potential promises.

### **CAN AGING IN PLACE BE COST EFFECTIVE? A SYSTEMATIC REVIEW**

E.M. Graybill<sup>1,2</sup>, P. McMeekin<sup>1,2</sup>, J. Wildman<sup>1,3</sup>, 1. *Newcastle University, Newcastle Upon Tyne, Tyne & Wear, United Kingdom, 2. Institute of Health & Society, Newcastle Upon Tyne, Tyne & Wear, United Kingdom, 3. Business School, Newcastle Upon Tyne, Tyne & Wear, United Kingdom*

Purpose of the study: To systematically review cost and cost-effectiveness studies for assisted living technologies (ALTs) that specifically enable older people to ‘age in place’ and highlight what further research is needed to inform decisions regarding aging in place. Design: People aged 65+ and their live-in carers (where applicable), using an ALT to age in place at home opposed to a community-dwelling arrangement.

Methods: Studies were identified using a predefined search strategy on two key economic and cost evaluation databases NHS EED, HEED. Studies were assessed using methods recommended by the Campbell and Cochrane Economic Methods Group and presented in a narrative synthesis style. Results: Eight eligible studies were identified from North America spread over a diverse geographical range. The majority of studies reported the ALT intervention group as having lower resource use costs than the control group; though the low methodological quality and heterogeneity of the individual costs and outcomes reported across studies must be considered. Implications: The studies suggest that in some cases ALTs may reduce costs, though little data were identified and what there was of poor quality. Methods to capture quality of life gains were not used, therefore potential effects on health and wellbeing may be missed. Further research is required using newer developments such as the capabilities approach. High quality studies assessing the cost-effectiveness of ALTs for ageing in place are required before robust conclusion on their use can be drawn.

### **HAPPINESS, SUCCESSFUL AGING, AND ECONOMICS: AN INTERNATIONAL COMPARISONS ACROSS 31 NATIONS**

H. Weng, *Institute of Gerontology, National Cheng Kung University, Tainan City, Taiwan*

Introduction: Many studies indicate that the more nation’s economic performance improves, the less happiness its citizens perceive. However, there is limited evidence of differences among age groups and countries. Methods: Data sources included subjective data and external data. Subjective data from 31 nations was obtained from the database of International Social Survey Programme: Health and Health Care - ISSP 2011. Total sample size for the elderly over 65 was 9245 (20.4 %) of the total population (n= 45385). The sample size for each countries ranges from 124~845. The mean age ranges from 68.9 to 74.8 and the percentage of female aged 65 or above ranges from 36.1 to 73.1. Using definition of Rowe and Kahn’s successful aging, three components were adapted: avoiding disease, engagement, and maintaining high cognitive and physical function External data includes gross domestic product (GDP), life expectancy, population ages 65 and above, and health expenditure total % of GDP, and corruption index. A hierarchical cluster analysis was initially performed using Ward’s method to identify the correct number of clusters. A k-means cluster was then used for the clustering. Results: The study results indicate that 31 countries are classified into three clusters: better economics and social policies with higher score of happiness, poorer economics with medium score of happiness, and developing countries or with lowest score of happiness. These studies findings indicate that the elderly people living in developed or under-developed countries achieve higher scores of happiness than those living in developing countries.

### **SESSION 1110 (PAPER)**

#### **DEMOGRAPHY OF AGING I**

#### **AGING IN THE CONTEXT OF COHORT EVOLUTION AND MORTALITY SELECTION**

H. Zheng, *Sociology, Ohio State University, Columbus, Ohio*

This study examines historical patterns of aging through the perspectives of cohort evolution and mortality selection, where the former emphasizes the correlation across cohorts in the age dependence of mortality rates, and the latter emphasizes cohort change in the acceleration of mortality over the life course. In the analysis of historical cohort mortality data, I find support for both perspectives. The rate of demographic aging, or the rate at which mortality accelerates past age 70, is not fixed across cohorts; rather, it is affected by the extent of mortality selection at young and late ages. This causes later cohorts to have higher rates of demographic aging than earlier cohorts. The rate of biological aging, approximating the rate of the senescence process, sig-

nificantly declined between the mid- and late-19th century birth cohorts and stabilized afterwards. Unlike the rate of demographic aging, the rate of biological aging is not affected by mortality selection earlier in the life course, but by cross-cohort changes in young-age mortality, which cause lower rates of biological aging in old age among later cohorts. These findings enrich theories of cohort evolution and have implications for the study of limits on the human lifespan and evolution of aging.

#### **POVERTY AND HEALTH AMONG OLDER PERSONS IN MYANMAR**

B.P. Teerawichitchainan, *School of Social Sciences, Singapore Management University, Singapore, Singapore*

Myanmar is one of the world's poorest countries and has some of the worst health indicators (Lancet 2012). Until recently, it was also one of the most isolated nations. Little is empirically known about the country's population health, including health status of older persons – many of whom are not only poor but have endured years of civil strife, economic hardship and unfavorable living conditions such as inadequate healthcare and weak infrastructure. This study examines the associations between poverty, wealth inequalities, and health outcomes of adults aged 60 and older in Myanmar. Data for our analysis come from the 2012 Myanmar Aging Survey, the country's first national survey of approximately 4,000 elders. The wealth inequality is based on an index that operationalizes wealth as ownership of household assets and housing quality. A variety of health outcomes, including self-rated health, functional health, ADL difficulties, and sensory impairments, are examined. Results indicate differentiation in health outcomes across wealth gradients. The bottom quintile, which consisted of older persons living in households that own nothing, reports the most health problems. There is significant health improvement moving from the lowest to the second quintile, suggesting that relative inequality matters and that a very small difference in wealth makes a large difference in health in an economically deprived settings. Policy implications of our empirical findings are discussed.

#### **MULTIPLE CHRONIC CONDITIONS AND LIFE EXPECTANCY: A LIFE TABLE ANALYSIS**

E. DuGoff<sup>1,2</sup>, V. Canudas-Romo<sup>3,2</sup>, C. Buttorff<sup>2</sup>, B. Leff<sup>2</sup>, G. Anderson<sup>2</sup>, *1. University of Wisconsin-Madison, Madison, Wisconsin, 2. Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 3. Epidemiologi, Biostatistik og Biodemografi Max-Planck Odense Center, Odense C, Denmark*

**Background:** The impact of having multiple chronic conditions on life expectancy in is unclear. **Objectives:** We quantify the impact of having multiple chronic conditions on life expectancy in Medicare beneficiaries. **Research Design:** A retrospective cohort study using single-decrement period life tables. **Subjects:** Medicare fee for service beneficiaries (N=1,372,272) ages 67 and older as of January 1, 2008. **Measures:** The Medicare Chronic Conditions Warehouse (CCW) file was used to identify each subject's number of chronic conditions diagnosed prior to January 1, 2008. Life expectancies were estimated using single decrement life tables by sex and race, selected chronic conditions (heart diseases, cancer, chronic obstructive pulmonary disease, stroke, and Alzheimer's disease), and by number of comorbid conditions. **Results:** Each additional chronic condition reduces life expectancy in older adults by approximately 1.5 years per condition (ranging from 0.3 years to 2.5 years). We find that a 67 year old with no chronic conditions will live an on average of 22.5 additional years. Compared to a person with no chronic conditions, life expectancy at 67 is on average 7 years shorter for a person with five chronic conditions and 16.9 years shorter for a person with 10 or more chronic conditions. We observe substantial differences in life expectancy by the selected conditions ranging from 10 years (males with Alzheimer's Disease and dementia) to 21.2 years (males with heart disease). These differences diminish

with increasing numbers of comorbid conditions. **Conclusion:** Social Security and Medicare actuaries should account for the growing number of beneficiaries with multiple chronic conditions when determining population projections and trust fund solvency.

#### **INCORPORATING BIOMARKERS INTO THE STUDY OF SOCIOECONOMIC STATUS AND HEALTH AMONG OLDER ADULTS IN CHINA**

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This paper examines the relationship between socioeconomic status (SES) and health among rural elderly in China, where health is measured both by objective biomarkers from blood and urine samples and self-reports of health. We also examine whether the SES-health relationship varies by gender. Biomarker measures include cholesterol measures, glucose, blood pressure, waist circumference, and body mass index. Self-reports of health include self-rated health, activities of daily living disability, and functional limitations. SES is measured by education level and former occupation. Biomarker and survey data come from the biomarkers sub-sample of the 2009 wave of the Chinese Longitudinal Healthy Longevity Survey (CLHLS), which collected data in Chinese longevity areas. We find a negative relationship between SES and health as measured by biomarkers – high SES is associated with worse health. We find a positive relationship – high SES associated with better health – for our self-reports of overall health. We also found more significant associations between SES and health for men than for women. These findings confirm previous studies that show SES and CVD have a positive association earlier in economic development due to lifestyle. The fewer significant associations for women (despite a larger sample size due to mortality selection) may be due to women's overall lower status in Chinese society.

#### **ANOMALY IN THE GRADIENT: ADULTS WITH “SOME COLLEGE” HAVE WORSE HEALTH THAN HIGH SCHOOL GRADUATES**

A. Zajacova<sup>1</sup>, V. Johnson-Lawrence<sup>2</sup>, *1. University of Wyoming, Laramie, Wyoming, 2. University of Michigan Flint, Flint, Michigan*

**Background** The health gradient by education is one of the best-documented patterns in population-health research. Recent findings reported, however, that adults with “some college” education have not better but worse self-reported health than high school graduates with less schooling. **Objective** To determine whether the gradient anomaly exists for objectively-measured markers of biological risk, in order to eliminate the possible differential reporting of health by the two education groups. **Methods** Appropriate regression models of individual biomarkers and summary indices on educational attainment were estimated among adults aged 30-64 from the 1999-2012 National Health and Nutrition Examination Survey (NHANES). Respondents with a high school (HS) diploma, some college, as well as those with AA and BA degrees were included. The detailed education information is only available in the restricted data; we received access to the data via the NCHS RDC. **Results** Preliminary results show that men and women with some college education but no diploma have either statistically equivalent or worse biological risk profiles than HS graduates. Those who earned associate degree had risk profiles compatible with the health gradient: they were comparable or significantly better off than HS graduates, and BA degrees were associated with substantially better health. **Conclusions** The findings showed that the health disadvantage of college dropouts vis-à-vis high school graduates is not due to differential reporting. College dropouts represent 22% of US adults; the findings highlight the urgent need to understand their relatively poor health better and to investigate the causes of this pattern and potential interventions.

**FAMILY CAREGIVING: MEASURES AND METHODOLOGICAL ISSUES****FEELING GENERATIVE AS A BENEFIT OF CAREGIVING: VARIATION BY AGE OF CARE RECIPIENT?**

M.R. Grossman, T.L. Gruenewald, *University of Southern California, Los Angeles, California*

Although a sizable body of research suggests negative psychological consequences of caregiving, such as distress and depression, little attention has been paid to potential psychological benefits one might gain from providing care. One such benefit may be an enhanced self-perception of generativity, or feeling like one plays a valuable role in others' lives. The objective of the current analysis was to utilize data from the 2nd wave and refresher cohort of the National Survey of Midlife Development in the United States (MIDUS) Study to examine differences in self-perceptions of generativity, measured with the Loyola Generativity Scale, as a function of caregiver status (last 12 months). A secondary aim was to examine variations in perceptions of generativity among caregivers as a function of care recipient's age (care to children with disabilities vs. older relatives). These associations were explored in regression analyses adjusting for sociodemographic factors in a subsample ( $n = 3,274$ ) of MIDUS participants, ages 23 to 54. Caregivers had significantly higher perceptions of generativity ( $M=17.57$ ) than non-caregivers ( $M=16.94$ ,  $p<.01$ ). However, levels of generativity among caregivers did not vary as a function of care recipients' ages. These findings suggest that enhanced feelings of generativity may be a benefit of caregiving. As greater feelings of generativity are associated with improved mental and physical functioning in later life, this potential psychological benefit of providing care may help to buffer against the adverse health and well-being states associated with caregiving. Additional longitudinal investigations are needed to examine the bidirectionality of these associations over time.

**CAREGIVER RESENTMENT OVER TIME: THE INFLUENCE OF RACE AND GENDER**

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Many caregivers of older adults feel resentful; however, caregiver resentment has been understudied in the caregiving literature. Previous studies have shown that resentment has been positively linked to a greater need for assistance with activities of daily living, care recipient behavior problems, feelings of caregiver burden and the quality of care provided to the care recipient. This study is a longitudinal, secondary data analysis of the Family Relations in Late Life (FRILL) 2 study. Using the Pearlin stress process model (SPM) as a guide, the purpose of this study was to examine caregiver resentment over 36 months among African American and White caregivers of older adults living in the community. A two-level Hierarchical Linear Model (HLM) was used to predict changes over time for caregiver resentment and examined the influence of race, gender and constructs suggested by the Pearlin SPM. Caregivers with greater activity restriction reported higher levels of resentment. Caregivers who reported a better pre-illness relationship and more social support reported less resentment. There was a main effect of time, such that resentment lessened over time for the sample. Change over time also demonstrated a significant quadratic pattern suggesting a significant drop in resentment between Time 1 and Time 2. There was no significant main effect for race suggesting that there are no significant differences between African American and White caregivers in their report of resentment over time. However, there was a main effect for sex such that female caregivers reported more resentment than males over time.

**CARE PARTNER RELATIONSHIPS: THEMATIC ANALYSIS OF PLANNING IN FAMILIES WITH MILD COGNITIVE IMPAIRMENT**

K.A. Arsenault, K.A. Roberto, R. Blieszner, S. Kim, *Human Development, Virginia Tech, Blacksburg, Virginia*

Families who have a relative with mild cognitive impairment (MCI) conceptualize memory changes and plan for the future in various ways. Prior family relationships and dynamics are likely to influence a family's openness to accessing resources and using community services. This study addressed planning for the future care of relatives with MCI within the context of differing family perceptions and care relationships. Semi-structured qualitative interviews with 47 triads, the person with MCI and two family members, revealed differential family perception of the elders' memory changes and associated openness to and use of resources, services, and planning. Family planning varied with respect to care partner relationship status (spouse or adult child) and degree to which the family acknowledged changes in the elder's memory (completely, partially, passively, or not at all). Adult children were more likely than spouses to discuss future plans, which included using alternative care sources and making legal and financial arrangements. Adult children were also more open than spouse care partners to having conversations about employing future resources such as utilizing medical services, support groups, and long-term care housing arrangements. While family acknowledgment was the primary indicator of future planning (the greater the acknowledgement, the more likely to plan), care partner relationship further explained the intricacies of these difficult familial circumstances. Recognizing the intersection of level of understanding families have about MCI with different care partner relationships can inform strategies counselors and other service providers use to assist families facing MCI in planning future care arrangements.

**CAREPRO: OUTCOMES & MAINTENANCE OF GAINS FROM A DEMENTIA CAREGIVER EBT TRANSLATED INTO COMMUNITIES**

D.W. Coon, M. Todd, D. McClain, *College of Nursing & Health Innovation, Arizona State University, Phoenix, Arizona*

Evidence for the effective translation into the community of EBTs for family caregivers remains sparse, especially in terms of maintenance of gains. Alzheimer's Association Chapters, state units on aging, and area agencies on aging used the RE-AIM framework to successfully translate CarePRO (a group and coach call skills-building intervention) across two states. Funded by the U.S. Administration on Aging, over 800 family caregivers of people with dementia participated across three translation periods embedding recruitment activities, intervention delivery, and user friendly assessment tools into community organizations serving rural and urban areas. Delivered by Chapters through a train-the-trainer model implemented under an established treatment fidelity protocol, CarePRO included: a) an intensive 10-week phase of skill groups and coach calls; and, b) a maintenance of gains phase providing three booster calls across the next 9 months. Pre-post analyses of CarePRO's intensive phase yielded significant outcomes ( $p's < .001$ ) in all domains of significance outlined by Schulz et al. (2002) including clinical significance (e.g., reduction in depression, anger, etc.); quality of life indicators (increases in positive coping, social support; reductions in negative coping, etc.); and social validity (caregiver perceptions of overall benefit). Analyses across the booster phase demonstrated either ongoing improvement (e.g., increases in positive affect, social support, etc.) or maintenance of gains (e.g., maintenance of reduction in depression, negative coping, etc.) in all domains. In terms of social significance, cost analyses suggest that CarePRO's train-the-trainer group-based model can be effectively translated while substantially reducing organization delivery costs when compared with other caregiver interventions.

## CHILDHOOD ABUSE AND PROVISION OF SUPPORT TO AGING PARENTS: EVIDENCE FROM STRUCTURAL EQUATION MODELS

J. Kong, *Boston College, Brighton, Massachusetts*

Although studies have established important links between childhood abuse and diminished social functioning over the course of one's life, it is unknown whether the harmful effects of childhood abuse will interfere with intergenerational relations in later life. Drawing from the attachment perspective, the present study aims to examine the effect of childhood abuse on adult children's provision of support to aging parents, mediated through internal working models (i.e., self-esteem and perceived social support) and maladaptive coping strategies (i.e., disengagement and denial). This study mainly focused on the second wave of the National Survey of Midlife Development in the United States (MIDUS II). The final sample was comprised of adult children whose parent was alive at the data collection among 4,963 MIDUS II respondents. A structural equation modeling approach was utilized to estimate the proposed theoretical model. The result showed that there was a significant association between childhood verbal/physical abuse and provision of emotional or instrumental support to aging parents in a way that childhood abuse was related negatively to adult children's self-esteem and perceived social support, which was then associated with the greater use of maladaptive coping and less support giving to their older parents. This result suggests that earlier abusive treatment from parent(s) may influence later-life intergenerational relationships through negative internal working models and maladaptive coping mechanisms. This study emphasizes that interventions aimed at self-esteem and perceived social support should be a starting point for adult children with histories of childhood abuse who are engaged with their aging parents.

## SESSION 1655 (PAPER)

### CHRONIC DISEASE MANAGEMENT

#### INFLUENCE OF ZERO CLASSES ON CHRONIC DISEASE SELF-MANAGEMENT PROGRAM ATTENDANCE

M.L. Smith<sup>1</sup>, L. Jiang<sup>2</sup>, S. Chen<sup>4</sup>, S. Ahn<sup>3</sup>, K. Kulinski<sup>5</sup>, K. Lorig<sup>6</sup>, M.G. Ory<sup>2</sup>, 1. *College of Public Health, The University of Georgia, Athens, Georgia*, 2. *Texas A&M Health Science Center, College Station, Texas*, 3. *The University of Memphis, Memphis, Tennessee*, 4. *Texas A&M University, College Station, Texas*, 5. *National Council on Aging, Washington, DC*, District of Columbia, 6. *Stanford University, Palo Alto, California*

Objectives. Although most evidence-based programs have a predetermined number of class sessions, hosting a zero class (i.e., a pre-workshop session) is a useful strategy to orient participants to the program and collect evaluation data without detracting from intervention activities. However, little is known about the nature and consequences of zero classes. Using the national dissemination of the Chronic Disease Self-Management Program (CDSMP), this study identifies the utilization of zero classes in various delivery settings and examines the influence of zero classes on successful program completion (i.e., attending 4 or more of 6 offered workshops). Methods. Data were analyzed from the first 100,000 adults enrolled in CDSMP workshops spanning 45 states and two territories from 2010-2012. To assess the association between zero classes and CDSMP workshop attendance, generalized estimating equation (GEE) models with a logit link were fitted, controlling for participants' sociodemographics and clustering effects at the workshop level. Results. In total, 21% of CDSMP participants attended workshops offering a zero class. More than one-quarter of participants attended CDSMP at residential facilities (26.3%) and senior centers (25.8%) with a zero class. Conversely, less than 10% of participants attended CDSMP at tribal centers with a zero class. The final multivariate GEE model showed that participants who attended a zero class had significantly

higher odds of successfully completing the workshop (OR=1.09, P=0.003). Conclusion: Offering zero classes can increase intervention dose among CDSMP participants. Program deliverers are encouraged to weigh the relative health advantages when considering additional costs of hosting an additional workshop session.

#### CHRONIC DISEASE SELF-MANAGEMENT PROGRAM (CDSMP) DELIVERY AND ATTENDANCE AMONG URBAN-RESIDING AFRICAN AMERICANS

C.A. Mingo<sup>1</sup>, M.L. Smith<sup>2</sup>, S. Ahn<sup>3</sup>, L. Jiang<sup>1</sup>, J. Cho<sup>4</sup>, S.D. Towne<sup>4</sup>, M.G. Ory<sup>4</sup>, 1. *Gerontology Institute, Georgia State University, Atlanta, Georgia*, 2. *University of Georgia, Athens, Georgia*, 3. *University of Memphis, Memphis, Tennessee*, 4. *Texas A&M, College Station, Texas*

Objective: The purpose of this study was to identify the personal characteristics of urban-residing African Americans with chronic disease participating in the Chronic Disease Self-Management Program (CDSMP) and examine factors related to successful program completion (i.e., attending at least 4 of the 6 classes). Methods: Data were analyzed from 11,895 African Americans who attended the CDSMP at one of the five leading delivery sites (i.e., senior center, healthcare organization, residential facility, community location, faith-based organization). Logistic regression was used to assess the associations of personal, delivery site, and neighborhood characteristics with successful completion. Results: Approximately half of these African American participants were aged 65-79 years, 83% were female, and 92% lived alone. Approximately 44% of participants had three or more chronic conditions and 35% resided in an impoverished area (i.e., 200% below poverty level). Older participants (p<.001), females (p<.001), and those with fewer chronic conditions (p<.001) were significantly more likely to successfully complete the intervention. Participants who attended CDSMP at a residential facility (p<.001) or a community/multi-purpose facility (p<.001) were more likely to successfully complete the CDSMP. Conclusion: Findings highlight the unique patterns of attendance and delivery within the context of self-management interventions among this unique and traditionally underserved target population. Understanding such patterns can inform efforts to engage more organizations in urban areas to increase CDSMP adoption. For example, expanding delivery site recruitment among faith-based organizations may increase reach to African American participants, a population that may be at a greater risk for poor management and negative outcomes.

#### A STRUCTURAL EQUATION MODEL OF THE EFFECTS OF LONELINESS, SELF-EFFICACY, AND SOCIAL SUPPORT ON DEPRESSIVE SYMPTOMS AMONG WOMEN WITH CHRONIC ILLNESS

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The purpose of this study is to understand how risk and resilience factors, including loneliness, social support, and self-efficacy for managing chronic illness, affect depressive symptoms among older women living in the community over time. A total of 130 older women completed surveys six months apart. On average, participants were 72.7 years old (SD = 6.2) and reported nearly four chronic conditions (MT1=3.82, SD T1=2.08). The aims of this study were: (1) to determine whether loneliness (DeJong-Gierveld Loneliness Scale, 1999), a known risk factor for depression, was associated with depressive symptoms (CES-D, Radloff, 1977) six months later, and (2) to examine whether two protective factors, social support and self-efficacy for managing chronic illness (Lorig, 2001), were associated with fewer depressive symptoms over time. Finally, (3) we tested whether social support served as an intervening variable to mediate the relationship between initial loneliness and later depressive symptoms. We controlled for participants' race, physical health, and total number of chronic conditions. Alternative models

were tested, and the fit of the final model was acceptable ( $\chi^2=20.587$ ,  $df=10$ ,  $p=.024$ ,  $CFI=.965$ ,  $RMSEA=0.91$ ). As expected, women with higher initial social support and greater self-efficacy reported fewer depressive symptoms six months later. Because social support was the most important predictor of depression, and it mediated the relationship between loneliness and depression six months later, increasing social support may effectively prevent depression. This and other research and practice implications for older women managing chronic illnesses will be discussed.

### **PATIENT CHARACTERISTICS PREDICTING READMISSION AMONG INDIVIDUALS HOSPITALIZED FOR HEART FAILURE**

M. O'Connor<sup>1</sup>, C.M. Murtaugh<sup>2</sup>, S. Shah<sup>2</sup>, Y. Barrón<sup>2</sup>, K.H. Bowles<sup>3</sup>, T. Peng<sup>2</sup>, C. Zhu<sup>4</sup>, P.H. Feldman<sup>2</sup>, 1. *College of Nursing, Villanova University, Villanova, Pennsylvania*, 2. *Visiting Nurse Service of New York, New York, New York*, 3. *University of Pennsylvania, Philadelphia, Pennsylvania*, 4. *Mount Sinai School of Medicine, New York, New York*

Heart failure (HF) is increasingly common and difficult for patients, caregivers and their clinicians to manage with costs exceeding \$37 billion in 2009. It is estimated that 5.1 million Americans age 20 or older suffer from HF with a 46% increase expected by 2030. Little is known about the characteristics consistently associated with higher rates of readmission. A review of the literature was conducted on the evidence of HF patient characteristics related to readmission. Database searches yielded 603 potential articles, of which 31 studies fulfilled inclusion criteria. Twenty-two were retrospective and 9 were prospective with the majority of studies conducted in the United States. All-cause 30-day readmission rates ranged from 13% to 28%; 30 day readmission rate for HF ranged from 9% to 24%. Sixty, 90 and 180-day readmission rates were also examined. Overall, patient characteristics measured before hospital discharge had a modest effect on all-cause or HF-related readmission within 30 to 180 days of index hospital discharge. Men, older adults, Medicare beneficiaries and blacks are more likely to be readmitted. A prior diagnosis of HF had a large positive effect on readmission and a range of cardiac diseases had a positive but small effect. Findings underscore the challenge of developing successful interventions to reduce HF readmissions. No single patient factor stands out as a key contributor to readmission indicating multiple conditions contribute to readmission. Interventions may need to be general in design to allow decisions about the specific intervention to be made depending on each patient's clinical profile.

## **SESSION 1125 (SYMPOSIUM)**

### **APPLIED INTERVENTION AND TRANSLATIONAL RESEARCH: IMPLICATIONS FOR OLDER LATINOS**

**Chair:** F. Andrade, *Kinesiology and Community Health, UIUC, Champaign, Illinois*

**Discussant:** A.P. Herrera, *University of Maryland Baltimore County, Baltimore, Maryland*

The older Latino population is increasing at a faster rate than the non-Hispanic Whites which will affect public sources of geriatric care and test family support systems. Chronic conditions, responsible for high health care expenditures, are especially prevalent in this community. Behavioral interventions around physical activity and diabetes management, and home care, are examples of preventive care that can substantially improve disease management and independent living. This panel provides examples of the sociocultural nuances and health systems structures that pose challenges to the effective delivery of these services, and offer health policy and practice recommendations for improving their widespread translation. Salinas presents a new methodology for pinpointing modifiable diabetes risk factors among Mexican Americans. Mendez-Luck et al provide an overview of a new

pilot program, *Juntos*, for caregiver-elder dyads to improve diabetes management. Cardenas and Sommerfeld offer lessons learned from the implementation of the *Salud Program*, a successful evidence-based strategy for providing culturally tailored mental health and diabetes prevention for older Latinos in primary care. The work by Crist discusses inequities found in the rates of referrals to home health services between non-Hispanic Whites and Latinos, and the health system structures that may be responsible for these disparities. Finally, Marquez and colleagues describe the challenges and lessons learned in their recruitment and retention efforts from a physical activity program targeting older Latinos. They highlight the influence of time allocation, cultural norms, age-related syndromes, on their ability to engage in behavioral change. Co-Chairs: Flavia Andrade and Angelica P. Herrera

### **JUNTOS CONTROLANDO LA DIABETES (CONTROLLING DIABETES TOGETHER)**

C.A. Mendez-Luck<sup>1</sup>, M. Miranda<sup>2</sup>, C.M. Mangione<sup>2</sup>, 1. *College of Public Health and Human Sciences, Oregon State University, Corvallis, Oregon*, 2. *University of California, Los Angeles, Los Angeles, California*

Most type 2 diabetes interventions focus on self-management and thus fall short for diabetic older adults who rely on their families to help them manage the disease. The purpose of this study was to develop and test the feasibility of a culturally appropriate diabetes intervention for Mexican-origin older adults and their primary caregivers to improve the dyad's communication and negotiation of diabetes management. The intervention was developed from formative research with Mexican-origin caregiver-care receiver dyads. Thirty-six dyads completed a six-week program of one-on-one sessions with a trained program facilitator. The curriculum consisted of communication skill building and dyad decision-making on lifestyle changes to improve care receivers' blood sugar levels. Preliminary results show that an intervention on building dyad cooperation and teamwork is acceptable to Mexican-origin diabetic older adults and their caregivers as well as a promising approach for effectively controlling type 2 diabetes among older Latinos with family caregivers.

### **LESSONS LEARNED IN CONDUCTING HEALTH-RELATED RANDOMIZED CONTROLLED TRIALS WITH OLDER LATINOS**

D.X. Marquez, M. Caceres, S. Aguiñaga, P. Vasquez, S.J. Janicek, *Kinesiology and Nutrition, Univ of Illinois at Chicago, Chicago, Illinois*

Physical activity (PA) can affect declines in health outcomes of older adults. Unfortunately, older Latinos are less likely than non-Latino whites to engage in leisure time PA. Few interventions have been developed to improve the PA of older Latinos aged 55+; and there are many cultural and logistical challenges that we have encountered in conducting intervention research in this population. Issues stemming from culture, age, and a culture x age interaction have influenced our research. Cultural issues include placing family needs ahead of individual needs and travelling back to the home country for long periods of time. Age-related issues interfere with the research process (e.g., doctor appointments), and an interaction of culture and age issues are prevalent (e.g., many older Latinos have caregiving duties). Awareness of and consideration for such challenges are necessary when working with older Latinos. Funded by Alzheimer's Association (NIRGD-11-205469), NIH/NIA (P30AG022849), and NIH/NINR (5R01NR013151-02).

## ASSESSMENT OF TRANSITIONAL CARE FOR MEXICAN AMERICAN ELDERS

J.D. Crist, J.T. Hepworth, A. Pasvogel, K.M. Koerner, *Community and Systems Health Sciences Division, College of Nursing, The University of Arizona, Tucson, Arizona*

Home health care services (HHCS) reduce costly post-hospital care. However, Latino elders underuse HHCS. Although culturally focused interventions increased Latino elders' willingness to use HHCS, they may receive fewer referrals. Through retrospective health record reviews of non-Hispanic white (NHW) and Latino elders aged 55+ discharged in 2012 from two hospitals (N=33597), differences in referral rates to HHCS were found. The odds for NHW elders receiving referrals were significantly higher than for Latino elders (OR=1.47,  $p<.001$ ). When controlling for age and payer group (e.g. Medicare), NHW elders still received referrals more frequently than Latino elders (OR=1.31,  $p=.001$ ). The uninsured received fewer referrals than those with Medicaid (OR=2.68,  $p=.005$ ), Medicare (OR=4.14,  $p<.001$ ), or private insurance (OR=3.04,  $p=.001$ ). The most appropriate post-hospital care may not be offered when not covered by insurance, perpetuating disparities. Ways to ensure HHCS equity for vulnerable populations should be examined in local practice and state and federal policy.

## IMPLEMENTING THE SALUD PROGRAM: AN EVIDENCED-BASED TREATMENT FOR IMPROVING DEPRESSION AND DIABETES IN OLDER LATINOS

V. Cardenas, D.H. Sommerfeld, *Psychiatry, University of California, San Diego, La Jolla, California*

Having diabetes substantially increases the likelihood for also experiencing depression, especially within the Latino community. The elevated rates of diabetes among Latinos, combined with limited participation in mental health services, result in high levels of untreated depression among this group. This presentation will provide an overview of the relationship between depression and diabetes, particularly among older Latinos. It will also include a description of and interactive experiences with the components of a culturally tailored strategy, the Salud Program, designed to promote greater access to evidence-based, integrated depression and diabetes care for older Latinos (age 60 and over) in a primary care setting. Results suggest that the program is achieving the primary goals of reducing depression, improving diabetes self-management activities, and reducing diabetes related symptoms. Key considerations will be discussed for implementing this program in other primary care settings such as specific provider and agency characteristics.

## MODELING MORTALITY RISK BY DIABETES STATUS IN THE HISPANIC EPESE USING CART ANALYSIS. A NEW APPROACH FOR ASSESSING RISK

J.J. Salinas, *Epidemiology and Disease Control, UT School of Public Health, Brownsville, Texas*

This study will make use of Classification and Regression Tree (CART) analysis to model hierarchical predictive relationship between diabetes, comorbidities, sociodemographic covariates and mortality using the Hispanic EPESE data in order to differentiate the impact of multiple comorbidities or other covariates such as medication use or socioeconomic characteristics as cumulative factors that ultimately contribute to longevity or earlier mortality. The Hispanic EPESE (H-EPESE) (Markides et al 1997) is a rich data set from an ongoing cohort study that began in 1993. In addition to basic information on sociodemographics, health and psychosocial characteristics, data was collected on healthcare utilization (including hospitalizations and nursing home stays), medication use (and name of medication), anthropometrics and blood pressure. Preliminary findings for this study suggest that while the cohort of 75+ subjects in wave 5 had greater hypertension and higher ADL disability, they had lower depression and MMSE scores than the subjects that were 75+ years at baseline. Moreover, subjects

who were 75+ in 2004/2005 on average had diabetes 16.9 years compared to 14.8 years in the baseline 75+ group and 13.1 years in the group that died between the ages of 65 and 74 years. The final outcome of this analysis is a set of risk factors that can distinguish groups at risk and provide concrete factors that can be addressed through prevention and education programming in this population.

## SESSION 1130 (SYMPOSIUM)

### GRECC SYMPOSIUM: HEART FAILURE, AN AGE-RELATED DISEASE: NEW INSIGHT INTO EXERCISE INTOLERANCE

**Chair:** R.S. Richardson, *University of Utah, Salt Lake City, Utah*

Exercise intolerance is widely recognized as a defining symptom in patients with heart failure (HF), limiting physical activity and impairing quality of life. Traditionally, this attenuated exercise capacity has been attributed predominantly to the "central" limitations associated with a malfunctioning cardiac pump. However, it is now recognized that approximately half of all HF patients are characterized as HF with reduced ejection fraction (HFrEF), while the remaining portion present with normal or "preserved" ejection fraction (HFpEF). Thus, attention continues to be directed toward "peripheral" factors which may contribute to the limited exercise capacity associated with HF. Indeed, the consistent attenuation of the convective and diffusive components of O<sub>2</sub> transport (25-30%) in patients with HF during exercise compared to controls reveals an underlying peripheral O<sub>2</sub> transport limitation from blood to skeletal muscle in this pathology. Potential mechanisms including abnormally elevated oxidative stress, inflammation, diminished skeletal muscle homeostasis, excess sympathoexcitation, and neural feedback from group III and IV muscle afferents may each play a key role in exercise intolerance. Hence, with skeletal muscle myopathy and the regulation of skeletal muscle blood flow as a central theme, this symposium will provide new insight into the consequences of both HFrEF and HFpEF and the implications for exercise intolerance in patients with HF as a whole.

### THE ROLE OF SKELETAL MUSCLE CONVECTIVE AND DIFFUSIVE OXYGEN TRANSPORT IN HFrEF

R.S. Richardson, *University of Utah, Salt Lake City, Utah*

Maximal exercise capacity, an important index of health in heart failure, might be limited by central and/or peripheral factors; however, their contributions remain poorly understood. Here, with an emphasis upon skeletal muscle convective and diffusive oxygen transport, factors limiting physical function in patients with heart failure with reduced ejection fraction (HFrEF) will be presented. Additionally, the mechanisms responsible for the benefits of small muscle mass exercise training in this population, which does not tax the cardiovascular system to the same magnitude as traditional whole body exercise, will be discussed. Specifically, the consistent attenuation of the convective and diffusive components of O<sub>2</sub> transport in HFrEF during both cycle and even small muscle mass exercise reveals an underlying peripheral O<sub>2</sub> transport limitation which can be clearly corrected by local skeletal muscle training.

### CONTROL OF SKELETAL MUSCLE BLOOD FLOW DURING EXERCISE IN HFpEF

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Exercise intolerance is a hallmark characteristic of heart failure with both reduced ejection fraction (HFrEF) and preserved ejection fraction (HFpEF). Although causal abnormalities in the vasculature of the exercising muscle with HFrEF have been documented, little is known about exercise-induced hyperemia in HFpEF. Using a small muscle mass exercise modality that does not significantly stress the cardio-

pulmonary system, evidence will be presented that reveals dysfunction in the peripheral circulation of this cohort. One potential mechanism responsible for this condition is overactivity of the sympathetic nervous system, which may produce a level of vasoconstriction in the exercising muscle that cannot be entirely overcome, resulting in a sustained reduction in exercising skeletal muscle blood flow. Thus, work exploring whether regional sympathetic inhibition can restore skeletal muscle blood flow in HFREF patients towards that of their healthy, age-matched counterparts will also be presented.

#### **HEMODYNAMIC AND FATIGUE-RELATED ROLE OF GROUP III/IV MUSCLE AFFERENTS IN HFREF**

M. Amann, *GRECC, Salt Lake City VAMC, Salt Lake City, Utah*

The role of group III/IV muscle afferents in the hemodynamic abnormalities and subsequent diminished fatigue resistance characterizing patients with heart failure with reduced ejection-fraction (HFREF) is not well understood. Studies that utilized lumbar intrathecal fentanyl to impair  $\mu$ -opioid receptor-sensitive muscle afferents during exercise in this population will be discussed. This work has revealed a dichotomy of central and peripheral responses. As expected, group III/IV muscle afferent feedback plays a positive and very important role in the exercise-induced central hemodynamic response in HFREF. However, group III/IV muscle afferents appear to cause sympatho-excitation which impairs skeletal muscle blood flow and likely exercise tolerance in this population.

#### **SKELETAL MUSCLE MYOPATHY AS A KEY PATHOPHYSIOLOGIC COMPONENT OF HFREF**

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Whereas there is a significant body of literature focused on skeletal muscle abnormalities and their impact upon physical function in heart failure with reduced ejection fraction (HFREF), similar information is lacking in heart failure with preserved ejection fraction (HFpEF). Ironically, the limited studies that do exist indicate that peripheral factors likely play an even more substantial role in determining outcomes in HFpEF than HFREF, providing strong rationale to expand the focus on intrinsic skeletal muscle as a key aspect of HFpEF pathophysiology. Increased oxidative stress, inflammation, and diminished homeostasis with age are relevant as they lead to sarcopenia and predispose to cellular biomechanics that likely compound the effects of perfusion abnormalities. The role of skeletal muscle cellular changes in HFpEF and delineation between what is what is known about skeletal muscle in HFREF will be presented.

### **SESSION 1135 (SYMPOSIUM)**

#### **THE EFFECT OF PHYSICAL ACTIVITY ON MOBILITY DISABILITY, FALL INJURIES AND COGNITION: THE LIFE STUDY**

**Chair:** S.B. Kritchevsky, *Wake Forest School of Medicine, Winston-Salem, North Carolina*

**Co-Chair:** M. Pahor, *University of Florida, Gainesville, Florida*

**Discussant:** E. Hadley, *National Institute on Aging, Bethesda, Maryland*

Over 15 million older Medicare beneficiaries report limited ability to walk. Reduced mobility is an independent risk factor for morbidity, hospitalization, cognitive decline, and mortality. Physical activity is a promising strategy for maintaining mobility and reducing many other adverse age-related outcomes. However, there is no definitive evidence that physical activity prevents the long-term risk of mobility disability or associated outcomes. The objective of the Lifestyle Interventions and Independence for Elders (LIFE) Study, an 8 center single masked randomized controlled trial, was to determine whether participation in a physical activity intervention reduces the risk of major mobility

disability. In 2010 and 2011 LIFE enrolled 1,635 sedentary men and women aged 70-89 years at high risk for mobility disability and followed them for an average of 2.7 years. Participants were randomized to a structured moderate intensity aerobic, resistance and flexibility physical activity program or to a successful aging health education program. This symposium will present: the clinical and public health motivation for the trial (Guralnik); mobility disability results (Pahor); evidence relating the the dose of the intervention received to changes in physical function (Fielding); and the effect of the intervention on serious fall injuries (Gill) and cognitive function (Sink). The symposium will be the first public presentation for many of the study endpoints. The LIFE Study was supported primarily by NIH/NIA Cooperative Agreement UO1 AG22376 and NHLBI supplement U01AG022376. RESULTS ARE CURRENTLY EMBARGOED PENDING PUBLICATION OF THE PRIMARY OUTCOMES PAPER.

#### **CLINICAL AND PUBLIC HEALTH RELEVANCE OF PREVENTING MOBILITY DISABILITY**

J. Guralnik<sup>1</sup>, S. Blair<sup>2</sup>, A.C. King<sup>3</sup>, A.B. Newman<sup>4</sup>, T. Church<sup>5</sup>, D. Bonds<sup>6</sup>, E.J. Groessl<sup>7</sup>, W. Rejeski<sup>8</sup>, *1. Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, Maryland, 2. University of South Carolina, Columbia, South Carolina, 3. Stanford University, Palo Alto, California, 4. University of Pittsburgh, Pittsburgh, Pennsylvania, 5. Pennington Biomedical Research Center, Baton Rouge, Louisiana, 6. National Heart, Lung and Blood Institute, Bethesda, Maryland, 7. University of California San Diego, San Diego, California, 8. Wake Forest University, Winston-Salem, North Carolina*

The maintenance of physical independence is a major priority for the older population. A critical factor for functional independence is mobility, the ability to move without assistance. Major mobility disability, characterized as inability to walk 400 m, is an objectively measured outcome that discriminates between being able or unable to perform a critical task of daily living; its prevention would create a clear message for public health and clinical practice. Although functional improvements have been shown in physical activity trials, evidence is needed to demonstrate that physical activity prevents the long-term onset of mobility loss. The LIFE Study was designed to provide this evidence using an inexpensive, practical intervention. Its size, geographical range and diverse population increase its impact and generalizability. The primary outcome and broad set of secondary end-points and safety information will prove invaluable for the evidence-based practice of geriatric medicine.

#### **THE LIFE STUDY: MOBILITY DISABILITY RESULTS**

M. Pahor<sup>1</sup>, S.B. Kritchevsky<sup>2</sup>, A.B. Newman<sup>3</sup>, T. Church<sup>4</sup>, A.C. King<sup>5</sup>, M.E. Miller<sup>2</sup>, T.M. Gill<sup>6</sup>, R. Fielding<sup>7</sup>, *1. Aging and Geriatric Research, University of Florida, Gainesville, Florida, 2. Wake Forest School of Medicine, Winston-Salem, North Carolina, 3. University of Pittsburgh, Pittsburgh, Pennsylvania, 4. Pennington Biomedical Research Center, Baton Rouge, Louisiana, 5. Stanford University, Palo Alto, California, 6. Yale School of Medicine, New Haven, Connecticut, 7. Tufts University, Boston, Massachusetts*

Our main objective was to determine whether a physical activity intervention prevents or delays the onset of major mobility disability in older persons. We hypothesized that compared to a successful aging health education program, a long-term structured physical activity program reduces the risk of major mobility disability. Participants were recruited from urban and rural communities at 8 field centers throughout the US, and randomized to a structured moderate intensity aerobic, resistance and flexibility physical activity program, or to a successful aging health education program. The primary outcome was major mobility disability objectively defined as loss of ability to walk 400 m. Median attendance at the physical activity and successful aging center-based sessions was 71% and 82%, respectively. Safety



results and incident major mobility disability in the entire cohort and in subgroups will be reported. Trial Registration: ClinicalTrials.gov identifier NCT00116194.

### THE RELATIONSHIP OF PHYSICAL ACTIVITY “DOSE” TO CHANGES IN PHYSICAL FUNCTIONING IN THE LIFE STUDY

R. Fielding<sup>2</sup>, W. Rejeski<sup>3</sup>, A.C. King<sup>4</sup>, T. Manini<sup>1</sup>, M.M. McDermott<sup>5</sup>, A. Marsh<sup>3</sup>, N.W. Glynn<sup>6</sup>, C. Tudor-Locke<sup>7</sup>,  
1. University of Florida, Gainesville, Florida, 2. Tufts University, Boston, Massachusetts, 3. Wake Forest University, Winston-Salem, North Carolina, 4. Stanford University, Palo Alto, California, 5. Northwestern University, Chicago, Illinois, 6. University of Pittsburgh, Pittsburgh, Pennsylvania, 7. Pennington Biomedical Research Center, Baton Rouge, Louisiana

Loss of mobility with advancing age is associated with loss of independence, disability, and mortality. Although physical activity interventions have been demonstrated to improve physical functioning in older “at risk” adults, the relationship between the dose of physical activity and changes in physical function has not been extensively studied. The LIFE physical activity intervention focused on walking, strength, flexibility, and balance training with two center-based visits per week and home-based activity 3-4 times per week. Adherence was calculated by number of sessions attended and activity counts from 7-day accelerometry. Participants with acute illness were temporarily suspended from the intervention until clear to return to the intervention by their health provider. Quartiles of adherence were examined relative to changes in SPPB score and gait speed during the 400 m walk. This presentation will relate improvements in physical performance to adherence.

### EFFECT OF PHYSICAL ACTIVITY ON THE PREVENTION OF SERIOUS FALL INJURIES IN OLDER PERSONS: THE LIFESTYLE INTERVENTIONS AND INDEPENDENCE FOR ELDERS (LIFE) RANDOMIZED TRIAL

T.M. Gill<sup>1</sup>, M.E. Miller<sup>6</sup>, M.M. McDermott<sup>2</sup>, J. Guralnik<sup>3</sup>, T. Manini<sup>4</sup>, M. Pahor<sup>4</sup>, A. Marsh<sup>5</sup>, S.B. Kritchevsky<sup>6</sup>,  
1. Yale School of Medicine, New Haven, Connecticut, 2. Northwestern University, Chicago, Illinois, 3. University of Maryland, Baltimore, Maryland, 4. University of Florida, Gainesville, Florida, 5. Wake Forest University, Winston-Salem, North Carolina, 6. Wake Forest School of Medicine, Winston-Salem, North Carolina

The morbidity, costs, and mortality associated with serious fall injuries are immense. Yet, evidence is lacking from randomized clinical trials that serious fall injuries can be prevented. We hypothesized that a long-term, structured physical activity program, compared with a successful aging health education program, reduces the risk of serious fall injuries. The primary comparisons between intervention groups will be based on survival analyses for the outcome of time until the first post-randomization occurrence of a serious fall injury. Pre-specified subgroups include age, gender, ethnicity, and physical performance. An additional, post-hoc subgroup analysis will be conducted for self-reported fall in the year prior to randomization (yes/no). Serious fall injuries were adjudicated by a panel of expert clinicians and defined as falls resulting in a clinical, non-vertebral fracture and/or leading to hospitalization for other disabling injuries such as non-fracture head injury, consequences of a long lie, joint dislocations, and severe sprains.

### PHYSICAL ACTIVITY AND COGNITIVE OUTCOMES- RESULTS FROM THE LIFE STUDY

K.M. Sink<sup>2</sup>, M.A. Espeland<sup>2</sup>, R. Cohen<sup>1</sup>, S. Rapp<sup>2</sup>, O.L. Lopez<sup>5</sup>, J.A. Katula<sup>3</sup>, K.F. Reid<sup>4</sup>, J.D. Williamson<sup>2</sup>,  
1. University of Florida, Gainesville, Florida, 2. Wake Forest School of Medicine, Winston-Salem, North Carolina, 3. Wake Forest University, Winston-Salem, North Carolina, 4. Tufts University, Boston, Massachusetts, 5. University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania

Observational studies have shown beneficial relationships between exercise and cognitive function. Some clinical trials have also demonstrated improvements in cognitive function in response to moderate-high intensity aerobic exercise, however these have been limited by relatively small sample sizes and short durations. The LIFE Study is the largest and longest randomized controlled clinical trial of physical activity with cognitive outcomes in older sedentary adults at increased risk for incident mobility disability. Our hypothesis was that random assignment to a tailored physical activity intervention, compared with a successful aging education control, would result in better working memory and speed of processing (measured by the Digit Symbol Coding test) and better memory (assessed with the Hopkins Verbal Learning Test) over two years. We will present these results as well as results for the composite cognitive measure reflecting performance across the entire cognitive battery and incident all cause Mild Cognitive Impairment or Dementia (tertiary outcomes).

### SESSION 1140 (SYMPOSIUM)

#### PSYCHOSOCIAL AND SPIRITUAL CONNECTIONS ACROSS END-OF-LIFE CARE SETTINGS

**Chair:** M.M. Garrido, *James J Peters VAMC, Bronx, New York, Icahn School of Medicine at Mount Sinai, New York, New York*  
**Discussant:** D. Carr, *Rutgers University, New Brunswick, New Jersey*

Relief of psychological distress, spiritual concerns, and family discord are among the priorities of patients nearing the end of life. Despite this, most research on symptom control for patients with serious illnesses focuses on physical symptoms. Understanding how interactions among patients, family members, and providers facilitate relief of spiritual and psychosocial symptoms is key to improving end-of-life care quality. The four papers in this symposium describe ways in which connections among patients, family members, and providers affect treatment decisions and spiritual and psychosocial symptom relief across settings of end-of-life care. Two papers examine the role of chaplains in facilitating symptom relief among hospitalized palliative care patients. With qualitative interviews of hospitalized patients and their family members, Molly Perkins and colleagues explore the potential for chaplains to facilitate advance care planning through alleviation of spiritual distress and guilt. Using semi-structured interviews of palliative care providers and medical record review of hospitalized veterans, Melissa Garrido and colleagues describe the extent to which chaplains provide psychological support to distressed veterans. Isabelle van Riesenbeck and colleagues use interviews with care providers to highlight the importance of peer support for certified nursing assistants in preparedness for deaths of residents in long-term care facilities. Katherine Ornstein uses data from the Health and Retirement Study to demonstrate the role of family context in understanding patient decisions to enter hospice care. Deborah Carr, the discussant, will emphasize the need to consider factors beyond the biomedical model of disease in order to provide high quality end-of-life care.

## END-OF-LIFE DECISION-MAKING IN A DIVERSE AGING PALLIATIVE CARE POPULATION: THE ROLE OF CHAPLAINS

M. Perkins<sup>1,2</sup>, G.H. Grant<sup>3,4</sup>, E.L. Idler<sup>4</sup>, Z.O. Binney<sup>5</sup>, J. Jungerman<sup>4</sup>, L.P. Prizer<sup>6</sup>, T. Quest<sup>1,2,5</sup>, *1. Emory University School of Medicine, Atlanta, Georgia, 2. Atlanta VA Medical Center, Atlanta, Georgia, 3. Emory Center for Pastoral Services, Atlanta, Georgia, 4. Emory University, Atlanta, Georgia, 5. Emory Palliative Care Center, Atlanta, Georgia, 6. University of Georgia, Athens, Georgia*

This qualitative study investigated the impact of hospital chaplains on end-of-life decision-making in a diverse aging palliative care population in metropolitan Atlanta. The setting for the study was a 511-bed community-based full-service hospital where 70% of all patients that receive a palliative care consultation are African American. We conducted 24 in-depth interviews with 12 patients, 8 family members, and 2 patient-family dyads. 61.9% of interviewees were African American and 63.2% had a household income <\$45,000 per year. The mean age was 60.0±13.2 years. Chaplains' primary role in end-of-life decision-making was to relieve spiritual distress, ease guilt, and comfort participants in their decisions. Key barriers to end-of-life planning were participants' low health literacy and misperceptions regarding palliative care and hospice. Findings illuminate the crucial role of chaplains in end-of-life care and point to the need for interventions to mitigate effects of low health literacy in certain at-risk palliative care populations.

## AN UNTAPPED RESOURCE? THE ROLE OF CHAPLAINS IN ADDRESSING PSYCHOLOGICAL DISTRESS OF VETERANS RECEIVING PALLIATIVE CARE

M.M. Garrido<sup>1,2</sup>, K. Boockvar<sup>1,2,3</sup>, C. Johnson<sup>4</sup>, K. Mayans<sup>2</sup>, S. Jones<sup>1</sup>, D. Sun<sup>1</sup>, H.G. Prigerson<sup>5</sup>, *1. James J Peters VAMC, Bronx, New York, 2. Icahn School of Medicine at Mount Sinai, New York, New York, 3. Jewish Home Lifecare, New York, New York, 4. University of Washington, Seattle, Washington, 5. Weill Cornell Medical College, New York, New York*

Spiritual care is part of high-quality palliative care (PC), and spiritual and psychological distress often co-occur. To explore the extent to which chaplains address psychological needs of seriously ill veterans, we reviewed records of 220 PC inpatients in NY/NJ and conducted semi-structured interviews with 12 PC providers (physicians, nurses, social workers, psychologists, and chaplains). Psychological distress was reported by 44% of veterans during PC consultations. PC chaplains provided at least one follow-up visit to 36% of distressed veterans, but they rarely documented providing emotional support. In interviews, all provider types noted that chaplains address psychological distress, especially among patients for whom spiritual distress exacerbates psychological distress or for whom spirituality is a coping mechanism. All providers mentioned the need for more time to adequately address psychological distress; training chaplains in PC mental health issues may enable them to address psychological symptoms in addition to spiritual distress during patient encounters.

## PREPAREDNESS FOR RESIDENT DEATH IN LONG-TERM CARE: THE EXPERIENCE OF FRONT-LINE STAFF

I. van Riesenbeck<sup>1</sup>, A. Barooah<sup>2</sup>, K. Boerner<sup>2,3</sup>, *1. University of Osnabruck, Osnabruck, Germany, 2. Jewish Home Lifecare, New York, New York, 3. Icahn School of Medicine at Mount Sinai, New York, New York*

This study explored the experiences of 140 certified nursing assistants (CNAs) who had lost a resident in their care within the last two months. Data collection involved comprehensive semi-structured in-person interviews. Quantitative and qualitative data were examined to better understand characteristics associated with preparedness for resident death. About one third of CNAs expressed feeling completely unprepared for the death. Those who had more information about the resident's end-of-life (EOL) care plans and more support from cowork-

ers (i.e., sharing feelings about resident EOL) were likely to report greater preparedness. Resident on hospice was also associated with greater preparedness, especially when hospice care was perceived as positive. Findings suggest that better integration into the care team both in terms of having more information about resident status and more exchange opportunities within the care team around EOL-related challenges would strengthen CNAs' ability to provide good EOL care and help cope with resident death.

## DO SPOUSAL CHARACTERISTICS IMPACT HOSPICE USE FOR OLDER ADULTS?

K. Ornstein, M.D. Aldridge, R. Gorges, A. Kelley, *geriatrics, mount sinai, New York, New York*

Disparities in hospice use by patient diagnosis, race and education are well-documented. Although family members are highly involved with end-of-life decision-making for patients and the health of the spousal caregiver may impact their ability to provide care in a home hospice setting, the influence of spousal characteristics on the decision to use hospice is unknown. We used data from the Health and Retirement Study (HRS) and Medicare claims on 1297 decedents who were married at the time of death to examine the impact of spousal demographic and clinical factors on likelihood of patient's hospice use. The following spousal factors were associated with a lower likelihood of hospice use: poor self-reported health, having multiple comorbidities, taking psychiatric medication and having diabetes. In multivariate models controlling for patient factors, only spousal use of psychiatric medications independently predict hospice use (OR=1.44). Family variables should be further considered when examining disparities in hospice use.

## SESSION 1145 (SYMPOSIUM)

### BIOMARKER PROFILES OF HEALTHY AGING AND EARLY FRAILITY IN LONG LIFE FAMILY STUDY PARTICIPANTS

**Chair:** M.P. Montano, *Boston Medical Center, Boston, Massachusetts*

Decline of physical functions due to muscle loss and sarcopenia is a major age-related phenotype with substantial impact on life-span and quality of life. Identifying biomarkers of "functional aging" that can predict rates of physical function decline and inform treatments is an important goal of the LLFS. We investigated the potential of a set of five biomarkers to classify LLFS participants into groups characterized by different rates of physical function decline and overall survival. The analysis used model-based clustering of transformed and standardized biomarkers to automatically partition LLFS participants into clusters characterized by significantly different biomarker profiles. Statistical modeling of rates of decline of grip strength and survival showed that there are profiles of biomarkers that are associated with higher risk for early mortality and faster rates of physical function declines. The analysis also identified profiles of biomarkers that are associated with an healthy aging profile.

### BIO-DEMOGRAPHIC ASPECTS OF STUDYING EXCEPTIONAL LONGEVITY: THE CASE OF LONG LIFE FAMILY STUDY (LLFS)

A.I. Yashin<sup>1</sup>, K.G. Arbeev<sup>1</sup>, A. Kulminski<sup>1</sup>, P. Stallard<sup>1</sup>, K. Christensen<sup>2</sup>, S.V. Ukraintseva<sup>1</sup>, *1. Duke University, Durham, North Carolina, 2. University of Southern Denmark, Odense, Denmark*

The LLFS was designed to investigate the roles of genetic and non-genetic factors in extreme longevity. Six years of follow-up resulted in data on life span for about a half of study participants from the proband generation. We found that survival in the LLFS group was substantially better than in corresponding birth cohorts in populations of the US and Denmark. Using the ROC/AUC techniques we found that

index of cumulative deficit (DI) is an informative covariate for life span prediction. This index was used for multiple life span imputation. Then life span data and imputed data were used in GWAS of human life span. Genetic variants showing association with life span have been used to construct polygenic score indices. We found that this association of such indices with life span is substantial and highly statistically significant and that corresponding genes participate in aging and lifespan.

#### **GENETIC DETERMINANTS OF AGING-RELATED ENDOPHENOTYPES IN THE LONG LIFE FAMILY STUDY (LLFS)**

A. Matteini<sup>1</sup>, J. Singh<sup>2</sup>, R. Boudreau<sup>2</sup>, C.M. Kammerer<sup>2</sup>, J.D. Walston<sup>1</sup>, A.B. Newman<sup>2</sup>, *1. Johns Hopkins University, Baltimore, Maryland, 2. University of Pittsburgh, Pittsburgh, Pennsylvania*

Endophenotypes derived from multiple physiologic measures may better characterize exceptional survival and improve the detection of genes influencing functional longevity. Five multi-domain endophenotypes were developed from data on 28 physiologic traits across five domains (cardiovascular, cognition, physical function, pulmonary, and metabolic) for 4472 individuals in 574 families in LLFS. Each endophenotype was significantly heritable and genetic factors accounted for 21-51% of the variation ( $P < 10^{-12}$  for all). Cox regression analyses revealed that the first endophenotype (predominantly reflecting pulmonary and physical function) was associated with mortality and attenuated 26.9% of the effect of age on mortality in LLFS. In addition, whole-genome analyses identified loci on chromosomes 10p15 ( $p < 3 \times 10^{-8}$ ) and 18q11.2 ( $P < 5 \times 10^{-7}$ ) that were associated with this endophenotype. These results indicate that genetic studies of aging-related endophenotypes in a unique set of families may reveal novel findings that will increase our understanding of the genetic regulation of aging.

#### **CANDIDATE GENE RESEQUENCING TO IDENTIFY RARE, PEDIGREE-SPECIFIC VARIANTS INFLUENCING HEALTHY AGING PHENOTYPES IN THE LONG LIFE FAMILY STUDY**

T. Druley<sup>1</sup>, J.C. Wang<sup>1</sup>, K. Christensen<sup>3</sup>, T.T. Perls<sup>2</sup>, B. Thyagarajan<sup>4</sup>, M.A. Province<sup>1</sup>, *1. Washington University, St. Louis, St. Louis, Missouri, 2. Medicine & Geriatrics, Boston University School of Medicine, Boston, Massachusetts, 3. University of Southern Denmark, Odense, Denmark, 4. University of Minnesota, Minneapolis, Minnesota*

We sequenced the functional variants of 464 candidate genes for longevity and/or the major diseases of aging in all 4,953 individuals from the Long Life Family Study, using a multiplexed, custom hybridization capture protocol (Ramos et al. BMC Genomics, 2012). Variants were analyzed individually or as a group across an entire gene ("burden testing") for association to aging phenotypes using family based tests. We found significant associations to eleven genes (burden-wise) and nine single variants. Most notably, we found a novel variant in the 3' UTR OBFC1 in 13 individuals from six pedigrees that was significantly associated with survival. OBFC1 is involved in telomere maintenance and falls within a recently reported LLFS family-based association peak for telomere length on chromosome 10 (Lee et al. Front Genet, 2014). These results demonstrate that sequencing under linkage peaks can identify rare or novel variants responsible for linkage disequilibrium.

#### **HUMAN LEUKOCYTE TELOMERE LENGTH SHOWS HERITABILITY IN THE LLFS STUDY OF LONG-LIVED FAMILIES**

L.S. Honig<sup>1</sup>, J.H. Lee<sup>1</sup>, R. Mayeux<sup>1</sup>, T.T. Perls<sup>2</sup>, N. Schupf<sup>1</sup>, *1. Columbia University, New York City, New York, 2. Boston Medical Center, Boston, Massachusetts*

Chromosomal telomere length changes with organismal aging, shortening with repeated cell divisions. In DNA isolated from human

populations, leukocyte telomere length (LTL) shortens with age. A number of studies show that LTL has some heritability, but also that decreases in LTL correlate with dementia, other age-associated processes, and mortality. Thus LTL may be a marker of biological aging. LTL varies widely between individuals in a given age group, and this variability likely relates to both environmental and genetic factors. Here we use a family-based study of longevity (the LLFS study) to study heritability of LTL obtained cross-sectionally in elderly probands and their offspring. We confirm that LTL is shorter in males, and in older individuals; we also show LTL has a high heritability. We find a graded relationship of LTL length in the offspring generation, who are in middle-life. Persons (sons and daughters) who are more-closely-related to elderly probands have longer LTL than persons less-closely-related (nieces and nephews), who in turn still have longer LTL than unrelated spouses in this offspring generation. These results support a prominent genetic underpinning of LTL. Elucidation of such genetic bases may provide a potential route for intervening in the aging process.

#### **THE LONG LIFE FAMILY STUDY - DISCOVERING THE DETERMINANTS OF EXCEPTIONAL FAMILIAL LONGEVITY**

T.T. Perls<sup>1</sup>, E. Hadley<sup>2</sup>, *1. Medicine & Geriatrics, Boston University School of Medicine, Boston, Massachusetts, 2. National Institute on Aging, Bethesda, Maryland*

The Long Life Family Study (LLFS) is longitudinally following 551 families (4,875 subjects) with family members demonstrating clustering for longevity. We highlight 5 recent findings from the LLFS: (1) Profiles based on five biomarkers were used to classify LLFS participants into groups characterized by different rates of physical function decline and overall survival. Statistical modeling of rates of decline of grip strength and survival showed that associations between profiles and higher risk for early mortality, faster rates of physical function decline as well as healthy aging. (2) In a different approach to profiles, five endophenotypes were derived from combinations of 28 physiologic measures across five physiologic domains. Each endophenotype was significantly heritable and genetic factors accounted for 21-51% of the variation ( $P < 10^{-12}$  for all). We identified loci on chromosomes 10p15 ( $p < 3 \times 10^{-8}$ ) and 18q11.2 ( $P < 5 \times 10^{-7}$ ) that were associated with one of these endophenotypes. (3) Telomere length was found to be highly heritable in the LLFS and family members more closely related to probands (e.g. offspring versus nephews and nieces) had longer telomeres. (4) Functional variants of 464 candidate genes hypothesized to be associated with longevity or major age-related diseases were sequenced and tested for association with aging phenotypes. Significant associations were found with eleven genes and nine single variants and a novel variant was noted in OBFC1 (involved in telomere maintenance) in 13 individuals from six pedigrees. (5) Using the ROC/AUC techniques, the index of cumulative deficit (DI) was found to be an informative covariate for life span prediction and imputation.

### **SESSION 1150 (PAPER)**

#### **NUTRITION**

#### **A GROUNDED THEORY OF SHIFTING FOODWAYS IN LATE-LIFE WIDOWHOOD**

E. Vesnaver<sup>1</sup>, H.H. Keller<sup>2</sup>, O. Sutherland<sup>1</sup>, S.B. Maitland<sup>1</sup>, J.L. Locher<sup>3</sup>, *1. University of Guelph, Guelph, Ontario, Canada, 2. University of Waterloo, Waterloo, Ontario, Canada, 3. University of Alabama at Birmingham, Birmingham, Alabama*

Widowhood is an expected life event for married older women; prior research has found disruptions in diet and eating behaviors to be common among widows. Little, however, is known about the process underlying these disruptions. Accordingly, constructivist grounded theory was used to explore the shifting foodways of older women as

they experience widowhood. Foodways were defined as all processes involved in the selection, acquisition, preparation, and consumption of food. Face-to-face interviews were conducted with 14 women living alone, aged 70 to 86 years, and widowed 6 months to 7 years. The emergent theory suggests that the shifts in foodways in widowhood occurred when the foodways of couplehood were no longer functional. Widows were adjusting foodways for their new social structure and context. Integral to this process was a concern for personal nourishment. For some, this concern for self needed to be developed or re-examined in widowhood. Foodways were intertwined and patterned with identity transitions experienced in widowhood. Finally, actual adjustments made to foodways were under a constant tension as widows balanced moving forward with holding on. This study provides a theoretical contribution to the literature on food choice and foodways and provides evidence that can be used to support the nutritional health of older women who are widowed.

### **OCCLUSAL FORCE IS A BETTER INDICATOR FOR DIETARY INTAKES THAN NUMBER OF TEETH IN 80-YEAR-OLD PERSONS**

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**Objectives:** Number of teeth has frequently been used as an indicator of oral health in investigations of dietary intakes; however, this measure doesn't represent the efficacy of the masticatory function. Masticatory function may be more important for food selection and avoidance than number of remaining teeth, because the number of teeth doesn't reflect prostheses replacing the missing teeth. The aim of this study was to investigate the association of occlusal force with dietary intakes in independently living 80-year-old persons. **Methods:** The study population was 456 community-dwelling people aged 79 to 81-year-old. Bilateral maximal occlusal force in the intercuspal position was measured with pressure-sensitive sheets. Removable denture wearers kept their dentures in place during the measurements. Food and nutrient intakes during the preceding month were assessed using a brief-type self-administered diet history questionnaire. Linear trends of food and nutrient intakes with decreasing occlusal force or number of teeth were tested respectively after adjusting for gender and socioeconomic factors. **Results:** Decline of occlusal force was significantly associated with lower intakes of green and yellow vegetables, other vegetables, protein, vitamins A, E, C and dietary fiber ( $P$  for trend  $< 0.05$ ). In contrast, number of teeth was significantly associated only with intakes of green and yellow vegetables. **Conclusions:** Occlusal force was significantly associated with intakes of vitamins and dietary fiber more than number of remaining teeth in independently living Japanese octogenarians. This finding suggests that occlusal force is a better indicator for dietary intakes than number of teeth in 80-year-old persons.

### **EFFECTS OF AN INNOVATIVE, EVIDENCE-BASED OROPHARYNGEAL STRENGTHENING PROGRAM ON DYSPHAGIA AND ITS SEQUELAE IN ELDERLY PATIENTS**

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**Purpose:** Dysphagia affects up to 22% of people over the age of 60 and often leads to pneumonia, malnutrition, dehydration, and airway obstruction. Swallowing difficulties are estimated to occur in 42 to 76% of acute stroke patients resulting in longer nursing home stays and diminished rehabilitation potential. Age-associated decline in skeletal muscle strength has been linked to age-related muscle atrophy known as sarcopenia and is typical of individuals over age 60. Progressive resistance training for the oropharyngeal musculature is an emerging rehabilitation technique for dysphagia. The purpose of this study was to determine effects of Isometric Progressive Resistance Oropharyngeal (I-PRO) therapy on swallowing function. **Methods:** 20 dysphagic patients with multiple medical diagnoses and dysphagia (mean age = 70 years) participated. Patients completed 8 weeks of I-PRO therapy, consisting of pressing anterior and posterior portions of the tongue against a custom-molded mouthpiece. Outcome measures included bolus flow (aspiration), lingual pressure generation, quality of life, diet, pneumonia diagnoses, and hospital admissions. **Results:** Penetration-aspiration scale scores decreased for thin liquid boluses. Maximum isometric pressures increased at front and back sensors ( $p < .001$ ). Swallowing Quality of Life (SWAL-QOL) questionnaire subscale scores improved significantly ( $p < .03$ ). Functional Oral Intake Scale scores improved overall with patients moving to less restrictive diets ( $p < .02$ ). Several patients progressed from feeding tube dependency to full oral intake. The number of pneumonia diagnoses decreased by 88% and admissions decreased by 79%. **Conclusions:** Findings support the role of I-PRO therapy in effectively treating dysphagia and its consequences in older patients with various medical etiologies.

### **ADDRESSING AND LEVERAGING SEASONALITY OF SERUM 25-HYDROXYVITAMIN D CONCENTRATIONS IN OBSERVATIONAL AGING RESEARCH**

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**BACKGROUND.** Observational studies have shown positive associations between serum 25-hydroxyvitamin D [25(OH)D] concentrations and health outcomes in older adults. A challenge is that 25(OH)D concentrations vary seasonally according to sunlight exposure. Investigators often adjust statistical analyses for a proxy of sunlight exposure, such as season of blood collection, to reduce bias. We aimed to 1) characterize cases where adjustment for seasonality reduces, increases, or has no effect on bias; and 2) present accessible analytic methods that leverage seasonality to reduce bias. **METHODS.** Using the outcome slow gait speed as an illustration, we constructed directed acyclic graphs (DAGs) to categorize mechanistic pathways by which 25(OH)D and seasonality may affect the outcome. We simulated data using models consistent with the DAGs and computed adjusted and unadjusted relative risks. We also computed relative risks using structural mean models when seasonality was an instrumental variable (did not directly affect the outcome). **RESULTS.** Adjustment for seasonality reduced bias when season of blood collection was a confounder (affected the outcome), whereas adjustment did not affect bias when season of blood collection was an instrumental variable and there were no unmeasured confounders. Adjustment for seasonality increased bias when season of blood collection was an instrumental variable and there were unmeasured confounders. In this case, structural mean models produced unbiased estimates. **CONCLUSIONS.** No single method always optimally

addressed seasonality of 25(OH)D. The best method depends on scientific context, which investigators can convey using DAGs.

### **SARCOPENIA AND MALNUTRITION IN HOSPITALIZED ELDERLY: PREVALENCE AND OUTCOMES**

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**Background:** Data about the prevalence of sarcopenia among hospitalized patients are lacking and it is unclear whether the diagnostic criteria commonly used in community-dwellers are applicable in acutely ill subjects. **Aims:** (i) to assess whether the European Working Group on Sarcopenia in Older People (EWGSOP) criteria are applicable in the acute care setting; (ii) to assess the prevalence of sarcopenia and (iii) the mortality rate at 3 months. **Methods:** 103 patients admitted to the Acute Geriatric Clinic were enrolled. Inclusion criteria were: age  $\geq 75$  years, and malnutrition or risk of malnutrition, according to the Mini Nutritional Assessment Short Form. Sarcopenia was diagnosed using the EWGSOP criteria by means of bioimpedance analysis, hand-grip strength (HS) and gait speed (GS), within 72 hours of admission. Information on deaths was obtained by telephone interview at 3 months following discharge. **Results:** We distinguished 3 groups: 58 non sarcopenic patients, 22 sarcopenic patients and 23 patients with low muscle mass but HS and/or GS not applicable (because bedridden or requiring intensive treatments). For the latter group, we were not allowed to diagnose sarcopenia, lacking at least one EWGSOP criteria. During the follow-up, 11 patients died. Kaplan-Meier survival curves showed that sarcopenic patients died significantly more frequently than others (log-rank  $p=0.004$ ). **Conclusions:** (i) In a population of hospitalized elderly malnourished or at risk of malnutrition, sarcopenia is highly prevalent (21.4%); (ii) the EWGSOP criteria can be satisfactorily applied only in 77.7% of patients; (iii) sarcopenic subjects are more likely to die in comparison to other patients.

## **SESSION 1155 (PAPER)**

### **WORKFORCE**

#### **GOOD SUPERVISION LEADS TO HEALTHIER WORKERS: BURNOUT AND THE HEALTH OF ADULT PROTECTIVE SERVICES WORKERS**

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Adult protective services (APS) workers face substantial occupational challenges which can affect their health. Little research has been conducted in this area. This pilot study examines the relationship between occupational exposures, health and workplace characteristics in a sample of 81 APS fieldworkers attending an annual state-wide training institute. These workers were mostly female (82%), college educated (91%) and had 5+ years of experience (75%). Data were collected via an anonymous on-line self-report survey. Almost all (97%) have been exposed to work-related health hazards and most (70%) were exposed in the past month. Hazards included clutter, human/animal waste, insect infestations, threats and attacks. Almost one-fifth (18%) report fair/poor health, 14% have a disability that affects their function for a week or more each month, and 41% are at risk for depression. Overall, 29% are at high risk for burnout. However, 29% also have high levels of 'compassion satisfaction' (intrinsic rewards for helping others) from their job. Those who rate their supervisors favorably are at much lower risk for burnout and are much more likely to have compassion satisfaction with their job. This relationship holds true in regression

models that control for experience, poor health and past-month exposure to hazards. Supervisor training may be one of the keys to APS worker health.

### **A SIX COUNTRY STUDY NURSES, AND STUDENT NURSES ATTITUDES TOWARDS GERONTOLOGICAL NURSING AS A CAREER**

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The purpose of this study was to describe attitudes towards caring for older people among nurses and student nurses in six participating countries; Germany, Japan, Scotland, Slovenia Sweden and the USA. **Background:** Working with older people has historically had a negative profile and with a global rise in the numbers of older people and a global shortage of nurses, it is essential to recruit nurses into this area. This study gathered data from six countries to explore multiple factors that may influence nurses and student nurses attitudes to nursing older people and to gerontological nursing as a career. **Method:** A convenience sample of 1064 nursing students and 2585 nurses in six countries answered the Multifactorial Attitudes Questionnaire (MAQ) designed to elicit attitudes towards caring for older people and to the esteem that comes with working in this field. The MAQ consists of seven positive and 13 negative statements and uses a Likert scale. A higher total score indicates a more positive attitude. **Results:** Differences in attitudes among the six countries was observed for both nursing students and for nurses ( $<.001$ ). Nursing students in Scotland and USA had the highest mean scores and Slovenia and Sweden were the countries with the lowest mean score. The highest score for nurses were reported in Scotland and Sweden and lowest in Germany and Japan. **Conclusion:** From the findings, it is suggested that formal nursing education to students between 18 – 29 years of age has high importance for positive attitudes towards working with older people.

### **JOB SATISFACTION AMONG CARE AIDES IN RESIDENTIAL LONG-TERM CARE: A SYSTEMATIC REVIEW OF CONTRIBUTING FACTORS**

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**Background:** Staff turnover is a global problem for residential long-term care facilities (nursing homes). Numerous factors are linked to nurse turnover; however, job satisfaction is by far the most frequently mentioned. While not all dissatisfied staff will leave their job, dissatisfaction impacts their work, their coworkers, and the quality of resident care they deliver. Understanding job satisfaction in residential long-term care facilities is therefore a high research priority. **Objective:** To systematically review the evidence on which factors (individual and organizational) are associated with job satisfaction among care aides, nurse aides and nursing assistants in residential long-term care facilities. **Methods:** Nine online databases were searched through to May 2013. Two authors independently screened, extracted data, and assessed the included publications for methodological quality using 4 validated tools. **Results:** Forty-two publications met our eligibility criteria. Individual factors found to be important to care aide job satisfaction were empowerment and autonomy. Six additional individual factors were found to be not important: age, ethnicity, gender, education level, attending specialized training, and years of experience. Organizational factors found to be important were facility resources and workload. Two additional factors were found to be not important: satisfaction with salary/benefits and job performance. **Conclusions:** Factors important to care aide job satisfaction differ from those reported among hospital

nurses, supporting the need for different strategies to improve care aide job satisfaction and thus retention in residential long-term care facilities.

### **GERIATRIC EDUCATION & TRAINING (GET) FOR ACUTE CARE NURSES: GETTING IT TOGETHER FOR OUR SENIORS**

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Research about older adults in acute care indicates that hospitalization has negative consequences for this population such as functional decline and onset of delirium. To date, education research in this area has focused on individual interventions rather than overall knowledge of the complex healthcare needs of older adults in acute care. To address this gap, a research and educational initiative, the Geriatric Education and Training (GET) Program, was developed to enable nurses to adapt to the changing patient demographic, meet the unique care needs and improve health outcomes for older adults. The purpose of this study was to implement and evaluate a novel approach to education for acute care nurses. This pilot study incorporates both quantitative and qualitative methods to examine the participant's uptake of knowledge and change in attitudes. Data collection includes individual questionnaires (n=25) completed at three points in time, as well as focus groups with participants (n=25) and managers (n=5). A purposive sample was recruited from RNs working in acute care hospitals. Expected results include an increased knowledge and capacity among acute care nurses to improve outcomes for hospitalized older adults as well as the development and refinement of the GET Program curriculum. The curriculum will be available through a knowledge translation workshop in the spring of 2014.

### **SESSION 1160 (SYMPOSIUM)**

#### **POLICY SERIES: SUPPORTING THE WORKING CAREGIVER WITH EMPLOYER PROGRAMS, A THERAPEUTIC NUTRITION TOOLKIT, AND POLICY GUIDANCE**

**Chair:** R. Blancato, *Matz, Blancato & Associates, Washington, District of Columbia*

Today's American families are the primary providers of long-term care in their own homes and many of these family caregivers also work. Because nutrition significantly impacts an older adult's health outcomes, it also often influences the ability of working caregivers to handle the dual challenges of work and caregiving. This session highlights a new online toolkit for employers that provides therapeutic nutrition information and links to services to help workplaces better support their employees who are caregivers. Support provided by Abbott Nutrition.

### **SESSION 1165 (SYMPOSIUM)**

#### **INTEGRATING ACUTE AND POST-ACUTE CARE FOR OLDER ADULTS UNDER HEALTH REFORM: PROMISE AND PITFALLS**

**Chair:** C.E. Bishop, *Heller School for Social Policy and Management, Brandeis University, Waltham, Massachusetts*

**Discussant:** J. Wiener, *RTI International, Washington, District of Columbia*

Medicare post-acute care (PAC, provided by a skilled nursing facility, home health agency, long-term care hospital, or inpatient rehabilitation facility) plays a valued role in the continuum of services for

older adults with acute and chronic conditions, but has been identified as a significant Medicare cost-driver. Total Medicare costs might be contained by better coordinating Medicare post-acute and hospital services, although this could reduce access of beneficiaries to valued care. Strategies that reward organizations for allocating hospital, physician, and post-acute services more carefully include bundled payment methods and accountable care (ACO) approaches. Our session will consider early findings about impacts of these delivery system and payment initiatives on utilization, Medicare expenditures, and beneficiary outcomes. Presentations will address: 1) development of bundled payment methods and expected impacts on patterns of post-acute services use; 2) challenges for the development and implementation of uniform patient assessment methods that might support payment based on beneficiary needs and outcome rather than provider type; 3) survey results revealing how accountable care organizations are (or are not) coordinating services across post-acute providers; and 4) early indicators of the market-level impact of bundled payment and ACO demonstrations on rehospitalization of post-acute patients. Implications for public policy and for the well-being of older adult Medicare beneficiaries will be emphasized.

### **POST-ACUTE CARE AND BUNDLED PAYMENT**

M. Morley, *RTI International, Waltham, Massachusetts*

Episode-based bundled payment is an important delivery system reform option being tested in the Centers for Medicare & Medicaid Services (CMS) Bundled Payments for Care Improvement Initiative. This payment approach shifts the focus from the silos of the current payment systems to the continuum of care across provider settings. Bundled payments incentivize improvements in patient-centered care via increased coordination and accountability across providers. Research has focused on the composition of service use during different definitions of episodes of care as well as on differences in episode composition and payments across different geographic areas. The parameters of episode definitions, the inclusion of initial hospital stays or readmissions, and differences in service use across geography may lead to different behavioral responses affecting use of post-acute care services. Other important considerations for this payment approach include impact on access to care, beneficiary choice, outcomes, and subsequent service use.

### **EXTENDING ACCOUNTABILITY: ACOS AND THE INCLUSION OF POST-ACUTE CARE**

C.H. Colla, V.A. Lewis, S. Bergquist, *The Dartmouth Institute for Health Policy and Clinical Practice, Geisel School of Medicine at Dartmouth, Lebanon, New Hampshire*

Growth and variation in post-acute expenditures, misaligned incentives, and poor coordination all call attention to the increasing need for change in Medicare post-acute care. Accountable care organization (ACO) contracts, which require accountability for the total cost of care and quality measures, may have important implications for post-acute care. Using the National Survey of ACOs, we describe ACOs' inclusion of post-acute care and whether inclusion is associated with care management capabilities. Three-quarters of ACOs include post-acute facilities; outpatient rehabilitation (64%) and home health (60%) are most common. Less than half have a relationship with a skilled nursing facility. ACOs including providers across the care continuum are more likely to report the ability to assure smooth transitions across settings and to be engaged in preventing hospital readmissions. ACOs that include post-acute providers may improve care coordination, while ACOs that do not may try to reduce use of post-acute services in their patients.

## THE EFFECT OF HOSPITAL-SKILLED NURSING FACILITY LINKAGES ON RE-HOSPITALIZATIONS

V. Mor<sup>1</sup>, M. Rahman<sup>1</sup>, D. Grabowski<sup>2</sup>, J. Zinn<sup>3</sup>, 1. Brown University, Providence, Rhode Island, 2. Harvard Medical School, Boston, Massachusetts, 3. Temple University, Philadelphia, Pennsylvania

As the most prevalent provider of Medicare post-acute care (PAC), Skilled Nursing Facilities (SNFs) look to hospitals as their primary source of referral. However, until the recent introduction of CMS's rehospitalization penalty, hospitals have not seen the SNF as part of their care system. As accountable care organizations, bundling demonstrations and other payment and delivery system innovations establish networks of PAC providers, the effects of these clinical and organizational collaboration efforts should be tracked. Based upon research from a period before the rehospitalization penalty, we estimate that if hospitals increased their concentration of discharges to one SNF by 10 percentage points, the rehospitalization rate of patients treated by that hospital-SNF pair would decline by 1.2 percentage points, largely driven by fewer rehospitalizations within a week of hospital discharge. More recent data are used to document early impacts of changes in PAC referral and utilization underway in many markets. The findings have implications for policy development in the Medicare PAC arena.

## IMPLEMENTING STANDARDIZED ASSESSMENT FOR BUNDLED PAYMENT AND OTHER INTEGRATED SERVICE APPROACHES

B. Gage, *Brookings Institution, Washington, District of Columbia*

A growing number of Medicare beneficiaries use post-acute care following an inpatient stay. The Medicare program currently uses an array of assessment items to measure their case mix complexity as they cross the health care system. Work is currently underway at the Federal level to standardize the items used to measure medical, functional, and cognitive complexity across settings. These items are being used to develop setting-agnostic quality measures and will be key to establishing payment models that adjust for case mix complexity, regardless of setting. This paper will provide an overview of current initiatives in these areas and their implications for successful health reform implementation.

## SESSION 1170 (SYMPOSIUM)

### SUCCESSFUL AGING-IN-PLACE FOR MARGINALIZED, COMMUNITY-DWELLING ADULTS: RESEARCH FOR SOCIAL CHANGE

**Chair:** T. Lewinson, *School of Social Work, Georgia State University, Atlanta, Georgia*

According to the Administration on Aging, there will be nearly 77 million older adults over the age of 60 by the year 2020. The ability to age-in-place is an important consideration for these older adults who may desire to remain independently-housed while managing their health and well-being. However, poor housing affordability, accessibility, and quality make aging-in-place a stressful endeavor for many older adults attempting to transition through available housing options in the community. Panelists for this symposium address the following questions: What types of barriers do marginalized older adults residing in various housing types experience when trying to age-in-place? How do socially disadvantaged positions, such as racial/ethnic identity, homelessness, poverty and formerly incarcerated status influence access to housing and other resources? How can research lead to practice strategies that promote aging-in-place in less-than-ideal housing environments? Panelists explore barriers in prison reentry, public housing, emergency shelters, and economy hotels using sequential mixed and qualitative research methods. Across all presentations, findings identify exposure to violence, exploitation, and trauma as dominant themes for adults aging in varying community contexts. Family, peer, and community supports that facilitate productive aging-in-place outcomes are discussed. Prom-

ising practices for the successful integration and re-integration of older adults into housing communities will be presented to promote improved aging-in-place practice and policy strategies.

## IT'S NOT SAFE GETTIN' ACROSS THE STREET: NAVIGATING WALKABILITY BARRIERS WHILE HOTEL HOUSED

T. Lewinson, *School of Social Work, Georgia State University, Atlanta, Georgia*

Previous research has documented the tendency for low-income older adults to move into economy extended stay hotels to avoid street homelessness when other housing options are few, un-preferred, or non-existent. This community-based, participatory study used photo-elicitation and photovoice with 16 older adults residing in hotels to explore barriers to managing health challenges. Using thematic analysis techniques for individual interview data and three photography-directed focus group discussions, three "walkability" themes emerged as barriers for navigating neighborhoods surrounding hotels. These themes were: dangerous people, perilous pathways, and tethered access. Residents believed these walkability conditions interfered with successful aging-in-place. Findings initiated resident organizing with two directives: (1) internal resident engagement and education, and (2) external resident-provider collaboration

## NAVIGATING IN A LANDSCAPE OF TRAUMA: AFRICAN-AMERICAN SURVIVORS LIVING IN LOW-INCOME HOUSING

S. Bowland, *Social Work, Eastern Washington University, Cheney, Washington*

**Background:** Little is known about the needs and concerns of older African American women survivors of child abuse, sexual assault, and/or domestic violence. **Methods:** This study used a classic grounded theory approach (Glaser & Strauss, 1967), including multiple interviews with 30 older African-American women. Initially participants were invited to tell their life story. During follow up interviews they were asked about their current stress and methods of coping. **Findings:** Twenty-eight out of 30 women identified interpersonal trauma, including experiences of discrimination and witnessing violence. The results indicated ongoing concerns with personal safety. Frequently named strategies for self-protection were isolation of self from community and turning to God. **Conclusions and Implications:** Unsafe housing may exacerbate the struggles of trauma survivors and lead to re-victimization. HUD needs to rethink housing policy in light of safety issues and to consider the implications for elder mistreatment of living in unsafe communities.

## BRIDGING OLDER ADULTS IN PRISON TO THEIR FAMILIES AND COMMUNITIES

T.M. Maschi, *Graduate School of Social Service, Fordham University, New York, New Jersey*

The objective of this mixed method study was to identify the factors that facilitated or create barriers to successful community reintegration of older adults with their families and communities. The study used a mixed method longitudinal design (post release 1 month and 3 and 6 months) to track the 30 older adults released from prison in New York metropolitan area. Two hour one-on-one in-depth interviews were taped and transcribed verbatim. A thematic analysis was conducted to identify factors were identified that facilitated or created barriers to their successful reintegration. Older adults identified a complex array of needs that included housing, employment, health care, substance abuse, and mental health. Participants also noted family, peer, and community support as important facilitators of community reintegration. These findings suggest the need for holistic services that include counseling, peer, family, and community support and service linkages to housing, employment, integrated healthcare and advocacy efforts.

## IT WORKS AGAINST YOU: SERVICE EXPERIENCES OF OLDER HOMELESS ADULTS

L. Thomas<sup>1</sup>, M. Clapsadl<sup>2</sup>, 1. *Social Work, University of North Carolina at Charlotte, Charlotte, North Carolina*, 2. *University of North Carolina at Charlotte, Charlotte, North Carolina*

Older homeless adults who temporarily reside in emergency shelters face aging without the stability of a permanent residence and with numerous physical and mental health vulnerabilities. Homeless adults die prematurely and those ages 50-64 experience chronic health and geriatric conditions at rates comparable to adults 15-20 years older in the general population. Emergency shelters are ill equipped to address their complex needs. This qualitative study examined the life histories of 31 older homeless adults ages 50-69 residing in emergency shelter. It identifies the factors that facilitate positive service experiences and the barriers they face in service contexts including shelter and program requirements, perceived staff attitudes, the lack of job and housing opportunities, and poor physical and mental health. The study situates these service experiences in the context of life histories of cumulative trauma and adversity. Findings are discussed in the light of federal policies to address and end homelessness.

## SESSION 1175 (SYMPOSIUM)

### MANAGING CHRONIC CONDITIONS IN LATER LIFE: DOES GENDER MATTER?

**Chair:** C. Tannenbaum, *Université de Montréal, Montreal, Quebec, Canada*

**Co-Chair:** B.B. Cochrane, *University of Washington, Seattle, Washington*

**Discussant:** S. Hilmer, *University of Sydney, Sydney, New South Wales, Australia*

This symposium aims to raise awareness of the way older men and women experience different lived realities of chronic conditions as a function of their sex and gender. Sex (the x and y chromosomes) influence biological aspects of aging. Gender, the social and cultural behaviours expected by society, dictate a person's representations of illness and their interactions with treatment. This symposium will review 3 concepts of chronic disease management, viewed from a sex and gender-oriented perspective. In the first paper, Dr. Cochrane (nursing) will discuss the concepts of sex versus gender by illustrating how symptom presentation of heart disease is affected by sex, while the effect of chronic disease on function emerges more frequently as a function of gender. In the second paper, Dr. Tannenbaum (geriatric medicine) will review evidence on the epidemiology of three geriatric syndromes - falls, urinary incontinence, and dementia - and highlight instances when the interdisciplinary team should (or should not) pay attention to sex or gender in their detection, evaluation and conservative management. In the third paper, Dr. Hilmer (geriatric pharmacology) will review the issue of polypharmacy from a sex and gender perspective, with a focus on sex-related pharmacokinetic and pharmacodynamics complexities, as well as an analysis of the societal perspectives of the use of medication by men and women for different chronic conditions. During the discussion period, the panelists will respond to questions and provide recommendations on how best to deal with sex and gender considerations in the research and practice of patients and their caregivers living with chronic disease.

### THE INFLUENCE OF SEX AND GENDER ON CHRONIC DISEASE: CORONARY HEART DISEASE AS AN EXEMPLAR

B.B. Cochrane, 1. *School of Nursing, University of Washington, Seattle, Washington*, 2. *Fred Hutchinson Cancer Research Center, Seattle, Washington*

The health of older men and women is influenced, to varying degrees, by both sex and gender. Sex - particularly one's lifetime expo-

sure to endogenous sex hormones - can affect how chronic disease is manifested and treated. Gender, as a psychosocial context for one's life, can influence awareness, expectations, presentation, and self-management of chronic illness. This presentation will describe research findings on coronary heart disease (CHD) in men and women as exemplars of how the experience of chronic disease, as well as disease detection, evaluation, and management, are influenced by sex and/or gender. For example, delay in health care access for symptoms of acute CHD has been related to different symptom patterns in men and women, in addition to the individual's and health care provider's evaluation of those symptoms. Implications of these insights for informing health care of other chronic illnesses or geriatric syndromes in older men and women will be described.

### WHEN SHOULD WE CONSIDER ISSUES OF SEX AND GENDER IN THE RISK, DETECTION, EVALUATION AND MANAGEMENT OF FALLS, URINARY INCONTINENCE AND DEMENTIA?

C. Tannenbaum, *Université de Montréal, Montreal, Quebec, Canada*

Few health professionals routinely apply the evidence on the way sex and gender can affect the risk, detection, evaluation and management of chronic conditions in aging individuals. This paper will highlight epidemiologic findings on sex and gender differences in the risk, detection, evaluation and management of geriatric syndromes such as falls, incontinence, dementia. Practical tips and research ideas for how to consider sex and gender in the interdisciplinary management of these conditions will be discussed. Concrete examples will be provided for better managing patients living with chronic disease.

### OPTIMISING PRESCRIBING FOR OLDER ADULTS: GENDER MATTERS

S. Hilmer, *Royal North Shore Hospital, Kolling Institute of Medical Research, University of Sydney, St Leonards, New South Wales, Australia*

Both age and sex have significant effects on most aspects of clinical pharmacology, including drug use, pharmacokinetics, pharmacodynamics, safety and efficacy. Older women use more medicines than older men, particularly antidepressants and vitamins. Polypharmacy increases the risks of drug interactions and poor adherence. Pharmacokinetic changes include reduced body size with age, particularly in females, which affects volume of distribution and loading dose; and decreased renal clearance with both age and female sex, which reduces maintenance dose requirements of renally excreted drugs. Sex hormones may directly mediate some physiologic and pharmacologic changes in ageing. Both age and sex should be considered when applying results from preclinical studies (animals usually young and/or a single sex) and clinical trials (frequently in middle aged or young-old participants who may be a single sex) to the treatment of older adults. This will optimise the safety and efficacy of medicines for these vulnerable people.

## SESSION 1180 (SYMPOSIUM)

### GLOBAL PERSPECTIVES ON HIV AND AGING: SOCIAL FACTORS IN MANAGING MULTIMORBIDITY AND DEPRESSION

**Chair:** M. Brennan-Ing, *ACRIA, Center on HIV and Aging, New York, New York, New York University College of Nursing, New York, New York*

**Co-Chair:** T.N. Taylor, *SUNY Downstate Medical Center, Brooklyn, New York*

**Discussant:** B. De Vries, *San Francisco State University, San Francisco, California*

Aging with HIV is a global phenomenon that will shape the epidemic for decades to come. In both developed and developing nations where there is widespread access to antiretroviral treatment (ART),



we can expect individuals with HIV to have nearly normal life expectancies. However, there are challenges to this success; many studies find that older adults with HIV report high levels of multimorbidity and depression, complicating their treatment and care. High rates of depression have been linked in numerous studies to ART nonadherence and subsequent treatment failure. This symposium will examine multimorbidity, depression, and the social context of care for older adults with HIV in developed and developing countries. Dr. Justice will begin with an examination of multimorbidity, its causes, and clinical care of this population using the U.S. Veterans Aging Cohort Study. Dr. Brennan-Ing will present data on covariates of depression among older Ugandan's with HIV, and how multimorbidity along with perceptions of the social environment (support, stigma and loneliness) relates to this condition. Professor Minichiello will describe this aging population in Australia and New Zealand, and how managing psychosocial factors are vital in addressing the needs of these individuals. For the final paper, Dr. Porter will present findings from Brazil indicating that older adults with HIV experience deficits in social supports and health service access compared to younger adults. These papers will inform a discussion of the implications of the aging HIV epidemic on global health policy and improving treatment and care resources in developed and developing countries.

#### **AGING WITH HIV IN NORTH AMERICA: MULTIMORBIDITY, POLYPHARMACY, AND FRAILTY**

A.C. Justice, 1. *VA Connecticut Healthcare System, West Haven, Connecticut*, 2. *Yale University School of Medicine, New Haven, Connecticut*

This presentation will provide a brief update from the Veterans Aging Cohort Study and other large observational studies of people living with HIV infection regarding increased risk of aging associated conditions among those with HIV compared with demographically and behaviorally similar uninfected individuals and whether increased risk translates into earlier onset of specific conditions including cardiovascular disease, cancer, and renal disease. It will discuss multiple mechanisms that likely lead to these observations including health behaviors, chronic inflammation, ART and non ART treatment toxicity, and immune senescence. Finally the talk will summarize clinical issues including optimizing management in the context of multimorbidity, polypharmacy, and increasing frailty.

#### **BIOSOCIAL COVARIATES OF DEPRESSION IN OLDER HIV+ UGANDANS: COMORBIDITIES, STIGMA AND LONELINESS**

M. Brennan-Ing<sup>1,2</sup>, M. Kuteesa<sup>3</sup>, L. Geddes<sup>4</sup>, L. Seidel<sup>1,6</sup>, S.E. Karpiak<sup>1,2</sup>, J. Negin<sup>4</sup>, J. Seeley<sup>5,3</sup>, 1. *Center on HIV and Aging, AIDS Community Research Initiative of America, New York, New York*, 2. *New York University College of Nursing, New York, New York*, 3. *MRC/UVRI Uganda Research Unit on AIDS, Entebbe, Uganda*, 4. *University of Sydney, Sydney, New South Wales, Australia*, 5. *London School of Hygiene and Tropical Medicine, London, United Kingdom*, 6. *Fordham University, New York, New York*

As anti-retroviral availability increases, the number of older adults with HIV in sub-Saharan Africa (SSA) is also growing, mirroring the developed world. In developed countries, older HIV-positive adults evidence high levels of depression. Little is known about depression or its biosocial covariates in older SSA HIV-positive adults. To address this gap, we examined depression, social support, loneliness, and stigma among older HIV-positive Ugandans (42 men/ 59 women; average age = 61 years, range = 50 to 83). The average CES-D 10-item score was 12.3; 40% had clinically significant depressive symptoms. In multivariate analysis ( $R^2 = .48$ ), poorer self-rated health and multimorbidity were covariates of depression. Direct measures of social support were not significant, but perceptions of the social environment (stigma, loneli-

ness) were highly significant covariates. Depression in this population is linked to both biological and social factors. Implications for research, policy and programs in this resource-poor setting will be discussed.

#### **EVIDENCE OF THE PROVISION OF SOCIAL SUPPORT TO OLDER PEOPLE LIVING WITH HIV**

V. Minichiello, C. MacPhail, *University of New England, Armidale, New South Wales, Australia*

Population ageing in developed countries, a broad age risk profile in developing countries and increased access to HIV treatment have resulted in a need to manage HIV in older people. Ageing with HIV is associated with multiple comorbidities, particularly depression. Depression is an outcome of social isolation and lack of support, in association with HIV related stigma, discrimination and prevalent ageist attitudes. Social networks of older people with HIV are limited due to nondisclosure, living alone and desire for self-reliance; therefore increasing the burden on formal health structures. While there are strategies for the clinical management of depression in older people with HIV, supporting older people in managing their psychosocial experience of living with HIV is less frequently addressed. We review the global evidence of such support, particularly focused on Australia and New Zealand, and examine where more research is needed in this regard.

#### **AGING WITH HIV/AIDS IN BRAZIL: INCREASED PSYCHOSOCIAL VULNERABILITIES**

M. Costa-Couto<sup>1</sup>, M.C. Porter<sup>2</sup>, 1. *Universidade do Estado do Rio de Janeiro, Rio de Janeiro, Rio de Janeiro, Brazil*, 2. *California School of Professional Psychology, Alliant International University, San Diego, California*

Past research on clinically relevant psychosocial vulnerabilities associated with aging with HIV/AIDS has largely focused on US and European contexts. Brazil, a long-time leader in HIV/AIDS policy, is unique in the rest of the world for its larger population of older people coping with concurrent effects of both long-term antiretroviral treatment and the disease itself. 128 HIV+ Brazilians aged 50 and over were compared to 430 under 50 on clinically important sociodemographic and psychosocial variables. Results indicated that, beyond a higher burden of comorbidities, older people with HIV/AIDS in Brazil may face greater deficits in objective social support, access to HIV testing and other public health services and adherence to safer sex guidelines, and a lower likelihood of adopting a "gay" identity. Functional social support, number of children and communication about HIV/AIDS were the only potential psychosocially protective factors that were not decreased in the older sample.

### **SESSION 1185 (SYMPOSIUM)**

#### **INFORMING NURSING HOME QUALITY & POLICY USING ASSESSMENT DATA**

**Chair:** T.J. Roberts, *Geriatric Research Education & Clinical Center, William S. Middleton Veteran Affairs, Madison, Wisconsin, University of Wisconsin, Madison, Wisconsin*

**Co-Chair:** T. McMullen, *University of Maryland, Baltimore, Maryland*

**Discussant:** D. Saliba, *UCLA/JH Borum Center for Gerontological Research, Los Angeles, California*

The quality of care delivered to the 1.5 million older adults in the nation's 16,000 nursing homes has been a concern for decades. A number of mechanisms have been put in place over the years to induce quality improvement including quality benchmarks and public reporting of quality measures. The Minimum Data Set (MDS), a federally mandated clinical assessment instrument, has been the primary tool used to inform and measure quality and a predominant source of data for monitoring the care and outcomes for nursing home residents. While the original intent was clinically focused, using MDS data in research

can be useful for informing practice, quality, and policy beyond the local level. However, evolving notions of quality and changing resident needs can present challenges for research using the MDS. The aim of this symposium is to discuss approaches to using assessment data in research for understanding nursing home resident outcomes and informing quality and policy. The first presentation will discuss the use of validated MDS 2.0 measures for exploring relationships between therapy intensity and resident outcomes. The second presentation will discuss the development of a universal measure of cognitive function using revised MDS 3.0 items. The third presentation will discuss the use of new preference and choice items in MDS 3.0 to inform resident psychosocial well-being. The final presentation will discuss the CARE tool and the future of patient assessment data for informing quality.

#### **CHARACTERIZING THE QUALITY OF REHABILITATION SERVICES USING THE MDS: OPPORTUNITIES AND CHALLENGES**

N. Leland<sup>1,2</sup>, P.L. Gozalo<sup>2</sup>, V. Mor<sup>2</sup>, T.J. Christian<sup>3</sup>, J.M. Teno<sup>2</sup>, *1. Division of Occupational Science and Occupational Therapy & The Davis School of Gerontology, University of Southern California, Los Angeles, California, 2. Brown University, Providence, Rhode Island, 3. ABT, Boston, Massachusetts*

The MDS provides a unique opportunity to examine the receipt of rehabilitation services among skilled nursing home residents. The MDS collects information regarding the intensity of rehabilitation for each assessment. While the original intent of quantifying therapy intensity was to inform payment through the use of resource utilization groups; researchers can use the data to evaluate care, assess quality, and inform policy. We used a national cohort of hip fracture patients discharged to a skilled nursing facility for rehabilitation between 1999 and 2007 (n=517,039) to examine the relationship between rehabilitation intensity and discharge to the community. We found a significant relationship between high intensity rehabilitation (Hazard Ratio 1.17, 95% CI 1.15-1.19) and successful discharge to the community. This presentation will discuss the methodological issues of using MDS 2.0 to examine rehabilitation and the implications of the results for growing concern over escalating skilled nursing facility spending.

#### **DEVELOPMENT OF THE COGNITIVE FUNCTION SCALE FOR THE MINIMUM DATA SET 3.0**

K.S. Thomas<sup>2,1</sup>, A. Wysocki<sup>1</sup>, D.M. Dosa<sup>2,1</sup>, V. Mor<sup>2,1</sup>, *1. Brown University, Providence, Rhode Island, 2. Providence VA Medical Center, Providence, Rhode Island*

The MDS 3.0 introduced the Brief Interview for Mental Status (BIMS) to assess nursing home residents' cognitive function. Research suggests that not all residents are able to complete the BIMS and are consequently, assessed by staff. This presentation will discuss the Cognitive Function Scale (CFS) which uses either self-report or staff-report data, depending on the mode of assessment, to categorize residents. We will present the rationale for a single cognitive function measure and our findings on the construct validity of the new scale using admission and long-stay cohorts in 2011-2012 (n=3,007,657). Specifically, we will highlight our finding that the CFS corresponded closely with performance of Activities of Daily Living, nurses' judgments of residents' function and behavior, and diagnoses of Alzheimer's disease, dementia, and stroke for both cohorts of residents. We will discuss the implication of these results for assessing cognitive function using the CFS in both practice and research.

#### **IDENTIFYING NURSING HOME RESIDENT PREFERENCE PATTERNS USING MDS 3.0**

T.J. Roberts<sup>1,2</sup>, A.L. Gilmore-Bykovsky<sup>2</sup>, R. Roiland<sup>1,2</sup>, K.A. Kennealy<sup>1,2</sup>, B.J. Bowers<sup>1</sup>, *1. Geriatric Research Education & Clinical Center, William S. Middleton Veteran Affairs, Madison, Wisconsin, 2. University of Wisconsin, Madison, Wisconsin*

Providing care that is consistent with nursing home (NH) resident's preferences is believed to be related to improved care and outcomes and is the focus of nationwide quality improvement efforts. However, it is unknown whether variations in resident preferences differentially affect outcomes. The objective of this study was to identify preference patterns for care and activity and describe their relationship to mood and behavior. A latent class analysis of self-reported Minimum Data Set items on care and activity preferences from 2010 admission assessments for all NH residents >65 years old (n=18,742) identified three preference patterns. 'Autonomous' (49%) residents had strong preferences for choice and activity, 'Adapters' (35%) had weak preferences and 'Indifferent' residents (16%) were just as likely to have strong preferences as weak. Variations in mood and behavior based on preference class and implications of using self-reported MDS 3.0 preference items to inform practice and research will be discussed.

#### **THE CONTINUITY ASSESSMENT RECORD AND EVALUATION (CARE) TOOL: STANDARDIZING QUALITY DATA**

T.L. McMullen<sup>1</sup>, S. Mandl<sup>1</sup>, A. Deutsch<sup>2</sup>, B. Gage<sup>3</sup>, S. Ling<sup>1</sup>, *1. Centers for Medicare & Medicaid Services, Baltimore, Maryland, 2. RTI International, Chicago, Illinois, 3. The Brookings Institution, Washington D.C., District of Columbia*

The Deficit Reduction Act (DRA) of 2005 directed CMS to develop a Medicare Payment Reform Demonstration (PRD) that used standardized patient information to examine the consistency of payment incentives for Medicare populations treated in various settings. As a part of this demonstration, a standardized patient assessment tool was developed for use at acute hospital discharge and at post-acute care admission and discharge. The tool, the Continuity Assessment Record and Evaluation (CARE), was designed to standardize assessment of patients' medical, functional, cognitive, and social support status across acute and post-acute settings while posing minimal administrative burden to providers. This presentation will provide an overview of the development [data collection, testing] of the CARE tool. Next, this presentation will discuss standardizing quality measures and will discuss the development of the CMS post-acute function measures that use CARE data. Finally, this presentation will discuss the future of patient assessment data for informing quality.

#### **SESSION 1190 (SYMPOSIUM)**

##### **GRANDPARENTS AS FAMILY WATCHDOGS: AN INTERNATIONAL PERSPECTIVE**

**Chair:** B. Ingersoll-Dayton, *School of Social Work, University of Michigan, ANN ARBOR, Michigan*

**Discussant:** E.A. Greenfield, *Rutgers, New Brunswick, New Jersey*

Grandparents often play a prominent role in the family and have been characterized by Troll (1993) as "family watchdogs" in times of need. As globalization accelerates, it is increasingly important to examine the changing role of grandparents from an international perspective. This symposium brings together papers focusing on grandparenting in the United States, Thailand, India, and Europe. The papers examine the spectrum of grandparent-grandchild relationships ranging from occasional contact and care to intensive, custodial care. Based on research conducted in the United States, one of the papers focuses on dynamics within the grandparent-grandchild relationship when the adult child is mentally ill. This paper investigates exchanges between the generations using a strengths-based approach. A second paper examines the impact

of the adult child's migration on the grandparents who are left behind in rural Thailand to care for their grandchildren in "skipped generation" households. This research brings to light the costs and benefits of this arrangement for the grandparents. A third paper uses WHO-SAGE (Wave 1) data to examine the prevalence and well-being of grandparents in a national probability sample of households in India. Finally, in research that compares the extent of grandparent care in several European countries, the fourth paper points to how varying levels of care impact the physical and mental well-being of the grandparent. Using both qualitative and quantitative methods, these papers uncover the vital roles played by grandparents within the intergenerational family and illuminate how their caregiving roles impact the well-being of the grandparents within an international context.

#### **SUPPORT EXCHANGED BETWEEN AMERICAN GRANDMOTHERS AND GRANDCHILDREN IN THE FACE OF MENTAL ILLNESS**

R. Dunkle, B. Ingersoll-Dayton, L.A. Chadiha, *social work, university of michigan, Ann Arbor, Michigan*

When families face the serious mental illness of adult children who are, themselves, parents, the grandparent generation may need to provide assistance. Grandmothers are particularly likely to assume a caregiving role. Using a qualitative approach, this study focused on open-ended interviews obtained from a sample of 22 grandmothers aged 52-90 residing in the United States who remain in contact with their daughters who are mentally ill. Employing a strengths perspective, we examined grandmothers' support exchanges with their grandchildren. Our qualitative analyses indicated that, in the face of mental illness, grandmothers anticipated the needs of their grandchildren and attempted to enhance the relationships between their adult daughters and their grandchildren. We also found that grandchildren helped their grandmothers by providing emotional and physical aid as well as serving as a source of anticipatory support for them. These links between grandmothers and grandchildren can be vital resources for the intergenerational family.

#### **GRANDPARENTING IN "SKIPPED GENERATION" HOUSEHOLDS IN THAILAND**

B. Ingersoll-Dayton<sup>1</sup>, S. Punpuing<sup>2</sup>, K. Tangchonlatip<sup>2</sup>, K. Thianlai<sup>2</sup>, *1. School of Social Work, University of Michigan, ANN ARBOR, Michigan, 2. Mahidol University, Nakhon Pathom, Thailand*

In Thailand, a sizeable proportion of working-age adults leave their homes in search of jobs resulting in "skipped generation" households. These are living arrangements in which grandparents and grandchildren live together without the adult child. Based on in-depth interviews conducted with 42 grandparents (aged 50+) living in three rural provinces in Thailand, this paper focuses on the effect of these living arrangements on the grandparent caregivers. Qualitative analysis of the interviews points to considerable ambivalence among grandparents. On the one hand, they are gratified that they can contribute to the extended family by caring for grandchildren which allows their adult children to find better jobs and send back remittances. On the other hand, the grandparents worry about family relationships, their own health, and their ability to care for their grandchildren as they become teenagers. This paper highlights the costs and benefits of "skipped generation" households families for caregiving grandparents.

#### **GRANDPARENTS AS PRIMARY AND CO-CAREGIVERS IN INDIA: EVIDENCE FROM WHO-SAGE (WAVE 1)**

D. Burnette, L. Kimberly, *Social Work, Columbia University, New York, New York*

This study uses data from Wave 1 of the WHO Study on Global Ageing and Adult Health to determine the prevalence of adults aged  $\geq 50$  years (N=7150) who are primary or co-caregivers of children aged  $\leq 15$  years whose parents are incapacitated or absent from the household.

A second aim is to examine the health and psychosocial well-being of older adults in caregiver roles as compared to those who are not in this role. Overall 12-month prevalence of providing full-time or part-time care for children was 2.1%. This group fared consistently worse than non-caregivers on measures of health, mental health and economic measures of well-being and on overall quality of life. Findings will be discussed in the context of shifts in family structure due to contextual factors such as poverty, migration and social inequalities in developing countries, and particularly India.

#### **THE HEALTH OF GRANDPARENTS CARING FOR THEIR GRANDCHILDREN**

K.F. Glaser, G. Di Gessa, A. Tinker, *Institute of Gerontology, King's College London, London, United Kingdom*

Grandparents are an important source of childcare. However, concerns have been raised that caring for grandchildren may come at the expense of grandparents' own wellbeing. After attending this session, participants will be able to debate the evidence regarding the association between grandparental childcare and health taking into account disadvantage across the lifecourse. We employed data from the English Longitudinal Study of Ageing, and the Survey of Health, Ageing and Retirement in Europe. Both datasets include detailed retrospective life histories. Health outcomes considered were self-rated health, depressive symptoms and functional limitations. Multivariate models were used to investigate how lifecourse and socio-economic factors interact with grandparental childcare to affect health. We found little evidence to suggest that grandparental childcare has negative effects on health. Moreover, the poorer health among grandparents who coreside with their grandchildren does not appear to be a consequence of care provision per se, but rather of initial disadvantage.

#### **SESSION 1195 (SYMPOSIUM)**

##### **BIOLOGICAL MECHANISMS AND DISEASE STATES THAT DRIVE FUNCTIONAL DECLINE**

**Chair:** J.D. Walston, *Medicine/Geriatrics, Johns Hopkins University, Baltimore, Maryland*

Purposeful movement is a complex, multisystemic activity that requires intact sensory input and good cognitive, cardiovascular, pulmonary and motor function in order to function optimally. Age-related changes in any of these domains can result in declines in physical function. The speaker will review common age-related declines in physiology and biology that put older adults at risk for declines in physical function, including age-related changes in peripheral nerves, vision and hearing; changes in brain, cardiac, and pulmonary tissue; and the complex etiology of sarcopenia or loss of skeletal muscle mass. In addition, the speaker will review the multiple specific chronic disease states that often impacts functional decline in aging.

##### **INTERVENTIONS TO IMPROVE THE PHYSICAL FUNCTION OF OLDER ADULTS**

S.B. Kritchevsky, *Sticht Center on Aging, Wake Forest School of Medicine, Winston-Salem, North Carolina*

The maintenance of physical function is important to individuals and society. This presentation will summarize 20 years of the Wake Forest Pepper Center's clinical trials experience testing the impact of exercise and nutritional interventions to improve physical function in older adults. This experience includes community-dwelling older adults and patients with osteoarthritis, cardiovascular disease, diabetes, COPD and heart failure. In each of these populations, there are measurable functional benefits of intervention. In many cases, function improves even when clinical measures of disease severity are not affected. For example, although exercise improves function in persons with knee osteoarthritis it does not affect joint space narrowing. Our experience also shows that among overweight and obese older adults moderate

intentional weight loss confers additional functional benefits beyond exercise. Our center has begun to disseminate proven interventions by making them available to older adults either through self or physician referral.

### **NEIGHBORHOOD SOCIAL FACTORS AND PHYSICAL FUNCTION IN OLDER MEXICAN AMERICANS OVER TIME**

K.S. Markides, S. Rote, S. Al Snih, *Preventive Medicine & Community Health, University of Texas Medical Branch, Galveston, Texas*

Perhaps the most investigated outcome in the field of aging has been a variant of physical function or disability and its predictors and outcomes. While much emphasis has been given to how medical conditions influence physical function there has also been interest in how psychosocial and social environmental factors are related to physical function, disability, and mortality. In this presentation I will provide an overview of a number of analyses my colleagues and I have performed in this area using longitudinal data from the Hispanic EPESE, our ongoing longitudinal study of older Mexican Americans. We will present data on how psychological and social factors interact with medical conditions such as diabetes and obesity to influence measures of physical function including physical performance measures (balance, chair-stands and short walk) as well as Activities of Daily Living (ADL) disability. Particular focus will be given to analyses of the “barrio” or “enclave” effect of Hispanic/Latino concentration in the neighborhood and its associated psychosocial resources that may promote physical activity, lower to moderate obesity, and physical function to prevent or delay disability. The Hispanic EPESE has data on older Mexican Americans from the Southwestern United States over eight waves of observation from 1993-94 through 2012-13.

### **PHYSICAL FUNCTION ACROSS THE TRANSLATIONAL CONTINUUM**

K.J. Mahoney, *Graduate School of Social Work, Boston College, Chestnut Hill, Massachusetts*

Fellows from the SRPP Section of the GSA have made many contributions to the body of knowledge on physical functioning and improving the lives of people with disabilities. My own work on Cash and Counseling, the self-direction option giving people with disabilities more flexibility and control over their supports and services, provides a cogent example of how such research has been disseminated and translated for policy makers and program administrators. This paper, using Glasgow’s RE-AIM model, will describe some of the mechanisms used in translating research into policy and some of the results achieved.

### **GSA FELLOWS SYMPOSIUM: PHYSICAL FUNCTION ACROSS THE TRANSLATIONAL CONTINUUM**

H. Lach<sup>1</sup>, E. Volpi<sup>2</sup>, 1. *Saint Louis University, St. Louis, Missouri*, 2. *University of Texas Medical Branch, Galveston, Texas*

The GSA Fellows Symposium focuses on interdisciplinary approaches to addressing challenges in helping older adults maintain physical function across the translational continuum. These presentations will address the biological mechanisms that control physical function in older adults through innovative interventions that can help preserve and enhance physical function. Interventions include exercise and nutritional interventions for older adults, and flexible support services for older people with disabilities. Ethnicity and social factors that influence physical function will be discussed with a focus on Hispanic older adults. Common themes that bridge the four GSA sections represented by each presenter include the importance of physical function to successful aging. Through this symposium we hope to stimulate cross-disciplinary discussion about future directions for research to address the challenging issue of physical function.

## **SESSION 1200 (SYMPOSIUM)**

### **CONNECTING RESEARCHERS AND RESPONDENTS: ETHICAL DILEMMAS IN QUALITATIVE RESEARCH**

**Chair:** C.R. Bennett, *University of Maryland, Baltimore County, Baltimore, Maryland*

**Co-Chair:** A.D. Peeples, *University of Maryland, Baltimore County, Baltimore, Maryland*

**Discussant:** P. Carder, *Portland State University, Portland, Oregon*

Qualitative researchers, and in particular ethnographers engaged in participant observation, encounter complicated ethical dilemmas when interacting with residents, family, and staff when conducting research. This symposium will examine ethical dilemmas, including: the physical safety of the researcher and resident; making advantageous or simulated friendships while conducting fieldwork; maintaining confidentiality and anonymity over time; and maintaining and validating data unique to the social reality of sites and participants. The first paper will address issues of physical safety for both the researcher and resident, and how participant observers can negotiate unsafe research situations. Next, we will discuss problems of confidentiality and anonymity that researchers encounter when disseminating ethnographic findings, including selecting pseudonyms, changing details or compiling vignettes to obscure identification, and how to maintain relationships with sites. The subsequent paper will address the ethical issues of short-term friendships that develop between qualitative researchers and informants, concluding with a discussion of how researchers can best navigate simulated friendships with participants. Our last paper will highlight complexities that should be considered in generating and analyzing qualitative data, such as misinterpretation, misrepresentation, contextualization, and transparency. The session will conclude with approaches to properly address the complexities of generative and analyzing quality qualitative data.

### **ETHICAL CONCERNS AS A PARTICIPANT OBSERVER: PHYSICAL SAFETY OF THE RESEARCHER AND RESPONDENT**

C.R. Bennett, *University of Maryland, Baltimore County, Baltimore, Maryland*

Qualitative researchers find themselves in field sites enmeshed in social interaction and may encounter ethical dilemmas with residents, family and staff while conducting ethnography. Participant observation requires a researcher to enter into the sociocultural life in a setting with limited to no background knowledge of individual residents, family, or staff. For example, a researcher may be alone, unknowingly, with a physically combative resident, or one that presents a significant risk for falling. This paper examines the complex contextual and narrative issues in fieldwork related to personal safety of the individual researcher and respondents, being site residents, family, or staff. This paper concludes with recommendations on how researchers can best navigate field sites and narrative exchanges while conducting ethnographic research with older adults.

### **“I’LL BE YOUR FRIEND FOR A MONTH.”: SIMULATED FRIENDSHIPS AND RECRUITING INFORMANTS IN ASSISTED LIVING**

R. Hrybyk, C.R. Bennett, M.C. Nemecek, E.G. Roth, *Center for Aging Studies, UMBC, Baltimore, Maryland*

In qualitative research among vulnerable populations, there is an asymmetrical relationship between the ethnographer and the informant. Ethnographers conducting research in an assisted living (AL) purposefully cultivate relationships with residents. During frequent visits, the researcher offers a friendly face and open ear, probing for details and carefully noting residents’ remarks. Many residents, who often spend a considerable amount of time alone, welcome this concentrated attention. Ethnographers attempt to gain the trust of an informant hoping to

garner a recorded interview. After the interview, the ethnographer limits subsequent time with the resident, courting others for prospective interviews. Since the data collection period is not unlimited, ethnographers must make thoughtful choices in their allotment of time to individual informants. This paper will address the ethical issues of short-term friendships that develop between qualitative researchers and informants. We conclude with a discussion of how researchers can best navigate simulated friendships with research participants.

#### **“I KNOW WHO THAT IS...” CONFIDENTIALITY AND ANONYMITY IN ETHNOGRAPHIC RESEARCH**

A.D. Peeples, C.R. Bennett, *Gerontology, University of Maryland, Baltimore County, Baltimore, Maryland*

Ethnographers spend substantial amounts of time at research sites, getting to know both the people and places under study. A central tenet to building rapport and gaining the trust of informants involves assurances of confidentiality and anonymity - the promise that in no way, present or future, will informants or the setting be identifiable in reported findings. With this assurance, informants open their lives for examination and share varying depths of personal information with researchers. When it comes time to report findings, however, researchers may find it difficult to fully live up to these promises. This paper discusses some of the ethical issues of confidentiality and anonymity that researchers encounter when disseminating ethnographic findings, including selecting sufficiently clouding pseudonyms for people and places, changing details or compiling vignettes to obscure identification, and maintaining relationships with sites and informants, especially when less than favorable findings are reported.

#### **ETHICALLY GENERATING AND ANALYZING DATA: QUALITATIVE CONSIDERATIONS**

L. Girling, *University of Maryland, Baltimore County, Baltimore, Maryland*

A fundamental purpose of scientific investigation is the acquisition of accurate data about real phenomena. This objective places a critical responsibility on researchers to obtain good quality data. While all methodological approaches share universal ethical concerns during the process of acquiring quality data, fairly specific considerations surface within qualitative investigations as the basis for this type of research lies in the interpretative approach to social reality and the description of the lived experiences of individuals. This paper highlights several complexities that should be considered as social scientists generate and analyze qualitative data. In particular, misinterpretation, misrepresentation, contextualization, and transparency are discussed in terms of their impact on data quality. The paper will conclude with approaches to properly address the aforementioned complexities.

### **SESSION 1205 (SYMPOSIUM)**

#### **A COMPREHENSIVE FRAILTY PERSPECTIVE: MORE THAN PHYSICAL DISABILITIES? THEORY, MEASUREMENT AND IMPACT ON RESEARCH AND PREVENTION STRATEGIES**

**Chair:** J. Schols, *Maastricht University, Maastricht, Netherlands*

**Co-Chair:** L. De Donder, *Vrije Universiteit Brussel, Brussels, Belgium*

Our symposium “A comprehensive frailty perspective: more than physical disabilities? Theory, measurement and impact on research and prevention strategies” starts from the observation that frailty in older adults is often not detected on time. Prevention and early detection of frailty in older adults would benefit the older person, his environment and be more cost-effective for society. Given the significance of the demographic projections it is of strategic importance for societies to (a) have a multi-dimensional understanding of frailty, (b) gain more insight into the processes and factors influencing frailty imbalance in

older adults (c), develop effective strategies to detect frailty imbalance on time, to empower older adults and their environment to restore their frailty balance, and to guide older adults to appropriate care and support when needed. These three goals will be addressed in three presentations. Furthermore, to achieve these objectives, the symposium is approached from a multidisciplinary perspective (bio-physical, cognitive, psychological, social and environmental perspective on frailty).

#### **MEASURING COMPREHENSIVE FRAILTY: A FOUR-DIMENSIONAL FRAMEWORK**

N. De Witte<sup>2,1</sup>, L. De Donder<sup>1</sup>, E. Verté<sup>1</sup>, D. Verté<sup>1</sup>, J. Schols<sup>3</sup>, *1. Vrije Universiteit Brussel, Brussels, Belgium, 2. University College Ghent, Ghent, Belgium, 3. Maastricht University, Maastricht, Belgium*

This contribution focuses on the multidimensionality of frailty. Using data from the Belgian Ageing Studies, the Comprehensive Frailty Assessment Instrument (CFAI) was developed. A second order confirmatory factor analysis on 33692 older adults aged 60 and older, revealed 4 domains of frailty; physical, psychological, social and environmental including 23 indicators. The instrument showed good fit indices explaining 63,5% of the variance in frailty. The CFAI was cross-validated with the Tilburg Frailty Indicator. Taken the results of the CFAI in consideration, frailty does not merely involve physical problems but also a psychosocial problem. Next to this, the environmental domain also contributes to frailty. The paper concludes that these findings create new opportunities for researchers to investigate processes leading to frailty and to prevent or delay frailty.

#### **CARE INNOVATION: NEW STRATEGIES OF FRAILTY DETECTION AND PREVENTION**

D. Verté<sup>1</sup>, L. De Donder<sup>1</sup>, N. De Witte<sup>2</sup>, A. Smetcoren<sup>1</sup>, *1. Vrije Universiteit Brussel, Brussels, Belgium, 2. University College Ghent, Ghent, Belgium*

This contribution starts from the observation that frailty-imbalance in older adults is often not detected, nor recognized, nor treated in time, leading to a threatening of their autonomy, participation in society, health and wellbeing and often leading to an admission into a residential care facility. Consequently, pro-active detection and prevention is needed. Using data from a literature review, a quantitative and qualitative study, this paper gives an overview of an extensive research project with the aim to enable an effective detection of frail community-dwelling older people (1) and to empower older adults and their environment to restore their frailty balance, and to guide older adults to appropriate care and support when needed (2) and this within the framework of prevention (primary, secondary and tertiary prevention). In doing so, it starts from the perspective of Active Ageing and an empowerment approach.

#### **TOWARDS A FRAILTY BALANCE – FROM DEFICITS TO STRENGTHS**

L. De Donder<sup>1</sup>, N. De Witte<sup>2,1</sup>, E. Dierckx<sup>1</sup>, J. Schols<sup>3</sup>, T. Kardol<sup>1</sup>, *1. Vrije Universiteit Brussel, Brussels, Belgium, 2. University College Ghent, Ghent, Belgium, 3. Maastricht University, Maastricht, Netherlands*

This contribution focuses on the conceptualisation of frailty-imbalance. Using data from quantitative and qualitative studies the argument will be developed that frailty should be approached from a balance-perspective. To date most of the debate around frailty in older adults has (only) focused on the registration of deficits. However, within the light of active ageing, besides the registration of deficits and dependency, there needs to be a registration of strengths as well which concentrate on autonomy and the present (in)formal care or support (the frailty balance). Two individuals with the same frailty, for instance can be very different in what kinds of support they need because their balance

is different. The paper concludes by highlighting the results of this approach for policy, practice and research.

## SESSION 1210 (SYMPOSIUM)

### LATINO FAMILY CAREGIVERS: CONSIDERATIONS IN THE CULTURAL TAILORING OF INTERVENTIONS

**Chair:** C.G. Soto, *University of Nevada-Reno, Reno, Nevada*

**Co-Chair:** L.T. Benuto, *University of Nevada-Reno, Reno, Nevada*

The aging of the U.S. population has been accompanied by a significant rise in the number of individuals diagnosed with dementia, the vast majority of who depend on family members for care. Given that there are no effective treatments for degenerative forms of dementia, supporting family caregivers to promote quality of care for persons with dementia is a national priority. Latinos are currently the fastest growing population over age 65 in the United States; the number of Latino elders with dementia is projected to increase by six-fold by 2050. To date, the majority of research on caregiver support has focused on Euro-American caregivers despite compelling evidence that there are cultural differences in beliefs, attitudes, and caregiving practices among Latino caregivers compared to Euro-Americans. Moreover, Latino caregivers are less likely to seek out or utilize formal caregiver support services than Euro-American caregivers. This program will present findings from recent research on factors impacting: Latino caregivers' utilization of support services, the quality of life of Latino elderly and caregivers, and the reduction of health disparities of Latino elderly persons with dementia and their caregiving families. Presenters will discuss: 1) how acculturation status, age, and perceived helpfulness of services impact community-dwelling Latino caregivers; 2) ways to develop new and/or tailor existing interventions to reduce caregiver worry; and 3) the service needs and barriers to accessing support services among Latino caregivers.

### MEXICAN AMERICAN CAREGIVER WORRIES & THEIR IMPACT: OPPORTUNITIES FOR INTERVENTION

D.W. Coon, B.C. Evans, *College of Nursing & Health Innovation, Arizona State University, Phoenix, Arizona*

Momento Crucial is a mixed methods, multi-site, NIH-funded, interdisciplinary, descriptive study of Mexican American (MA) caregivers of older adults that uses a life course theoretical framework. This presentation focuses on the critical, yet understudied phenomena of worry through semi-structured interviews with 110 MA families across 6 home visits. Using ATLAS.ti, we identified 366 worry quotations from 639 documents, and organized findings across early, middle, and late stage caregivers. MA caregivers expressed a) cultural and contextual worries (e.g., health insurance, auxiliary caregivers and neighborhood safety); b) worries about transitions (e.g., changes in care recipient cognitive status and health, safety concerns, and increasing care responsibilities) and turning points in care (e.g., placement); and, c) impact of worry on their health (e.g., affective disruptions, sleep disturbances). While they attempted adaptive strategies to help them manage worry, their worries persisted. Findings suggest ways to develop new and/or tailor existing interventions to reduce caregiver worry.

### RESILIENCE VS. STRUGGLE? CAPTURING THE EXPERIENCE OF LATINO CAREGIVING FAMILIES

C.G. Soto, L.T. Benuto, J. Fisher, *University of Nevada-Reno, Reno, Nevada*

Latino elderly experience higher rates of dementia relative to non-Latinos yet surprisingly little is known about the experiences of Latino caregiving families. Research suggests that Latinos are in more intensive caregiving situations yet are less likely to use formal support services compared to their non-Latino counterparts. We hypothesized that the collectivistic quality of Latino culture may result in caregiving experiences that are inconsistent with the pathology-oriented characteri-

zations of dementia caregiving predominant within the majority culture. Specifically, in the marketing of support services and phrasing within caregiver assessment measures the dementia caregiving experience is typically described in terms that focus on burden, stress, and negative health outcomes. This presentation will describe findings from a survey of Latino caregivers in which questions were phrased to objectively assess their experiences and needs while avoiding any negative reference to family elders. Implications of the findings for the cultural tailoring of interventions are discussed.

### DEPRESSION AND ACCULTURATION AMONG LATINO CAREGIVERS OF FAMILY MEMBERS WITH ALZHEIMER'S DISEASE

P. Alvarez<sup>1</sup>, J. Rengifo Nevarez<sup>1</sup>, M. Tzuang<sup>2</sup>, D. Gallagher-Thompson<sup>2</sup>, *1. Palo Alto University, Palo Alto, California, 2. Stanford University School of Medicine, Stanford, California*

The proportion of older Latinos suffering from Alzheimer's disease is increasing at a rapid rate, and the number of Latino family caregivers is also increasing significantly. This investigation utilized archival data from the fotonovela project, a multi-site randomized controlled study. The impact of acculturation status, age, and perceived helpfulness on depressive symptoms among a sample of community-dwelling Latino caregivers was examined. A total of 110 Latino caregivers of family members with Alzheimer's disease from four cities in California (Sacramento, Salinas, Santa Cruz, and San Diego) successfully completed depression (CES-D) and acculturation (B-ARMSA-II) measures and provided feedback on how helpful they perceived the fotonovela to be. The results of this investigation indicated that participants found the fotonovela to be more helpful than the usual care material, regardless of their levels of acculturation. At post-treatment, among the low acculturated caregivers, middle-aged adults experienced less depressive symptoms than the older adult caregivers.

## SESSION 1215 (SYMPOSIUM)

### FUTURE DIRECTIONS FOR SUICIDE RESEARCH AND PREVENTION AMONG OLDER ADULTS

**Chair:** J. Lutz, *Psychology, West Virginia University, Morgantown, West Virginia*

**Co-Chair:** E.C. Price, *Psychology, West Virginia University, Morgantown, West Virginia*

**Discussant:** Y. Conwell, *University of Rochester Medical Center, Rochester, New York*

Suicide is a significant problem among older adults. As the Baby Boomer cohort ages, suicide rates are expected to increase among older Americans. There is a critical need to expand prevention efforts among this group, which has had historically higher suicide rates than previous cohorts. This symposium will present research and policies focusing on identifying older adults at risk for suicide and implementing prevention strategies. The first presentation will focus on risk factors in older adults with physical impairments. Jay Gregg will present an examination of the relations among control strategies, depressive symptoms, hopelessness, and suicidal ideation in adults in poor health. The second presentation will present details from an intervention. Dr. Kim Van Orden will present new results from a trial aimed at reducing suicide risk in older adults by capitalizing on peer support and social connectedness. The final two presentations address policy. Dr. Mark Kaplan will present research examining the extent to which firearm policy and the work of primary care physicians may impact suicide risk among older adults. Finally, Dr. Jovier Evans will present the National Action Plan and discuss its implementation on behalf of the NIMH Suicide Prevention Research Consortium. Dr. Yeates Conwell, director of Geriatric Psychiatry and co-director of the Center for the Study and Prevention of Suicide at the University of Rochester Medical Center, will serve as discussant.

## CONTROL STRATEGIES AND SUICIDE RISK IN OLDER ADULTS WITH POOR HEALTH

J.J. Gregg<sup>1,2</sup>, A. Fiske<sup>1</sup>, 1. *Psychology, West Virginia University, Morgantown, West Virginia*, 2. *Durham VA Medical Center, Durham, North Carolina*

Individuals who have difficulty adapting to functional limitations in later life may be at higher risk for suicidal behavior. The current project examined control strategies in relation to depressive symptoms, hopelessness, and suicidal behavior in 186 older adults (aged 65-99) with poor health. Results demonstrated that primary control strategies (i.e., efforts to accomplish goals directly or through compensatory measures, such as help-seeking) were related to lower levels of depressive symptoms, hopelessness, and risk for suicidal behavior. Some secondary strategies (i.e., those focused on changing the self), but not all, also were associated with decreased negative affect and risk. After controlling for depression and all other control strategies, only selective primary control strategies (i.e., persistence) were associated with decreased risk for suicidal behavior. Results regarding depressive symptoms and hopelessness also will be presented, and discussion will elaborate on implications for prevention and treatment of older adults at risk for suicide.

## THE SENIOR CONNECTION: DESIGN & BASELINE CHARACTERISTICS

K. Van Orden<sup>1</sup>, H. He<sup>1</sup>, D.M. Stone<sup>2</sup>, J. Rowe<sup>3</sup>, W.L. McIntosh<sup>2</sup>, C. Podgorski<sup>1</sup>, Y. Conwell<sup>1</sup>, 1. *Psychiatry, University of Rochester Medical Center, Rochester, New York*, 2. *Centers for Disease Control and Prevention, Atlanta, Georgia*, 3. *Lifespan of Greater Rochester, Rochester, New York*

There is a pressing public health need to find interventions that reduce suicide risk in later life. Psychiatric and physical illness, functional decline, and social factors place seniors at risk for suicide. Reflecting this body of evidence, the Centers for Disease Control and Prevention (CDC) has identified the promotion and strengthening of social connectedness, between and within the individual, family, community, and broader societal levels, as a key strategy for suicide prevention. The Senior Connection, a randomized trial of peer companionship for older adults, will be described in this talk, with an emphasis on the most novel features of the study design – grounding in a psychological theory of suicide and intervening at an early stage in the suicide risk trajectory by linking primary care patients with the Aging Services Provider Network. We will also provide information characterizing subjects at baseline, including a high prevalence of suicide ideation in the sample.

## SUICIDE IN OLD AGE: A NEW TAKE ON THE GUN CONTROL DEBATE AND THE PEOPLE INVOLVED

M.S. Kaplan<sup>1</sup>, B. Kaskie<sup>2</sup>, 1. *University of California, Los Angeles, Los Angeles, California*, 2. *University of Iowa, Iowa City, Iowa*

A primary target of the Surgeon General's strategy for suicide prevention is the population of persons over the age of 65. However, despite the national attention, the older adult suicide rate continues to increase. In this presentation, we consider individual risk factors for suicide in late life. We then turn toward the role of firearm policy, arguing that firearm availability plays a significant role in increasing the likelihood of suicide among older adults, older men in particular. Also, given such a large proportion of the population at risk presents in primary care settings often within two weeks of committing suicide, we contend that primary care physicians take a more active role in potentially mediating individual level factors known to increase suicide risk. Indeed, beyond supporting ongoing efforts, public policy strategies for reducing suicide among older adults should increasingly consider extra-individual factors. Firearm availability and access to physicians who uphold basic principles of geriatric care by routinely screening for affective, behavioral and cognitive disorders appear as two viable alternatives for further consideration.

## PRIORITIZING SUICIDE PREVENTION RESEARCH: AN ACTION PLAN TO SAVE OLDER ADULT LIVES

J. Evans, *National Institute of Mental Health, Bethesda, Maryland*

In the recently issued A Prioritized Research Agenda for Suicide Prevention; An Action Plan to Save Lives (Agenda), the Research Prioritization Task Force of the National Action Alliance for Suicide Prevention set out research priorities as a means to guide funding towards efforts that are most likely to reduce the burden of suicide in the United States (see [www.suicide-research-agenda.org](http://www.suicide-research-agenda.org)). The Agenda identifies opportunities (settings accessed; means used) where subpopulations at risk would benefit from detection and/or intervention research. For older adults, this could mean a focus on improving care in multiple health care and community settings, and enhanced firearm safety. Stakeholders in older adult suicide prevention need surveillance and research-informed actions to track progress. This presentation provides an overview of the Agenda research priorities and example research directions relevant to preventing older adult suicide with this approach in mind.

## SESSION 1220 (SYMPOSIUM)

### INTERNATIONAL PERSPECTIVES ON URBAN SPATIAL CHANGE AND SOCIAL INEQUALITY AMONG OLDER ADULTS

**Chair:** J. Kelley-Moore, *Sociology, Case Western Reserve University, Cleveland, Ohio*

**Co-Chair:** C. Phillipson, *University of Manchester, Manchester, United Kingdom*

**Discussant:** T. Scharf, *National University of Ireland Galway, Galway, Ireland*

In a global context where we observe the co-occurring processes of increasing urbanization and population aging, it is imperative that we identify the implications for the well being of older adults living in these changing contexts. In this symposium, we draw from research in four countries (Ireland, England, Netherlands, and Australia) to explore how urban spatial and demographic change potentially contributes to the social exclusion of older adults. Utilizing multiple methodologies at different scales of measurement (ranging from individual-level ethnographic work to area-level census measures) this research helps to identify sub-groups of older adults who may be particularly vulnerable, types of changes in geographic contexts that may serve to exclude older adults, and potential points of intervention for increasing social participation and making urban areas more 'age friendly.' Thomas Scharf of National University of Ireland Galway will then synthesize this work, highlighting the commonalities and contrasts across national contexts and outline an agenda for studying urban spatial change and older adults.

### INTERROGATING AGE-FRIENDLINESS IN AUSTERITY: MYTHS, REALITIES AND THE INFLUENCE OF PLACE CONTEXT

K. Walsh, *Irish Centre for Social Gerontology, National University of Ireland Galway, Galway, Ireland*

The potential for forces of socioeconomic change, such as the global recession, and macro-level policy, such as programs of austerity, to intensify and redirect demographic and urbanization processes in local contexts, is clear. Yet, how the economic recession and austerity-driven public policy can influence older people's relationship with place, and the capacity of cities and communities to be age-friendly settings, has rarely, if ever, been considered. To explore these questions, this paper provides an overview of age-friendly developments in Ireland, and draws on a series of Irish qualitative studies on older people's community experiences during the economic recession. Findings demonstrate how the recession and austerity combine with macro-demographic and socioeconomic patterns, and broader policy trends, to exacerbate existing aging in place issues in Ireland. Reflecting an intertwinement of

local contexts with broader macroeconomic forces, there is a need to consider such linkages in a holistic and multilevel model of age-friendliness.

### THREE DECADES OF OF NEIGHBORHOOD INTEGRATION: WHERE COHORTS MEET NEIGHBORHOOD CHANGE

F. Thomese, T. van Tilburg, *Sociology, VU University, Amsterdam, Netherlands*

Neighbourhood integration is pivotal to quality of later life and is considered an important condition to aging in place, as neighbours are expected to take increasing responsibility in looking after aging community members. Yet modernization theory predicts that older people lose their local connectedness due to changing life styles. Also, bifurcation in neighbourhoods may separate the “elected”, with freedom to move, from the “excluded”, who stay behind in low quality neighbourhoods. A unique three-cohort study in the Netherlands (Longitudinal Aging Study Amsterdam) allows an empirical test of both changes and confronting them with changes in neighbourhood integration: - did neighbourhoods of young-old diversify between 1991 and 2012? - did young-old become less bound to local and kin contexts around the turn of the century? - has neighbourhood integration become less dependent on individual and contextual opportunities? Three cohorts of people aged 55-64 in 1991, 2002, and 2002, each comprising about 1,000 respondents living across provided data on personal networks, neighbourhood characteristics, and personal characteristics. Neighbourhoods diversified economically and ethnically, but preliminary analysis indicates that changes in social behaviour predict more of changes in local and kin networks than do neighbourhood characteristics.

### DEVELOPING AGE-FRIENDLY NEIGHBOURHOODS: AN ETHNOGRAPHIC PERSPECTIVE

T. Buffel<sup>1,2</sup>, C. Phillipson<sup>1</sup>, *1. The University of Manchester, Manchester, United Kingdom, 2. Adult Educational Sciences, Vrije Universiteit Brussel, Brussels, Belgium*

Developing environments responsive to the aspirations of older people has become a major concern for social and public policy. This paper explores conceptual and empirical aspects of the age-friendly cities debate, with a focus on experiences of place in urban settings. Exploratory findings are reported from an empirical study in two neighborhoods in Manchester, UK, which sought to examine aspects of social exclusion and inclusion among people aged 60 and over. Drawing on a mixed-method approach comprising ethnographic observations, focus groups and interviews, the paper identifies four issues in relation to the neighborhood dimension of social exclusion/inclusion in later life: experiences of community change; feelings of safety; the management of urban space; and strategies of control. The paper concludes by discussing conceptual and policy issues raised by the research, particularly in relation to developing age-friendly communities as means of achieving ‘spatial justice’ (Soja, 2010) and rights to urban citizenship.

### POPULATION CHANGE, SPATIAL INEQUALITIES, AND POLICY RESPONSES AMONG OLDER AUSTRALIANS: EVIDENCE FROM SMALL AREA CENSUS DATA

H. Kendig<sup>1,2</sup>, C.H. Gong<sup>1,2</sup>, *1. Centre for Research on Ageing Health and Wellbeing, Australian National University, Canberra, Australian Capital Territory, Australia, 2. ARC Centre of Excellence in Population Ageing Research, Canberra, Australian Capital Territory, Australia*

Geographical dimensions of ageing and population change have become an increasing focus of research and policy development in Australia in recent years. The primary information source for this paper is a national analysis at the small area level of the 2006 and 2011 Censuses. Major trends identified include ageing in low density suburban areas of major cities, ageing in depopulating provincial cities

with rural hinterlands, and moves to coastal areas and other leisure destinations. The analysis focuses on vulnerable populations defined in terms of socio-economic resources and functional health capacities. The impact of policy responses on access to accommodation and services will be reviewed. These include needs-based allocations for aged care and health services, infrastructure investments and land use planning by State governments, and an emergent age-friendly cities movement

## SESSION 1225 (SYMPOSIUM)

### INTERGENERATIONAL AMBIVALENCE: NEW CONCEPTUAL AND MEASUREMENT APPROACHES

**Chair:** K. Pillemer, *Cornell University, Ithaca, NY*

**Discussant:** A.D. Ong, *Cornell University, Ithaca, NY*

An organizing concept for studying intergenerational relations has emerged over the past decade that emphasizes mixed emotions, attitudes, and cognitions; intergenerational ambivalence. This perspective views intergenerational relations as revolving around sociological and psychological dilemmas and contradictions, seeking to better understand the quality of parent-child relations by incorporating both positive and negative elements in theoretical and empirical work. Research has confirmed that ambivalence between older parents and adult children is a common phenomenon and has identified factors that predict higher levels of ambivalence. However, as this field expands, a need for a second generation of studies has emerged. First, more sophisticated measurement strategies are needed, and in particular the development of instruments specifically designed to measure intergenerational ambivalence. Second, better-articulated conceptual frameworks are required to both inform new research designs and to integrate results from studies. Third, there is a need for international comparative research on intergenerational ambivalence. Presentations in this symposium explore these issues from an international perspective: 1) Development of a new instrument for direct measurement of ambivalence among family caregivers; 2) An analysis of existing indirect measures of intergenerational ambivalence in light of recent social psychological and attitudinal research advances; 3) An empirical test of a new conceptual approach, using a life-course framework that simultaneously considers generational position, cohort membership, and temporal dynamics; and 4) An examination of intergenerational ambivalence in the light of a new conceptual framework that highlights “intergenerational intelligence.” Discussion will be provided by an expert on the psychology of positive and negative emotions.

### INTERGENERATIONAL AMBIVALENCE IN FLUX: VARIATION WITHIN FAMILIES, ACROSS COHORTS, AND OVER TIME

J.P. Lendon<sup>1</sup>, M. Silverstein<sup>2</sup>, *1. Veterans Administration of Los Angeles, Los Angeles, California, 2. Aging Studies Institute, Syracuse University, Syracuse, New York*

Scholars have rarely treated ambivalence within a full life course framework that simultaneously considers generational position, cohort membership, and temporal dynamics. This research uses five waves of the Longitudinal Study of Generations to assess variation in indirectly measured ambivalence among 903 parent-child dyads between 1991 and 2005. Latent growth models revealed trajectories suggesting that ambivalence generally declines over time. Children experienced greater ambivalence than their parents, and parent-child dyads in the Baby-boom cohort experienced greater ambivalence than those in the preceding cohort. Differences in trajectories showed that younger parents had the greatest ambivalence prior to launching their children and older parents tended to maintain stable levels of ambivalence. In addition, parents’ ambivalence strengthened their children’s ambivalence and vice versa. Findings emphasize the importance of treating intergenerational ambivalence as a dynamic property of families that is sensitive



to historical contingencies, family life stage, and those to whom family members are linked.

### **AMBIVALENCE AND GENERATIONAL INTELLIGENCE: NEW DIRECTIONS FOR THE ANALYSIS OF SOCIAL POLICY**

S. Biggs, *University of Melbourne, Parkville, Melbourne, Victoria, Australia*

Intergenerational relations are complex, including an amalgam of influences such as cohort, lineage and lifecourse position. They contain cognitive and emotional components that develop and change over time. Public debate has recently hinged on the degree to which generational groups are in competition within the public domain. And while evidence often points in the opposite direction (generational competition for jobs, willingness to pay or care) the persistence of negative attributions toward the 'age –other' persist. A key question in this context would be the degree to which ambivalence can be contained within social spaces that allow generational empathy to emerge, and are thereby likely to facilitate positive forms of interaction between generational groups. Part of this process would be to develop tools that critically examine attempts to shape policy debates on ageing as part of a task of cultural adaptation to a long life

### **PSYCHOMETRIC PROPERTIES OF THE CAREGIVING AMBIVALENCE SCALE (CAS)**

A. Losada<sup>1</sup>, M. Marquez-González<sup>2</sup>, K. Pillemer<sup>3</sup>, *1. Psychology, Universidad Rey Juan Carlos, Madrid, Spain, 2. Universidad Autónoma de Madrid, Madrid, Spain, 3. Cornell University, Ithaca, New York*

Introduction Even though ambivalent feelings (e.g., love and rejection) are usually reported by family caregivers, the association between emotional ambivalence and caregivers' health has not been studied. In addition, there are no available instruments for assessing ambivalent feelings in family caregivers. The aim of this study is to analyze the psychometric properties of a new measure: the Caregiving Ambivalence Scale (CAS). Methods Participants are 324 dementia family caregivers. Face to face interviews were conducted in which, in addition to ambivalence, caregivers' perceived health, depressive symptomatology, anxiety and guilt, and behavioural problems and cognitive and functional status of the care-recipient, were measured. Results An exploratory factor analysis showed that the six items that compose the CAS loaded in a single factor, explaining a 56.5% of the variance. The CAS showed good reliability and validity indexes, including significant ( $p < .01$ ) positive associations with depression, anxiety, guilt and frequency and reaction to behavioural disorders, and negative with caregivers' perceived health. Discussion The CAS shows good psychometric properties, and ambivalence seems to be a relevant variable for understanding caregivers' mental and physical health. The clinical implications of this study will be discussed.

### **AMBIVALENCE IN OLDER PARENT - ADULT CHILD RELATIONSHIPS: ARE WE MEASURING IT THE WRONG WAY?**

K. Pillemer<sup>1</sup>, J.J. Sutor<sup>2</sup>, *1. Cornell University, Ithaca, NY, 2. Purdue University, West Lafayette, Indiana*

Research on ambivalence has proliferated in recent years, as the field of older parent – adult child relationships has moved increasingly toward orientations and approaches that highlight contradictory emotions in later-life families. Measurement strategies, however, have greatly lagged behind the scientific interest. This presentation reviews the most prominent measurement strategy: indirect measures that separately assess positive and negative dimensions and use a formula to calculate an ambivalence score. We critique the predominant approach, noting that existing measures are inconsistent across studies, are largely reliant on items drawn from scales not designed to assess ambivalence,

and do not have established reliability and validity. We then review more sophisticated ambivalence measurement techniques developed in the social psychology of attitudes and suggest how these techniques can be applied to intergenerational ambivalence. Findings from a pilot study contrasting these two types of measures are presented, and implications for improved assessment of ambivalence are discussed.

## **SESSION 1230 (SYMPOSIUM)**

### **QUALITATIVE INSIGHTS ON HEALTH LITERACY, NUTRITION, SOCIAL RELATIONSHIPS AND RESILIENCE FROM THE COGNITIVE FUNCTION AND AGEING STUDIES WALES (CFAS-WALES)**

**Chair:** G. Windle, *Dementia Services Development Centre, Bangor University, Bangor, United Kingdom*

**Co-Chair:** V. Burholt, *Dementia Services Development Centre, Bangor University, Bangor, United Kingdom*

This symposium presents four papers which qualitatively explore the connections between, and changes within a range of health, lifestyle and environmental factors in people age 65 and over in Wales, UK. The qualitative work adopts innovative methodology, drawing on wave 1 of the CFAS Wales quantitative data to identify unique samples of participants for each theme presented. The first presentation is based on people who despite having ill-health and associated functional impairment have high levels of well-being, and explores how life experiences may shape the development of this resilience. The second presentation is based on people who have depression or diabetes, and explores how they might receive health literacy support with managing their health and accessing health services from members of their social network. The third paper looks at the role the support network in relation to the normative expectations for emotional and functional/practical care in relation to where people live. The final paper is based on people who, through a blood sample were identified to have high and low levels of homocysteine (which is elevated in vitamin B12 deficiency) and explores their shopping and eating habits and preferences. The qualitative work aims to contribute to theoretical understandings and debates around the overarching theme of CFAS Wales – understanding how people can maintain function and well-being as they age, and the role of protective factors in this process.

### **WHY I EAT WHAT I EAT: OLDER ADULTS KNOWLEDGE AND ATTITUDES TOWARDS NUTRITION**

K.M. Bennett, C. McCracken, *Psychology, University of Liverpool, Liverpool, United Kingdom*

Good nutrition is an important contributing factor to health in later life. As part of the large-scale CFAS Wales longitudinal study of health, well-being and cognitive function we interviewed 30 older adults: 5 men, 5 women who lived alone; 10 men, 10 women who did not. We explored older adults attitudes towards, and knowledge of, nutrition. We asked how their food choices had been shaped by changes such as retirement and poor health. Five main themes emerged. Participants reported the importance of tradition. We found that eating habits formed during the working life were carried on into life post-retirement. Breakfast was an important meal for participants and provided a means of increasing fruit intake. Participants were aware of healthy eating messages but often subverted them. Participants needed to modify their food choices to comply with medication advice. We discuss the implications for older people and for health professionals.

## EXPLORING LIFE EXPERIENCES, USE OF RESOURCES AND THEIR RELATION TO RESILIENCE IN OLDER PEOPLE WITH ILL-HEALTH AND MOBILITY RESTRICTIONS

G. Windle<sup>1</sup>, K.M. Bennett<sup>2</sup>, C.A. MacLeod<sup>1</sup>, *1. Dementia Services Development Centre, Bangor University, Bangor, United Kingdom, 2. Liverpool University, Liverpool, United Kingdom*

This presentation explores the development of resilience. Twenty participants aged 65+ who had high levels of well-being despite ill-health and associated functional impairment, were selected from the CFAS Wales longitudinal cohort study. Taking a life-course perspective, the interviews sought to understand the meaning and impact of significant life experiences, the resources utilised in this process, and how this may lead to positive functioning despite adversity in later life. The method of IPA was used to understand the narratives. Key themes to emerge in terms of experiences include the importance of childhood attachment, early family experiences as formative and early experiences of challenge and disadvantage. Many had a significant experience of loss, often occurring outside the normative trajectory. A sense of acceptance, determination to carry on, tolerate and compromise underpinned successful psychological adjustment, and family relationships were important resources. The implications for further research on resilience in later life are discussed.

## THE DISTRIBUTION OF HEALTH LITERACY IN THE SOCIAL NETWORKS OF OLDER PEOPLE LIVING WITH A LONG-TERM CONDITION

M. Edwards, A. Williams, *Centre for Innovative Ageing, Swansea University, Swansea, United Kingdom*

Health literacy can be considered as an outcome of learning about health from formal and/or informal sources. People can draw on the health literacy of people within their social network to support them with managing their health. The study looked at how health literacy might be distributed within older people's social networks and how friends and family may act as health literacy mediators. We interviewed 67 older people with a long-term condition (diabetes or depression). Our framework analysis enabled us to identify similarities and differences in how health literacy was distributed within different social network types and also how individuals from these different types of social networks accessed support with accessing and using health information and services. Our findings can inform the development of targeted community-based interventions to support older people with health literacy based on the type of social network they have.

## NEIGHBOURHOOD DIFFERENCES IN PERCEPTIONS ABOUT THE AVAILABILITY AND EXPECTATIONS FOR HELP FOR OLDER PEOPLE WITH FUNCTIONAL OR COGNITIVE IMPAIRMENT, FROM THE COGNITIVE FUNCTION AND AGEING STUDIES WALES (CFAS-WALES)

V. Burholt, C. Philippart, E.V. Richards, B. Winter, S. Miles, *Centre for Innovative Ageing, Swansea University, Swansea, United Kingdom*

**Objectives:** This paper addresses the questions: Are there shared 'understandings' of social support in a given location? Do these differ for functional versus cognitive impairment? **Method:** A purposive sample four groups of older people (n=180 in total) were selected from the CFAS quantitative sample. These were based on network type, location and health status (MMSE score, presence or absence of diabetes and depression). Thematic analysis was undertaken with responses to two open-ended questions: In this neighbourhood, in general what sort of help, if any, would you expect friends and neighbours to provide to an older person who was unable to leave house because of a physical problem? The question was repeated for perceptions about the support for people with dementia. **Results:** Responses were compared by

location and demonstrated that traditional images of 'rural solidarity' or 'working class solidarity' impact on the preferred family forms in these locations.

## SESSION 1235 (SYMPOSIUM)

### LIFE EXPECTANCY WITH COGNITIVE IMPAIRMENT: IS IT WHERE YOU LIVE OR HOW YOU LIVE?

**Chair:** C. Jagger, *Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, United Kingdom*

**Co-Chair:** S.B. Laditka, *University of North Carolina at Charlotte, Charlotte, North Carolina*

**Discussant:** E. Crimmins, *University of Southern California, Los Angeles, California*

As life expectancy continues to increase globally, there is an urgent need to establish that extra years of life are healthy ones. Health expectancies (HE) are population health indicators combining morbidity and mortality, developed to address this issue of compression or expansion of morbidity. HE are mostly based on disability but cognitive impairment, with its strong relationship with age, is now a major public health concern. This symposium focuses on cognitive impairment-free life expectancy (CIFLE) and the factors that influence it, using data from different countries. In the first presentation we explore how education affects life expectancy and disability-free life expectancy for people with cognitive impairment in the US. Smoking, sedentary lifestyle and obesity are three modifiable risk factors for mortality and dementia and the second presentation investigates their impact on CIFLE in Australian men and women. The third presentation reports regional differences in cognitive impairment free life expectancy and the role of education across seven Caribbean countries. The final presentation describes results from the UK Medical Research Council Cognitive Function and Ageing Studies on the changes between 1991 and 2011 in four HES: CIFLE, healthy life expectancy (based on self-perceived health), disability-free life expectancy (DFLE - based on IADL and ADL disability) and severe DFLE (ADL disability only). Together these presentations increase our understanding of whether there is a compression or expansion of cognitive impairment, as well as how socio-economic status and modifiable health behaviours may affect years with and without cognitive impairment.

### FOR PEOPLE WITH COGNITIVE DECLINE: EDUCATION EXTENDS ACTIVE LIFE EXPECTANCY, LIMITS COGNITIVE LOSS

S.B. Laditka, J.N. Laditka, *Public Health Sciences, University of North Carolina at Charlotte, Charlotte, North Carolina*

Cognitive impairment risk increases with age. Education is generally associated with less disability and longer life. Using the Panel Study of Income Dynamics (1992-1999; ages 55+; n=2,165; 23,063 person-years), we studied associations among education, disability in activities of daily living (ADLs), and life expectancy for people with cognitive impairment. We estimated monthly probabilities of death and disability with multinomial Markov models: seven education levels adjusted for age, gender, ethnicity, and cognitive status. Microsimulation created large populations, used for outcome measures. Among people with cognitive impairment, those with more education lived longer with less disability. Illustrating results, college educated African American women lived 2.8 more years than those with <8 years education, disabled 30.5% of remaining life compared with 44.6% (p<0.0001). Education may lengthen active life expectancy for people with cognitive impairment. Advanced dementia is defined in part by ADL disability; thus, more education may also limit dementia progression.

## THE INFLUENCE OF SMOKING, SEDENTARY LIFESTYLE, AND OBESITY ON COGNITIVE IMPAIRMENT FREE LIFE EXPECTANCY

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To examine the impact of smoking, sedentary lifestyle and obesity on cognitive impairment free life expectancy (CIFLE) we used the DYNOPTA dataset (five longitudinal ageing studies pooled), including 8111 participants with complete MMSE score. For each risk factor (and total burden of risk factors) transitions to CI and from both cognition states to death were calculated using multistate modelling and combined with microsimulation to produce mean values of LE, CIFLE and years with cognitive impairment (CILE). CILE was approximately 2 years (men) and 3 years (women) regardless of age. Absence of each risk factor was associated with longer LE and CIFLE but also significantly longer CILE for women who did not smoke (1.29 years, SE=0.57, p=0.02) and physically active men (0.95 years, SE=0.42, p=0.02) and women (1.73 years, SE=0.58, p=0.002). Reductions in smoking, inactivity and obesity increase longevity and CIFLE, but not all extra years are free of CI.

## MENTAL HEALTH EXPECTANCIES IN LATIN AMERICA AND THE CARIBBEAN

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It is well documented that our populations are ageing and that the prevalence of moderate or severe cognitive impairment rises steeply with age. This study compared the effect of education on estimates of cognitive impairment-free life expectancy (CIFLE) in seven developing Latin American and Caribbean countries. The Sullivan Method was used to estimate mental health expectancies and regression analyses used to determine the effect of age, gender and education on cognitive outcome and CIFLE. In Brazil, Chile, Cuba and Mexico the odds of cognitive impairment (CI) are increased for persons with a low education level when compared to persons with a high education level. A significant gender effect was observed in Mexico with males having lower odds of CI compared to females. Across age groups, CIFLE was generally highest in Brazil and Mexico and lowest in Uruguay. Meta-regression analysis was performed to determine the effect of education on CIFLE.

## CHANGES IN HEALTH EXPECTANCIES AT AGE 65 OVER TWO DECADES: RESULTS OF THE COGNITIVE FUNCTION AND AGEING STUDY I AND II

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We use two identical studies, the Medical Research Council Cognitive Function and Ageing Studies to compared cohort effects in four health expectancies calculate using Sullivan's method including: healthy life expectancy (HLE: good/excellent self-perceived health); cognitive impairment-free life expectancy (CIFLE: MMSE score 18-30); disability-free life expectancy (DFLE: no difficulty in IADL or ADLs); and, severe disability free expectancy (sevDFLE: no dif-

ficulty in ADLs only). Between 1991 and 2011 men and women at age 65 saw rises in life expectancy (LE) (men: 4.5yrs, women: 3.6yrs) and gains in HLE (men: 3.8yrs, women: 3.0yrs), CIFLE (men: 4.4yrs, women: 3.8yrs), DFLE (men: 1.8yrs, women: 3.1yrs) and sevDFLE (men: 4.0yrs, women: 3.1yrs). For women CIFLE gains were at least those in LE, with a reduction in years with cognitive impairment. However gains in the other health expectancies were less than increases in LE suggesting an expansion of ill-health and disability, particularly milder disability.

## SESSION 1240 (SYMPOSIUM)

### NEW VIEWS ON INTERGENERATIONAL SUPPORT

**Chair:** A.R. Heid, *The Polisher Research Institute, The Madlyn and Leonard Abramson Center for Jewish Life, Merion Station, Pennsylvania*

**Co-Chair:** K. Fingerma, *The University of Texas at Austin, Austin, Texas*

Parents continue to engage in support exchanges with their children throughout life. In late life, adult children often step in to provide support and changes in support patterns may present challenges for both parties. This symposium will examine four perspectives on support exchanges in late life within multi-generational families, highlighting some of the challenges and benefits of support provided. Drawing on daily diary data, Kim will examine how often older parents have different types of contact and interactions with their adult offspring across 7-days and how the daily interactions are associated with daily health and mood. Cheng will present middle aged children's appraisals of the support they give to their parents including their feelings of stress and rewards as well as how these appraisals of support are associated with parents' views on that support and their psychological wellbeing. Bangerter will discuss associations between adult children's depressive symptoms and the life problems of their aging mothers. And, Heid will explore unique data regarding offspring's responses to aging parents' behaviors that involve insistence, persistence, or resistance when there is conflict in relationship goals. Each presentation will capture a differing perspective of adult child and aging parent relationships, shedding light on intergenerational support in late life.

### DAILY INTERACTIONS OF OLDER PARENTS WITH THEIR ADULT CHILDREN AND IMPLICATIONS FOR DAILY WELL-BEING

K. Kim<sup>1</sup>, K. Fingerma<sup>1</sup>, S.H. Zarit<sup>2</sup>, K.S. Birditt<sup>3</sup>, 1. *Human Development and Family Sciences, The University of Texas at Austin, Austin, Texas*, 2. *The Pennsylvania State University, University Park, Pennsylvania*, 3. *University of Michigan, Ann Arbor, Michigan*

Research on intergenerational relations has mainly relied on one-time/retrospective measures on the types and amount of interactions between generations. Drawing on a 7-day diary data from 207 older parents (Mean age = 79.9), this study examined how often older parents have different types of contact and interactions with their adult offspring on a daily basis and how the daily interactions are associated with parental well-being. On average, older parents reported 5.3 contact days with their offspring during the 7-day period (by telephone = 3.9; in-person = 3.0; text/on-line = 0.4). On 67.5% of those contact days, parents indicated having enjoyable/positive interactions with adult offspring, whereas on 8.7% of days, parents reported having irritating/negative interactions. Multilevel models showed that physical symptoms and negative mood of parents were significantly higher on days with negative interactions with children. Also, positive mood was higher on days with positive interactions with children.

## SUPPORT OUT OF AFFECTION VERSUS OBLIGATION: OFFSPRING'S SUPPORT APPRAISALS AND PARENTS' PSYCHOLOGICAL WELLBEING

Y. Cheng, K. Fingerma, *University of Texas at Austin, Austin, Texas*

Middle-aged adults often help aging parents. However, how offspring feel when helping older parents and how parents react to the offspring's appraisals are usually overlooked. This study examined (a) whether relationship quality with parents and filial obligation were associated with rewards and stress of helping parents; and (b) whether offspring's feelings of reward and stress were associated with parents' psychological wellbeing. Middle-aged adults ( $n = 383$ , mean age = 55.13) and their aging parents ( $n = 222$ , mean age = 80.07) participated. Multilevel models revealed that adult offspring with better quality relationships with their parents experienced greater rewards and less stress in supporting parents. Filial obligation was associated with offspring's sense of rewards from helping. Offspring's stress was associated with greater parental depression. The findings suggest offspring with higher filial obligation find it more rewarding to help parents. However, in terms of parental wellbeing, adult offspring's relationships with parents are more crucial.

## MOTHER'S LIFE PROBLEMS: DIFFERENTIAL IMPACT AND RESOURCES FOR OFFSPRING DEPRESSIVE SYMPTOMS

L.R. Bangerter<sup>1</sup>, S.H. Zarit<sup>1</sup>, K. Fingerma<sup>2</sup>, *1. Penn State University, State College, Pennsylvania, 2. The University of Texas at Austin, Austin, Texas*

Middle-aged adults are affected by aging parents who suffer from disabilities, cognitive impairment and functional limitations. Less attention is paid to other life problems of aging parents that contribute to the mental health of their offspring. We use a sample ( $N=308$ ) of middle-aged adults (mean age = 51) whose only living parent was their mother to examine associations between participant depressive symptoms and the life problems of their aging mothers. We examine resources that may mitigate the psychological implications of having a sole-surviving mother with many life problems. Regression analyses are used to examine the personal and family resources that moderate the relationship between mother's life problems and offspring depressive symptoms. For depressive symptoms, significant interactions were found for: a) participant self-reported physical health and mother's problems, b) number of siblings living geographically close to the mother and mother's problems, and c) support provided by the mother and mother's problems.

## "HE'S SO STUBBORN!"—PERCEPTIONS OF AGING PARENTS' PERSISTENCE, INSISTENCE, AND RESISTANCE

A.R. Heid<sup>1</sup>, S.H. Zarit<sup>2</sup>, K. Fingerma<sup>3</sup>, *1. The Polisher Research Institute, The Madlyn and Leonard Abramson Center for Jewish Life, Merion Station, Pennsylvania, 2. The Pennsylvania State University, State College, Pennsylvania, 3. The University of Texas at Austin, Austin, Texas*

Goal conflict between adult children and aging parents is hypothesized to result in older adults insisting, resisting, or persisting in their ways or opinions at times—acting in a way commonly attributed to stubbornness. However, research has yet to examine this phenomenon in families. With 189 dyads of middle-aged adults and their parents, we examined the prevalence of reports of parents' behaviors commonly attributed to stubbornness. Utilizing multi-level modeling we further explored the association of perceptions of children and parents with individual and relationship-based characteristics and concordance across reporters. Over 92% of dyads report parents acting in ways commonly attributed to stubbornness. Children's perceptions of occurrence are related to both child and parent characteristics, while parents'

self-reports are related to only their own characteristics. Furthermore, children report higher levels of parent stubbornness than aging parents self-report. This novel exploration supports intervention work that increases understanding of goals within families.

## SESSION 1245 (SYMPOSIUM)

### FUNCTION FOCUSED CARE IN COMMUNITY-DWELLING OLDER ADULTS: CONNECTING INTERNATIONAL EVIDENCE

**Chair:** G. Zijlstra, *Maastricht University, Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

**Co-Chair:** S. Metzeltin, *Maastricht University, Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

**Discussant:** M. Boltz, *New York University, College of Nursing, New York, New York*

Our aging society asks for the development of sustainable long-term care services for older adults. Evidence suggests that community-based care in comparison with institutionalization may achieve better outcomes at lower costs. Community-based care also meets the preferences of the older adults, as they favor living in their homes and familiar surroundings for as long as possible. Functional impairment is a major reason for institutional care. Thus innovative approaches are needed to prevent unnecessary functional decline among older adults. In the US, a promising approach, called Function Focused Care (FFC), also known as restorative care, was developed and tested over the past decade. The goal of this approach is to maintain or increase the individual's involvement in his or her daily activities and increase physical activity. This symposium focuses on the results of and experiences with FFC in various countries. The first presentation gives a brief introduction on how the philosophy of FFC is implemented in the US. The effects of FFC in American older adults with Parkinson's are described in the second presentation. The third and fourth presentations report on experiences with and effects of a restorative care approach in New Zealand and Australia. Finally, the fifth presentation describes the systematic development of an approach for Dutch homecare agencies based on a philosophy of FFC. Our discussant Marie Boltz will reflect on the individual presentations and will facilitate a discussion on-site.

### FUNCTION FOCUSED CARE: MAKING IT HAPPEN IN THE COMMUNITY

B. Resnick, *University of Maryland, Baltimore, Maryland*

Function Focused Care, defined as optimizing function and physical activity among older adults during all care interactions, is logically simple. Unfortunately, there are many barriers to this approach including: new acute events (e.g., cerebral vascular events), sociodemographic characteristics, comorbidities, cognitive decline, delirium, depressed mood, lack of motivation, cultural expectations, pain, fear of falling, body mass index, and polypharmacotherapy. Caregivers do not have the skills to motivate and engage their care recipients during specific care interactions and simply may want to get the task done. To address these barriers, Function Focused Care was developed using a social ecological model and the theory of self-efficacy. A description of how to implement Function Focused Care will be provided based on our well established four step process: (I) Environment and Policy/Culture Assessments; (II) Education of Caregivers; (III) Developing Function Focused Goals of Care Recipients; and (IV) Mentoring and Motivating the Caregivers and Care Recipients.

## FUNCTION FOCUSED CARE FOR PEOPLE LIVING WITH PARKINSON'S DISEASE

I.A. Pretzer-Aboff<sup>1</sup>, E. Galik<sup>2</sup>, B. Resnick<sup>2</sup>, 1. *School of Nursing, University of Delaware, Newark, Delaware*, 2. *University of Maryland, Baltimore, Maryland*

Parkinson's disease (PD) results in a progressive loss of function such that family caregivers provide a large percentage of the personal care to PD patients in their home. We tested the impact of a function focused care intervention designed for people with PD (FFC-PD) and their family caregivers in the community setting. The impact of FFC-PD on the PD person showed improved outcome expectations for exercise,  $F = 3.1$ ,  $p = .03$ ; hours exercised,  $F = 5.0$ ,  $p = .004$ ; hours spent in activities,  $F = 6.1$ ,  $p = .001$ ; decreased disability (Unified Parkinson's Disease Rating Scale),  $F = 9.5$ ,  $p = .001$ ; and improved quality of life (PDQ-39),  $F = 3.8$ ,  $p = .01$ . There were no significant changes noted in caregiver burden or depressive symptoms. FFC-PD was both feasible and effective in improving function and increasing activity of the person with PD, and did not increase caregiver burden.

## RESTORATIVE HOME CARE IN AUSTRALIA

G. Lewin, 1. *Silver Chain, Osborne Park, Western Australia, Australia*, 2. *Curtin University of Technology, Perth, Western Australia, Australia*

Since 1999 Silver Chain, a large Australian community health and aged care provider, has conducted research on restorative home care and found these services to be more cost effective than traditional home care. E.g., a large RCT found that, over two years, restorative clients used fewer home care hours (mean [SD], 117.3 [129.4] vs. 191.2 [230.4]), were less likely to be approved for a higher level of aged care (N [%], 171 [55.2] vs. 249 [63.0]), have presented at an Emergency Department (OR = 0.69, 95% CI = 0.50-0.94) or had an unplanned hospital admission (OR = 0.69, 95% CI = 0.50-0.95) than traditional home care clients. Consequentially, their aggregated health and home care costs were lower by a factor of 0.83 (95% CI 0.72-0.96) (AU\$19,090 vs AU\$23,428). As a result of this and other evidence, Australia's reformed aged care system is to include a greater focus on restorative home care.

## A NEW MODEL OF COMMUNITY CARE IN NEW ZEALAND

M. Parsons, *Faculty of Medical and Health Sciences, University of Auckland, Auckland, New Zealand*

'Ageing in Place' or providing services that allow older people to remain living in their own homes has been an active policy direction in New Zealand (NZ) since 2002. ASPIRE was a prospective meta analysis of three initiatives that aimed to reduce the risk of institutionalization for 567 frail older people in NZ. The initiatives, evaluated by randomized controlled trial were a case management initiative, a residential slow stream rehabilitation programme and a new method of home care, termed restorative home support. The pooled results indicated a statistically significant 31% reduction in Adjusted Hazard Ratio for the combined primary outcome of death or institutionalization (95% confidence interval: 9%, 47%) for the initiatives compared to usual care. The results, along with other evaluations have informed the model of care now widely delivered across NZ. This presentation will explore the current model and research underpinning it.

## IMPROVING DUTCH HOMECARE SERVICES BASED ON A PHILOSOPHY OF FUNCTION FOCUSED CARE

S. Metzeltin<sup>1</sup>, G. Zijlstra<sup>1</sup>, E. van Rossum<sup>2,1</sup>, G.I. Kempen<sup>1</sup>, 1. *CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands*, 2. *Zuyd University of Applied Sciences, Heerlen, Netherlands*

In the Netherlands, home care services are increasingly under pressure to deliver cost-effective care that enables older people to stay in

their homes as long as possible. With regard to daily functioning of older adults Function Focused Care (FFC) has proven its effectiveness in a substantial amount of studies abroad. However, to prevent a decrease in effectiveness interventions have to be adapted systematically before they can be implemented among another target group in another context. This presentation describes the systematic development of an approach for Dutch home care services based on a philosophy of FFC. After some meetings with experts in the field of FFC (n=6) and studying their intervention materials, observations in the field were conducted to get insight into the implementation of FFC. As a result of these activities appropriate intervention components were selected and adapted leading to an innovative Dutch approach for home care services.

## SESSION 1250 (PAPER)

### DEATH, DYING & BEREAVEMENT

#### CHILDREN'S PERCEPTIONS OF WIDOW'S BEREAVEMENT

M.S. Moss, S. Moss, *Arcadia University, Glenside, Pennsylvania*

Children's Perceptions of Widow's Bereavement How do adult children perceive the widowhood experience of their elderly mother? And how do their perceptions reflect the widow's descriptions of her bereavement? In a study of family bereavement where an elderly husband/father had died within the previous 6 months to a year, in each family we held 2 separate lengthy qualitative interviews with the widow and with each of two of their adult children. In the first interview we explored the respondent's experience of loss, and in the second interview we explored his or her perceptions and understandings of other family members. The data includes 6 interviews in each of 10 families: 10 widows (mean age 80) and 20 adult children—ACs (mean age 53). With the widow's loss of couplehood, her role in the family has shifted. Three inter-related themes emerged: (1) Recognition of the widow's strength and resilience within the context of potential future vulnerability and dependency. (2) Widows and ACs recognition that each carries a protective role toward the other, often monitoring expression of their upsetting feelings about their loss. (3) Family members perceive mutual caring and concerns between widow and ACs, with primary focus on the ACs, rather than the widow, as providers of resources within the family. The findings reflect the richness of a family perspective in understanding bereavement. (Funded by NIA R01AG031806)

#### PATTERNS OF RESPONSE OF AFRICAN AMERICAN CAREGIVERS TO POST-CAREGIVING TRANSITIONS

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Majority of the caregiving studies and literature focus on the active caregiving experiences of Caucasian family caregivers while fewer publications deal with the experiences of African American post-caregivers (AAPCGs). This mixed-methods study focused on the patterns of response of AAPCGs after the death of the loved one and the termination of their caregiving roles. The sample for this study included 40 AAPCGs, whose caregiving roles terminated within a period of 10 years prior to this study. Using the Transition Theory as a theoretical framework, this study present findings related to process indicators of healthy post-caregiving transitions (PCT) for these AAPCGs including connectedness such as reconnecting to friends and family, returning to work, connecting to the deceased loved one, and connecting to a spiritual higher power; interactions with family and friends, locating and being situated, social support, social networks and various strategies manifesting confidence and coping. These strategies manifest the post-caregivers' progress through healthy PCT. These findings also describe outcome indicators that AAPCGs demonstrate to show that

they have truly adjusted to PCT. This study has implications for policy, practice, education and research that will improve care for older African American caregiver population.

### THE EFFECTS OF INCIDENT CLINICAL DISEASE AND DEPRESSION ON THE MORTALITY OF BEREAVEMENT

S. Stahl, J. Chen, S. Anderson, R. Schulz, *University of Pittsburgh, Pittsburgh, Pennsylvania*

Late-life bereavement is associated with an increased risk of mortality. Declines in physical and mental health accompany spousal loss, yet their role as possible mediators of mortality has not been studied. This study examined the effects of bereavement, incident clinical disease, and depressive symptoms on 3-year mortality in older adults. Participants included 1150 widow(er)s and married controls aged 65 to 93 years (Mean age = 72.57 years, SD=5.19 years) who participated in a longitudinal, epidemiological study. Results show that older adults who became bereaved had elevated adjusted mortality rates relative to married controls, but only among those who experienced incident clinical disease after the death of their spouse. High levels of depressive symptoms post-bereavement were not significantly associated with mortality. However, post-hoc analyses indicate that one post-bereavement CES-D item, 'I felt that everything I did was an effort,' was an independent risk factor for mortality. These findings highlight the potential value in treating clinical disease and depression after bereavement as a preventive measure to reduce the risk for mortality.

### FILIAL PIETY AND DIGNITY IN END OF LIFE CAREGIVING: LIVED EXPERIENCE OF CHINESE FAMILIES FACING TERMINAL ILLNESS

A. Ho<sup>1,2</sup>, C. Chan<sup>2</sup>, A.Y. Chow<sup>2</sup>, T.Y. Lum<sup>1,2</sup>, *1. Sau Po Centre on Ageing - The University of Hong Kong, Pokfulam, Hong Kong, 2. Department of Social Work and Social Administration - The University of Hong Kong, Pokfulam, Hong Kong*

Background: This presentation critically examines and compares the traditional and evolving nature of filial piety, as well as the role that it plays on the contemporary experience of 'living and dying with dignity' among Chinese families facing terminal illness. Methods: Meaning-oriented interviews were conducted with a purposive sample of 15 adult-children caregivers in Hong Kong, aged 30 to 62, to elicit their narratives and stories in caring for a dying elderly parent. All interviews were transcribed verbatim and analyzed using grounded theory methodology. Results: Our findings reveal that although traditional filial beliefs provided motivation for family caregiving at the end-of-life, the contemporary experience of filial piety has evolved to reflect more equalitarian attitudes and behaviours. However, the shame and regrets of unfulfilled filial responsibilities still create vast emotional dissonance between elderly parents and adult-children, which can act as a cultural barrier for reconciliation and contentment at life's final margin. Conclusion: These findings underscore the importance of intergenerational dynamics and interactions in the transformation of filial values and practices, highlighting the importance of reciprocal relationships (vs. authority relationship), mutual support (vs. complete obedience), compassionate duty (vs. obligatory duty), emotional connection (vs. task fulfillment), as well as appreciation and forgiveness (vs. guilt and shame) in the promotion of dignity at the end-of-life. They further pinpoint the imperative of developing a family-driven dignity-enhancing intervention in palliative social work for empowering and sustaining family caregiving at life's more vulnerable yet precious moments. Clinical and policy implications will be discussed from a multicultural perspective.

## SESSION 1255 (PAPER)

### AGING AND EXERCISE

#### ASSOCIATION OF ACCELEROMETER AND QUESTIONNAIRE-ASSESSED PHYSICAL ACTIVITY WITH ADIPOSITY MARKERS

S. Sabia<sup>1</sup>, A. Elbaz<sup>2</sup>, V.T. van Hees<sup>3</sup>, A. Dugravot<sup>2</sup>, M. Shipley<sup>1</sup>, M. Kivimaki<sup>1</sup>, A. Singh-Manoux<sup>2</sup>, *1. Dpt of Epidemiology/Public Health, UCL, London, United Kingdom, 2. Inserm U1018, Villejuif, France, 3. University of Newcastle, Newcastle, United Kingdom*

Background: There is a well-documented association between physical activity and adiposity markers but the strength of the association remains unclear. We compared the associations of questionnaire-assessed and objective accelerometer-assessed physical activity with adiposity markers in older adults. Methods: Data are from 3634 Whitehall II study participants (901 women, age range= 60-82) who completed a 20-item physical activity questionnaire and wore a wrist-mounted accelerometer for 9 days in 2012/13. Total physical activity level was estimated using metabolic equivalent hours per week for the questionnaire and acceleration per week for the accelerometer. Body-mass index, waist circumference, and waist-hip ratio were calculated using anthropometric measures assessed at a clinic. Body fat percentage was estimated using bio-impedance. Results: Adiposity markers one standard deviation (SD) higher were associated with approximately one tenth SD lower self-reported physical activity ( $\beta$  range=-0.07 (95% confidence interval (CI): -0.11, -0.03) for waist-hip ratio to -0.13 (95% CI: -0.18, -0.09) for body fat percentage) and with one quarter to one third SD lower accelerometer-assessed physical activity ( $\beta$  range=-0.24 (95% CI: -0.28, -0.21) for waist-hip ratio to -0.34 (95% CI: -0.38, -0.30) for body fat percentage). The associations with accelerometer-assessed physical activity were 2.5 (95% CI: 1.9, 3.6) to 3.3 (95% CI: 2.2, 7.8) times stronger than the ones observed with self-reported physical activity. Conclusions: This study suggests that the impact of physical activity on adiposity might have been underestimated in previous studies using self-reported physical activity measures.

#### AN INTERVENTION TO INCREASE LIFESTYLE PHYSICAL ACTIVITY IN SEDENTARY OLDER WOMEN: BASELINE RESULTS FROM A RANDOMIZED CLINICAL TRIAL

L.L. Lefler<sup>1,2</sup>, J. McSweeney<sup>1,2</sup>, S.Y. Lensing<sup>3,2</sup>, K.K. Garner<sup>2,1</sup>, P.M. Dubbert<sup>2</sup>, K.A. Packard<sup>3</sup>, K.A. Hayman<sup>1</sup>, *1. College of Nursing, University of Arkansas for Medical Sciences, Little Rock, Arkansas, 2. Central Arkansas Veterans Healthcare, North Little Rock, Arkansas, 3. University of Arkansas for Medical Sciences-College of Medicine, Little Rock, Arkansas*

Purpose: Making physical activity (PA) an integral part of daily life is imperative for health and well-being of older adults. Older women are the most sedentary; yet interventions to combat a sedentary lifestyle are lacking. We present baseline values of objective measures for usual free-living PA and discuss a theoretically derived intervention developed to improve lifestyle physical activity in older women. Methods: Women  $\geq 60$  that were not regular exercisers participated in a randomized clinical trial of a tailored motivational intervention. Objective GT3X+ tri-axial actigraphy monitors were used to measure free-living energy expenditure, activity minutes, counts, and intensity levels; self-reported measures included Exercise Stage of Change and Exercise Benefits and Barriers. Results: Of the 85 women, 36% were Black, 62% White, with mean age of 69. They were high-risk, with multiple risk factors: hypertension (74%), smoking (31%), and diabetes (18%). Compared with resting metabolic rate (MET of 1.0), mean activity for 5 days (omitting sleep) was 1.57 (SD 0.21) METs. Mean kilocalories expended/day were 396, a value lower than 521 kcal/d recommended. Mean minutes/day in sedentary behavior was 758 (SD 190); light 138 (SD 42); with little of recommended moderate intensity

14 (SD 12); and almost no vigorous activity. PA bouts/d were less than 1, indicating no defined exercise. Conclusions: These older women are extremely sedentary and are far below national recommendations. A critical need exists for interventions to improve health and function associated with aging. Our 3-year ongoing trial will test an intervention to improve habitual PA in older women.

#### **SELF-REPORTED BENEFITS OF TAIJI AND QIGONG**

M.F. Komelski<sup>1</sup>, A.L. Nguyen<sup>2</sup>, *1. Virginia Tech, Department of Human Development, Blacksburg, Virginia, 2. UC, Irvine School of Medicine, Irvine, California*

Taiji and qigong (TQG) are mind-body exercises of Chinese origin. Using data from the Taiji Symposium Research Survey (TSRS), our previous research on a convenience sample of 120 US TQG practitioners (mean age 54.77) showed that their health status profile was above the national average and held steady across ages, differing markedly from the negative slope in the US average population. The current study explored written open-ended questions about the perceived benefits of TQG practice from the same sample (n=120) to better understand participants' unusual health trajectory. Methods: TSRS data was collected via online survey of a convenience sample of US TQG practitioners. Thematic content analysis was employed by two coders using open and axial coding and consensus decision-making to construct a codebook of emergent themes. Results: Emergent categories included general cognitive benefits (e.g., memory, acuity), as well as, enhanced mood, greater focus/sense of awareness, meditative or stress-reducing effects, and promotion of social engagement. General health benefits included musculoskeletal (e.g. flexibility, strength) while some used TQG as complementary or alternative treatment for specific conditions (e.g., injury, back pain, high blood pressure). An overarching narrative across the data was a sense of mind/body/spirit unity created through practice. Conclusion: Emergent categories resonate with general models of well-being, health, and optimal aging, providing a potential explanation for the sample's unusual health profile across ages. Categories can be used to form a testable model that can be further validated in community based research on TQG practitioners.

#### **STAYING PHYSICALLY ACTIVE IN OLD AGE: CAN PROSPECTIVE MEMORY DEFICITS BE BUFFERED BY PLANNING EFFORTS?**

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Physical activity (PA) is an important key for healthy aging. Regular PA is, however, a difficult task for older adults facing health and cognitive decline. Planning competencies and prospective memory (PM) as a cognitive resource may help translating intentions for PA into behavior. Therefore, in particular older adults with deficits in PM may profit from planning competencies to stay physically active. A mediated moderation model was estimated with longitudinal data covering three measurement points across 12 weeks from the PREFER II study including 310 older adults (64+). Planning significantly mediated the intentions-PA link. The moderation was also significant: Older adults with worse PM could buffer their deficits by increased planning efforts. Findings suggest that particularly in old age with decreasing cognitive capacities planning strategies are central to stay active and healthy. Results are discussed integrating research and theory of cognitive aging and health in old age.

#### **FIT AND STRONG! PLUS PHYSICAL ACTIVITY/WEIGHT MANAGEMENT TRIAL: EARLY FINDINGS**

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Overweight older adults with osteoarthritis (OA) have heightened risk of disability; however few evidence-based programs currently target weight loss. The Fit and Strong! (F&S!) physical activity (PA) program improves lower extremity (LE) strength and mobility out to 18 months for persons with OA. This session presents early findings from the new F&S! Plus program, that addresses both PA and weight loss. We are currently using a randomized trial to compare customary F&S! outcomes to those achieved by F&S! Plus. The first three cohorts of study participants (n=93) had a mean age of 68.9 at baseline, 74% were female and 89% were African American. In addition to arthritis, 79% had high blood pressure, 36% had vision problems and 22% had diabetes. Baseline mean BMI was 34.3 kg/m<sup>3</sup> (obese), mean LE pain score was 6.2 (mild) and mean LE stiffness score was 3.3 (moderate). Overall sit-stand rate was 8.2 and mean 6-minute distance walk score was 362.4 meters. Significant differences were seen by group in baseline to 2-month outcomes with respect to BMI (p=0.02) and PA (p=0.05) with a marginally significant difference in 6-minute distance walk (p=0.07), favoring the new diet program. Dietary changes were also seen by group in fiber (p=.04), increased consumption of vegetables (p=.03) and orange vegetables (p=.001) for the first two cohorts. Enrollment will continue to reach our targeted enrollment N of 400. This presentation will review the trial design, intervention components, recruitment procedures and baseline, 2, and new 6-month outcomes that will be available this fall.

#### **SESSION 1260 (PAPER)**

##### **COUPLES AND CAREGIVING**

##### **AMBIVALENCE AND PHYSICAL HEALTH IN THE CONTEXT OF SPOUSE CARE**

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This study examined the link between ambivalence and physical health in the context of spouse care. Ambivalence associated with caregiving and care receiving has been explored primarily in relation to adult child caregivers and their older parents. Guided by literature on intergenerational ambivalence, as well as marital quality and health, this study evaluated whether ambivalent feelings towards a partner have cross-partner effects on functional impairment among midlife and older married dyads. Data came from a nationally representative sample of continuously married heterosexual couples from the Health and Retirement Study, 2006-2010. Some of the dyads included in the study transitioned into the roles of spouse caregiver and care receiver to each other. For analyses, Actor-Partner Interdependence Models were estimated with multilevel modeling using the SAS Proc Mixed procedure. Results revealed that a new caregiver's elevated level of ambivalence towards the care receiver was linked to a significant increase in the care receiver's functional impairment over the 4-year period, in contrast to the no care contrast group. The new care receiver's ambivalent feelings towards the new caregiver were not associated with his (or her) own functional health. Functional health of a new spouse caregiver was not associated with ambivalence, either reported by him (or her) or the partner who is the care recipient. Our findings suggest that caregiver ambivalence could be a significant health risk factor for care receivers who are already in poor health. Psychosocial education programs for married couples dealing with a spouse' declining health should target reducing caregiver ambivalence.

## INTERDEPENDENCE BETWEEN AGING COUPLES: DEPRESSIVE SYMPTOMS, HEALTH AND SPOUSAL SUPPORT

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Prior studies have indicated that marital partners often face physical and mental health challenges together and provide support for one another in late adulthood. Our earlier work has highlighted the bidirectional nature of spousal care giving support (Kahana & Young, 1990). Yet, studies often emphasize the health and well-being of one spouse without considering the experience of the other spouse. In this study we used the Actor-Partner Interdependence Model (Kashy & Kenny, 2003) to examine how one's own health and spousal support impact the well-being of both spouses. We used a sample of 125 couples (N=250) who were participants in the Successful Aging Study (Kahana, Kelley-Moore and Kahana, 2012). Our findings indicate a significant association between one's health and marital satisfaction (actor effect). Physical health was negatively related to depressive symptoms (actor effect). Surprisingly, there were no significant associations between spousal support and depressive symptoms reported by either spouse. We found that higher levels of spouses' depressive symptoms related to less marital satisfaction reported by the spouse (actor effect). Depressed spouses had an adverse effect not only on their own marital satisfaction, but also on that of their spouse (partner effect). Contrary to expectations we found that both male and female spouses who had greater satisfaction with spousal support, reported lower levels of marital satisfaction. This study underscores the dyadic nature of couples dealing with health challenges. Spousal support in late life has an important impact on well-being of both spouses.

## 'TIL DIVORCE DO US PART: LATE LIFE DIVORCE FOLLOWING LONG-TERM MARRIAGE

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Late life divorce—commonly referred to as “grey divorce”—is a rising trend and parallels the growth of the older adult population. In 2010, 1 in 4 divorces were among adults age 50 and over. The purpose of our study was to get an in-depth understanding of the experiences of marriages that lead to divorce, the divorce process, and life following divorce in a sample of older adults aged 50+ who were formerly married for 20+ years. Qualitative data were collected and analyzed to understand the grey divorce experience—factors that determined or delayed the decision to divorce and divorcees' coping after divorce. Ten adults (7 women and 3 men; mean age 63.5) completed in-depth semi-structured interviews. Findings reveal that issues pre-marriage and during marriage contribute to decisions to divorce. Participants' stories demonstrate that marriages can last 20+ years despite problems because relationship issues are complex, and good experiences are mixed with bad ones. Though the marital histories of participants were affected by physical and emotional abuse, infidelity, poor communication, imbalanced household responsibilities, and undesired changes in partners, they also included periods of support and positive shared memories. These results provide us with a holistic and in-depth picture of the growing phenomenon of grey divorce. Outcomes of late life divorce have significant health and financial implications for both individuals and society. Thus, future research should continue to explore grey divorce as baby boomers age and attitudes regarding marital relationships evolve.

## LONGITUDINAL ASSOCIATIONS BETWEEN ILLNESS SEVERITY IN OSTEOARTHRITIS PATIENTS AND SPOUSE WELL-BEING

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Chronic illness severity may have negative implications for psychological well-being in family caregivers. However, little is known about the relationship between these measures over time. We examined longitudinal associations between changes in osteoarthritis patients' illness severity and changes in their spouses' depressive symptoms, negative affect, positive affect, and life satisfaction. Participants were 152 knee osteoarthritis patients and their spouses who were assessed at three time points across an 18-month period. Greater increases in illness severity were associated with greater decreases in life satisfaction at 6 months and at 18 months as well as greater decreases in positive affect at 18 months. The role of spouse-reported couple closeness (the extent to which the partner is included in one's concept of self) will be discussed as a moderator of these relationships. Our findings highlight the importance of assessing long-term changes in health-related outcomes for chronically ill patients and their close family members.

## DOES FAMILY AGREEMENT ON MILD COGNITIVE IMPAIRMENT AFFECT CARE PARTNERS' COPING?

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Family members with a relative with mild cognitive impairment (MCI) encounter potentially stressful changes in their daily lives, including the possibility that relatives disagree about the extent of memory loss. This study explored the relationship between family agreement about MCI-related cognitive changes and ways care partners managed associated stress. Semi-structured interviews with 56 family triads (the elder with MCI and two care partners) identified family members' acknowledgement of MCI, stressors, and coping. Coping strategies varied by the extent to which the family acknowledged changes in the elder's memory (completely, passively, partially, not at all). Care partners in families that completely acknowledged MCI were more likely than others to utilize behavioral coping strategies (e.g., exercise, leisure, private time) that often included accepting informal and formal support (e.g., help from other relatives, friends, adult care services). They also tended to accept the elder's memory problems better and reported more positive emotions (e.g., contentment) from their caregiving experiences than did care partners in other families. Collectively, the care partners within families that did not so readily acknowledge the early memory loss were more likely to minimize or ignore memory-related problems and to use resignation (“MCI is a normal part of aging”) and groundless hopefulness (“MCI will get better”) as coping strategies. This new finding – that care partner coping strategies are associated with family-level perception of MCI – has important implications for coping theory, suggesting that focusing only on individual-level appraisal, dispositions, and resources ignores the effects of the family context which can influence coping.

## SESSION 1265 (PAPER)

### CAREGIVERS AND END OF LIFE CARE

#### BIO-PSYCHOSOCIAL FACTORS ASSOCIATED WITH QUALITY OF LIFE AMONG RESIDENTS OF HOMES FOR THE AGED

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Background: Maintaining quality of life is a main goal in the care of residents in homes for the aged. Aim of study: To assess the correla-



tion between variables of the bio-psychosocial model and life quality in residents of homes for the aged in Israel, a multicultural society. Subjects and Methods: Residents in homes for the aged, MMSE score  $\geq 24$ , were included. Life quality was assessed by the WHOQOL-Bref including physical health, psychological, social relationship and environmental domains; pain by the Short Form McGill Pain Questionnaire; function by the Barthel Index; hope by the Herth Hope Index; and social support by the Social Support Questionnaire for Transaction and the Social Support Questionnaire for Satisfaction. Results: 100 participants, 63 females and 37 males, mean age 80.9 years. 60% reported pain. Correlation was found between: level of pain and physical health life quality ( $r = -0.487$ ,  $p < 0.01$ ); function and physical health, psychological and environmental life quality ( $r = 0.523$ ,  $r = 0.260$ ,  $r = 0.255$ , respectively,  $p < 0.01$ ); hope and physical health, psychological, social relationships and environmental life quality ( $r = 0.479$ ,  $r = 0.759$ ,  $r = 0.567$ ,  $r = 0.532$ , respectively,  $p < 0.01$ ). A moderate to strong correlation was found between social support and all domains of life quality. In multivariate analysis, factors predictive of physical health life quality were: pain, function, social support, and hope, and for other domains, social support and hope. Conclusions: More than half of the residents reported pain that affected their physical health. The association between social support, hope and quality of life supports the need for interventions to increase social support and maintain hope.

### **HOSPICE WORKER BURNOUT AND COMPASSION FATIGUE: DOES SELF-CARE MAKE A DIFFERENCE?**

S.H. Jones, *Social Work, Texas State University, San Marcos, Texas*

An estimated 1.5 million people received hospice services in the U.S. in 2012, with 83.4% of these being over age 65. The team members who provide these services often describe their work as a deeply rewarding privilege. Yet, the negative impact of the work has long been acknowledged, and the estimated 30% turnover of hospice clinical staff has been connected with job satisfaction and ultimately patient satisfaction. Although hospice services have been shown to provide high quality and cost-effective end-of-life care, recent regulatory changes are requiring hospices to do more with less, leading to increasing case-loads, documentation, and restrictions that hinder hospice workers from providing the quality care that they find rewarding. As the risk for burnout and compassion fatigue becomes a growing concern, the literature calls for a variety of self-care methods, which organizations encourage their employees to utilize. However, little research has been done on their effectiveness. This presentation will describe the results of a longitudinal research study that examined the effects of individualized self-care plans on burnout, compassion fatigue, and job satisfaction in 85 workers from 14 hospices in 15 U. S. states. Findings showed significant improvement in compassion fatigue but not burnout for post-test participants. Intent to leave was rated significantly higher and organizational support ratings were significantly lower. The role of personal, professional, and hospice demographics will be described, as well as possible explanatory factors revealed in qualitative data. Implications regarding the role of self-care for individual workers, hospice organizations, and policy-makers will be discussed.

### **WHAT ARE THE KEY SOURCES OF CAREGIVER BURDEN FOR HOSPICE FAMILY CAREGIVERS? A SYSTEMATIC LITERATURE REVIEW**

E. Sikorska-Simmons, C. Kursewicz, H. Pletcher, *UCF, Orlando, Florida*

Hospice family caregivers play a critical role in the provision of end-of-life care and are essential in enabling patients to die at home. Without adequate caregiver support, hospice patients are more likely to be transferred to an institutional setting, which could lead to poorer quality and more expensive care. Hospice caregiving can be demanding, stressful (especially considering the impending death of a loved one), and challenging when dealing with limited access to medical care.

Despite this recognition, little is known about hospice family caregivers. This systematic literature review addresses key challenges faced by family caregivers in managing daily care of patients receiving hospice care. The major databases (e.g., Medline, PsychINFO) were searched from 2000 to 2014 using the keywords: caregiving, caregiver burden, hospice, and end-of-life care. All studies that focused on informal caregivers for hospice patients in the US were included. In total 77 studies, the majority of which focused on morbidity and/or psychosocial aspects of caregiving and caregiver burden, were examined. Few addressed a broader context of hospice caregiving, such as economic costs, access to medical care, or availability of formal and informal support systems. More research is needed to identify the key sources of burden for hospice caregivers. Such research could guide efforts to help patients die at home, develop better support systems for caregivers, and improve the quality of end-of-life care.

### **EXPERIENCES OF CAREGIVERS SERVING AS STUDY PARTNERS IN DEMENTIA RESEARCH**

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Research on Alzheimer disease and other dementias usually requires a study partner for each participant. Typically, study partners are family members who are often the patient's informal caregiver. While study partners are vital to dementia research, little is known about their experiences. This qualitative study examined responsibilities and experiences of caregivers serving as dementia research study partners. Semi-structured interviews with 60 study partners involved in 11 dementia studies at two research sites were recorded. Interview transcripts were content analyzed by summarizing, coding the text and identifying themes and sub-themes in the data. Most caregivers were white (91.7%), the subject's spouse/partner (80.0%), female (61.7%) and retired (51.7%). On average, they were age 64.6 ( $\pm 11.6$ ), with 16.6 ( $\pm 3.3$ ) years of education. Study partners' tasks included participating in enrollment and post-enrollment decision-making, facilitating study visits (e.g., scheduling, transporting, accompanying the patient), serving as an informant (e.g., reporting changes in function/behaviors, adverse events), and ensuring protocol adherence (e.g., monitoring pill-taking, fasting for blood draws). They provided emotional support and encouragement to enable subjects to participate in procedures (e.g., cognitive testing, MRIs, LPs, infusions) and to complete studies. Aspects of attending study visits (e.g., travel/traffic, long visits/waiting) were burdensome to the majority of study partners, but most viewed studies' potential benefits (e.g., information on patients' status, hope for positive outcomes, contributing to scientific advancement) as outweighing study burdens. Study partners are critical to conducting dementia research. Their responsibilities should be made explicit during recruitment, and their interests as caregivers should be considered during research involvement.

### **FACILITATORS AND CHALLENGES IN PROXY DECISION-MAKING FOR PERSONS WITH DEMENTIA AT THE END OF LIFE**

H. Noh<sup>2</sup>, J. Kwak<sup>1</sup>, *1. University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, 2. The University of Alabama, Tuscaloosa, Alaska*

For persons with advanced Alzheimer's disease or other dementia, their family members, or designated healthcare proxies, make important end-of-life (EOL) care decisions. However, existing literature suggests that many proxies are uninformed about their role and experience challenges in EOL decision making. To better understand challenges and facilitators in informed decision-making by proxies of persons with advanced dementia, semi-structured in-depth interviews with 22 family healthcare proxies of persons with advanced dementia or Parkinson.

Open-ended questions were asked to the participants about the most important things influencing their decisions and challenges experienced in their decision-making for their family members. Data from the interview transcripts were analyzed using qualitative content analysis to search for themes across the interviews. Sixty-eight percent of proxies were caring for spouse/partner while 32% of proxies were caring for a parent. Themes on facilitators for informed decision-making included: knowledge of care receiver's preference; advance care planning; supportive healthcare providers and family; past experience with caregiving and decision-making; and spiritual or religious beliefs. Primary themes on challenges included: uncertainty about life sustaining treatments' benefits; uncertainty about care receiver's EOL wishes; lack of family support for proxy; conflicts between proxy's religious beliefs and care receiver's wishes; and anticipated grief and guilt from withholding life sustaining treatments. These findings suggest a need for providing systematic, decision support to provide education, clarify patient values, and facilitate family meetings for families of persons with dementia at the EOL.

## SESSION 1270 (SYMPOSIUM)

### THE RICHMOND HEALTH AND WELLNESS PROGRAM (RHWP) FOR OLDER ADULTS

**Chair:** P. Parsons, *Virginia Commonwealth University, Richmond, Virginia*

The Richmond Health and Wellness Program (RHWP) for Older Adults provides services targeting healthcare hotspots in Richmond, Virginia, with the goal of improving health outcomes and healthcare utilization within the community. The initial site, which opened in September 2012, is a Section 8 building for older adults with 247 residents. The population is 55% female, 62% Black, and 15% disabled with 53% receiving less than \$9,999 annual income. The majority are dual eligibles. Emergency room transport in 2012, before RHWP was established, totaled 153 transports of which 151 were classified as non-emergent. The program utilizes an interprofessional team of faculty and students to provide care coordination and health promotion. Through rigorous evaluation and a reflective adaptive process the program evolves to meet the needs of the community. The program is expanding to additional sites. It is funded through HRSA's Nurse Education Practice Quality and Retention (NEPQR) program.

### COOLING THE HOTSPOT: COMMUNITY-BASED INTERVENTIONS TARGETING HIGH UTILIZATION INDIVIDUALS

**A. Dow, P. Parsons, P.W. Slattum, *Internal Medicine, Virginia Commonwealth University, Richmond, Virginia***

Health care hotspots are described as population clusters where the burden of chronic disease, the utilization of health care services, and the costs associated with care are high. Most hotspots are located in poor and underserved urban areas. Targeting hotspots provides a focused strategy to improve the health status of these individuals and communities. Several academic institutions are working within these communities to develop and implement community-based interventions. This symposium describes three programs in different urban localities, the facilitating factors and barriers to success, and the approach to demonstrating value through measurement of changes in health outcomes and overall cost. The Richmond Health and Wellness Program, from Virginia Commonwealth University, runs a weekly, interprofessional care coordination clinic within a Section 8 apartment building. The second program, Bridges to Health of the Fair Share Northgate II organization located in Camden, New Jersey, builds on existing care delivery processes to provide enhanced education, counselling, and care coordination services to low income seniors. The third program, based in the Fuqua Center for Late Life Depression at Emory University, works with the Atlanta Housing Authority to provide mental health services

to low-income seniors. Using these programs as a foundation, attendees will be able to consider the issues around creating a similar program and develop plans for future interventions of impact.

### FAIR SHARE NORTHGATE II BRIDGES TO HEALTH PROGRAM

**M. Mock, *Fair Share Northgate II, Camden, New Jersey***

Fair Share Northgate II (FSNGII), a non-profit organization in NJ, provides affordable housing and social services for low-income seniors, disabled individuals and families. Fair Share Northgate II partnered with Dr. Jeff Brenner and the Camden Coalition of Healthcare Providers (CCHP) as part of a nationally recognized program that aims to transform how healthcare is delivered in urban settings across the country. The partnership marries healthcare provision with social service provision to create an innovative holistic approach to meeting the high medical risk/high medical cost needs of our urban low-income minority elderly population. Our Bridges to Health program expands the scope of social services to imbed care coordination and health programming. Our program includes evidenced-based health education, clinical counseling services, post-hospital care coordination, assisted living and other health/wellness programs. The goal of these programs is to improve health and functional ability in order to avoid, minimize or forestall institutional placement.

### FUQUA CENTER GERIATRIC PSYCHIATRY SERVICES IN LOW-INCOME HOUSING

**E.H. Byrd, J.T. Wise, *Division of Geriatric Psychiatry, Fuqua Center for Late-Life Depression, Emory University, Atlanta, Georgia***

Since 2008, the Fuqua Center for Late-Life Depression at Emory University has provided psychiatric services in low-income housing with a team of three advanced-practice nurses and a social worker. Similar to the Psychogeriatric Assessment and Treatment/Teaching in City Housing program, our team focuses on comprehensive psychiatric assessment, education, and medication management and uses the Gatekeeper model to emphasize referral and care coordination among various service providers, such as primary care, in-home counselors, and public mental health and aging services. Approximately 80 patients are seen annually (46% Black, 51% Caucasian, 70% female) in 15 metro-Atlanta high rises where about 75% of residents are age 62+. Medical, nursing, and social work students shadow during these home visits as part of their psychiatry education. A goal of this project is to develop a sustainable care model; drawing together existing healthcare and housing agencies in a collaborative network serving older and financially disadvantaged adults.

## SESSION 1275 (SYMPOSIUM)

### COGNITIVE IMPAIRMENT, DEPRESSIVE SYMPTOMS, AND ORAL HEALTH IN CROSS-CULTURAL SETTINGS

**Chair:** B. Wu, *Duke University, Durham, North Carolina*

**Discussant:** R. Jablonski, *The University of Alabama at Birmingham, Birmingham, Alabama*

Increasing evidence suggests that cognitive impairment and depressive symptoms are associated with oral health. This symposium aims to enhance knowledge in this area, by including trajectory analysis on intra-personal changes of depressive symptoms on oral health, from the study of another country; disentangle the relationship between cognitive impairment and oral health; and developing intervention strategies to improve oral health in individuals with dementia. Using a subsample of the Health and Retirement Study, the first paper analyzed the trajectories of depressive symptoms from 1998-2008 and examined how they predicted oral health in 2008. This paper shows that persistent clinically significant depressive symptoms over time are linked with poorer oral health. The second paper included a sample of community-dwelling older adults aged 70+. The results showed that cognitive impairment

on oral health outcomes was mediated by oral hygiene behaviors: brush and flossing. This study demonstrates the importance of oral hygiene for individuals with cognitive impairment. The third paper was a quality improvement evaluation pilot study that evaluated the feasibility and preliminary outcomes of a multi-pronged, interprofessional approach to improving oral hygiene among Veterans with dementia in a long-term care setting. The study suggests that dementia-specific oral hygiene care is feasible, but requires investment in staff training and administrative commitment. Using a large community survey from China, the fourth paper found that significant tooth loss was associated with dementia. It adds more evidences to the body of knowledge on the association between tooth loss and cognitive impairment in developing countries.

#### **PILOT EVALUATION OF A DEMENTIA-SPECIFIC ORAL HYGIENE PROGRAM IN A VA LONG-TERM CARE UNIT**

E. McConnell<sup>1,2</sup>, K. Lee<sup>1,2</sup>, C. Downey<sup>1,2</sup>, M.V. Spainhour<sup>2</sup>, L. Galkowski<sup>2</sup>, D. Drafts<sup>2</sup>, R. Horwitz<sup>2</sup>, *1. Duke University, Durham, North Carolina, 2. GRECC-VAMC, Durham, North Carolina*

Gaps in oral care among long-term care (LTC) residents with dementia are well-documented and are attributable to patient-level, staff-level, and system-level barriers. To evaluate a dementia-specific oral hygiene (DOHP) program, nursing staff on two VA-LTC units (n = 88) completed self-instructional modules followed by hands-on training in both dementia skills and oral care skills, demonstrating improvements in knowledge, attitudes and skills. Weekly inter-professional rounds supported staff as they implemented the DOHP. Eleven long-stay Veterans with diverse patterns of oral health, functional and cognitive status participated in the pilot evaluation. Preliminary results show improvement in oral plaque, and in psychological well-being measures. Evidence of adoption and implementation was demonstrated through integration of new care practices into existing staff roles, and implementation of new oral hygiene indicators in the electronic record. Outcomes from the pilot evaluation suggest that barriers to oral care can be isolated and successfully addressed.

#### **TOOTH LOSS AND COGNITIVE FUNCTION AMONG CHINESE OLDER ADULTS: A COMMUNITY-BASED STUDY**

J. Luo<sup>1,2</sup>, B. Wu<sup>3</sup>, Q. Zhao<sup>4</sup>, Q. Guo<sup>4</sup>, H. Meng<sup>4</sup>, Z. Hong<sup>4</sup>, D. Ding<sup>4</sup>, *1. Public Health School, Fudan University, Shanghai, China, 2. The Key Laboratory of Public Health Safety of Ministry of Education, Shanghai, China, 3. School of Nursing and Global Health Institute, Duke University, Durham, North Carolina, 4. Institute of Neurology, Huashan Hospital, Fudan University, WHO Collaborating Center for Research and Training in Neurosciences, Shanghai, China*

Previous studies have shown an association between cognitive function and oral health. However, most of these studies had no comprehensive clinical diagnosis of cognitive impairment. Furthermore, no study has examined the association among the Chinese population. This study, conducted from 2009 to 2011, included 3,063 community-dwelling older adults age 60+ in Shanghai, China. Oral health was assessed using a self-administered questionnaire. Cognitive function was assessed by neurologists using DSM-IV and Petersen criteria. Individuals with dementia lost an average of 18.7 teeth, much higher than those with MCI (11.8) and cognitive normal (9.3) (p<0.001). After controlling for socio-economic factors, lifestyle, health status and ApoE-ε4, loss of 16 teeth or more was significantly associated with dementia (OR=1.57, 95%CI: 1.12, 2.21). This study added more evidence to the body of knowledge on the association between tooth loss and cognitive impairment. It further illustrates the importance of oral health in improving systemic health.

#### **TRAJECTORIES OF DEPRESSIVE SYMPTOMS AND ORAL HEALTH IN OLDER ADULTS**

C. Hybels<sup>1</sup>, J.M. Bennett<sup>2</sup>, L.R. Landerman<sup>1</sup>, J. Liang<sup>2</sup>, B.L. Plassman<sup>1</sup>, B. Wu<sup>1</sup>, *1. Dept of Psychiatry, Duke University Medical Ctr, Durham, North Carolina, 2. University of Michigan, Ann Arbor, Michigan*

Using a sample of 944 adults aged 60 or older who completed the oral health module of the Health and Retirement Survey (HRS) in 2008, we analyzed the trajectories of depressive symptoms from 1998-2008 and examined how they predicted oral health in 2008. Depressive symptoms were measured with a modified version of the CES-D. Three distinct subgroups of older adults were identified. Group 1 (43%) had little or no depressive symptoms over the study period, while Group 2 (41%) remained at a subthreshold level. Group 3 (16%) maintained higher CES-D scores. Being in Group 3 was associated with poorer mouth condition (bleeding gums, gum sensitivity, and food avoidance) (p<0.0001) and poorer self-rated oral health (p=0.0003). Membership in Group 1 or 2 was not significantly associated with the outcomes. Clinically significant depressive symptoms persistent over time are linked with poorer oral health. (NIH R01DE019110)

#### **ORAL HYGIENE BEHAVIORS AS A MEDIATOR BETWEEN COGNITIVE IMPAIRMENT AND ORAL HEALTH AMONG COMMUNITY-DWELLING OLDER ADULTS**

K. Lee<sup>1</sup>, B. Wu<sup>1</sup>, B.L. Plassman<sup>2</sup>, *1. Duke University School of Nursing, Durham, North Carolina, 2. Duke University School of Medicine, Durham, North Carolina*

It is a common problem that cognitively impaired elders have poor oral health. This study was conducted to elucidate the mediating effect of oral hygiene (i.e., brushing and flossing) on the relationship between cognitive impairment and oral health. The study sample included 327 older adults age 70+ in West Virginia. Structure equation modeling was used to test for mediation. The results showed that a higher level of cognitive impairment was directly associated with more plaque and decayed coronal surfaces. Brushing mediated the relationship between cognitive impairment and plaque index and marginally mediated the relationship between cognitive impairment and the number of decayed coronal surfaces. Flossing was a significant mediator between cognitive impairment and the number of decayed coronal surfaces. This study demonstrates the importance of oral hygiene among individuals with cognitive impairment. It is important to develop interventions to improve oral hygiene for this population.

#### **SESSION 1280 (SYMPOSIUM)**

##### **BEHIND CLOSED DOORS: PHYSICAL RESTRAINT USE IN HOME CARE**

**Chair:** M.H. Bleijlevens, *Health Services Research, Maastricht University/CAPHRI, Maastricht, Netherlands*

**Co-Chair:** E.E. Capezuti, *Hunter-Bellevue School of Nursing; Hunter College of the City University of New York, New York, New York*

**Discussant:** L.K. Evans, *University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania*

The use and reduction of physical restraints in persons with dementia has been studied extensively in both nursing homes and hospitals. Their use in home care has not been thoroughly investigated. The use of physical restraints in home care is undesirable and has already been reported anecdotally by nursing staff. However, reliable figures about restraint use in this setting are lacking, and the prevention of their use needs our attention. Home care is a growing arena for care of older adults due to shifting demographic and technological trends in combination with an active aging-in-place agenda that supports elders living in their own homes as long as possible. These trends are resulting in increasing numbers of frail older persons living in the community despite major

cognitive and functional disabilities: conditions that are associated with an increased use of restraints. Therefore, this symposium will focus on the state of knowledge to date on the practice and prevalence of physical restraint use in home care. First, presenters from the Netherlands and Belgium will discuss the prevalence of physical restraint use at home in their countries. The third speaker will present the results from a study on physical restraint usage in both home care and institutional long-term care in 8 European countries (England, Estonia, France, Finland, Germany, the Netherlands, Spain, and Sweden). The discussant will reflect on the prevalence of physical restraint use in home care, discuss the sense of urgency in describing and confronting the practice in the future, and facilitate on-site discussion.

#### THE USE OF RESTRAINTS IN PERSONS RECEIVING HOME CARE

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**Introduction** The use of restraints in persons with dementia in their homes is unknown. This study aimed to get insight into the prevalence of restraints at home. **Methods** Using a cross-sectional design, the use of restraints (e.g., belt restraints, bed rails, locking doors) in persons receiving professional home care was rated by nursing staff. Results The convenience sample consisted of 3154 persons receiving professional home care; 272 persons had a formal indication for receiving psychogeriatric home care. Restraints were used in 21% of the persons in this group. Bedrails were used most often (4%), belt restraints were not used at all. **Conclusion** The prevalence of restraint use at home is rather low. However, knowing that number of persons with dementia will increase in the next decade, and will stay in their homes as long as possible, prevention of the use of restraints is needed.

#### RESTRAINT USE IN THE HOME CARE SETTING: A CROSS NATIONAL PREVALENCE STUDY IN FLANDERS

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**Introduction:** Despite the growing demand for home care, research about restraint use in this setting is scarce. **Methodology:** To gain insight in the use of restraints in home care, we conducted a cross national prevalence study. A random sample of 8000 older patients cared by the Wit-Gele Kruis, a home care organization of nursing in Flanders, were selected. **Results:** 6397 patients (mean age 80.6 years) could be included, of which 24.7% were restrained. Bedrails (24.1%), geriatric chair (16.2%), breaks on the wheelchair (14%) and locking the house (13.2%) were the most used types of restraints. The family (55.3%) most often initiated restraints, followed by the nurse (37.2%), patient (24.9%) and GP (11.7%). **Conclusions:** Restraint use in home care is common and seems to be even more complex than in other settings. Multidisciplinary interventions and guidelines (including risk assessment procedures and appropriate education) to decrease its use are urgently needed.

#### RESTRAINTS PREVALENCE IN HOME CARE AND NURSING HOMES: RESULTS FROM THE EUROPEAN RIGHTTIMEPLACECARE STUDY

M.H. Bleijlevens<sup>1</sup>, G. Meyer<sup>2</sup>, J.P. Hamers<sup>1</sup>, R. Consortium<sup>1,2</sup>, 1. *Health Services Research, Maastricht University/CAPHRI, Maastricht, Netherlands*, 2. *Institute of Health and Nursing Science, Medical Faculty, Martin-Luther-University Halle-Wittenberg, Halle, Germany*

Prevalence figures of physical restraint use in home care are scarce. The prevalence of physical restraint use in nursing homes has been

reported frequently and ranges between 4% and 85%. This variety can be explained by differences in definitions, data collection techniques, and sample sizes used. The current studies aims to assess the prevalence of physical restraint use among people with dementia in home care and nursing homes in 8 European countries, using a cross sectional survey. In the nursing home setting 31% of the people with dementia were restrained (ranging from 7% in France to 83% in Spain). The use of physical restraints in home care turned out to be considerably lower (10%; ranging from 3% in the Netherlands to 19% in Germany). There is great variation in physical restraint usage among European countries and settings, possibly caused by differences in culture and nursing traditions.

#### SESSION 1285 (SYMPOSIUM)

##### NATIONAL EVALUATION OF A QUALITY IMPROVEMENT PROGRAM DESIGNED TO REDUCE UNNECESSARY HOSPITALIZATIONS OF NURSING HOME RESIDENTS

**Chair:** J. Ouslander, *Florida Atlantic University, Boca Raton, Florida*

**Co-Chair:** R.M. Tappen, *Florida Atlantic University, Boca Raton, Florida*

**Discussant:** R. Kane, *University of Minnesota, Minneapolis, Minnesota*

Hospitalizations of nursing home (NH) residents are frequent and associated with numerous complications that cause morbidity and increase health care costs. Prior research has demonstrated that a substantial number of these hospitalizations may be preventable. This symposium will review the background, design, implementation, and preliminary findings from a national evaluation of the INTERACT (Interventions to Reduce Acute Care Transfers) quality improvement program supported by the National Institute for Nursing Research of the National Institutes of Health. The evaluation is a randomized trial with three groups: 1) NHs implementing INTERACT over a 12-month period; 2) a control group of NHs; 3) and a group of NHs contacted quarterly to review any programs they have in place to reduce hospitalizations (included to examine a potential Hawthorne effect). A total of 264 NHs met eligibility criteria and were block randomized based on their self-reported number of activities designed to reduce hospitalizations, and their 30-day hospital readmission rates. The intervention includes the involvement of a facility-based champion leading program implementation; provision of INTERACT program materials; an online training curriculum supported by webinars with project staff; monthly calls with individual NHs; and feedback to NHs on selected self-reported process and outcome measures. Numerous challenges have been encountered in the design of the trial, planned analyses, and implementation of the INTERACT program. Strategies employed to address these challenges, and implications for interpretation of the outcomes of the trial and for future NH research will be discussed.

##### BACKGROUND AND RATIONALE FOR THE TRIAL

A. Bonner<sup>2</sup>, R.M. Tappen<sup>1</sup>, J. Ouslander<sup>1</sup>, 1. *Florida Atlantic University, Boca Raton, Florida*, 2. *Northeastern University, Boston, Massachusetts*

About one in five nursing home (NH) residents are hospitalized each year, and many of these hospitalizations may be avoidable. Hospitalizations are driven by misaligned incentives: lack of compensation for more acutely ill residents without a 3-day hospitalization; higher payment and convenience for physicians in the acute care setting; lack of skilled staff or availability of primary care providers in many NHs; and lack of timely diagnostic services. In addition, early studies on INTERACT (Interventions to Reduce Acute Care Transfers) suggested that inadequate advance care planning and family pressure to hospitalize also played a role. While some NHs may be capable of caring for sicker

residents, regulations and legal liability issues have not supported such a care delivery system. INTERACT, a quality improvement program to improve management of acute changes in condition and prevent hospital transfers when safe and feasible, is currently being tested in an NIH-funded randomized clinical trial.

#### DESIGN OF THE TRIAL

J. Ouslander, R.M. Tappen, *Florida Atlantic University, Boca Raton, Florida*

This evaluation is being conducted as a randomized, controlled trial of a quality improvement program. The Florida Atlantic University Institutional Review Board approved the trial as minimal risk and meeting federal criteria for waiver of informed consent. A Safety Monitoring Committee is reviewing trial progress and changes in quality indicators that might be related to INTERACT implementation. The design employs three groups: intervention, control, and a group of NHs contacted quarterly in order to partially address the potential for a Hawthorne effect created by focusing attention on reducing hospitalization rates. A critical challenge has been the rapidly changing health care environment, in which hospitals are financially penalized for high readmission rates. In many areas of the country this is putting enormous pressure on NHs to manage sicker patients without transfer to the hospital, which may result in contamination of the control NHs and challenges in the interpretation of trial outcomes.

#### CHALLENGES IN IMPLEMENTING THE INTERACT PROGRAM

M. Rojido, D.G. Wolf, R.M. Tappen, J. Ouslander, *Florida Atlantic University, Boca Raton, Florida*

A total of 88 nursing homes were identified as the initial intervention group. They received training via an online curriculum and a series of webinars, were provided kits containing INTERACT tools, and participated in monthly support calls. Throughout implementation, intervention fidelity was tracked through training attendance, INTERACT tool use, and participation on monthly calls. Levels at which nursing homes were able to implement INTERACT were categorized for 71 of the homes as low (24 homes; average number of tools used 5.4), medium (26 homes; average number of tools used 7.8), and high (21 homes; average number of tools used 9.6). Qualitative data from the monthly interviews revealed several major barriers to successful implementation. Some of these barriers included staff, family and physician resistance, perceived time constraints, and staff turnover. The implications of these data for the success of this quality improvement intervention in nursing homes will be discussed.

#### PRELIMINARY DATA ON THE EFFECT OF INTERACT IMPLEMENTATION ON 30-DAY RE-HOSPITALIZATION RATES

R.M. Tappen, D. Newman, G. Engstrom, J. Ouslander, *Florida Atlantic University, Boca Raton, Florida*

Participants in the initial intervention group entered all nursing home admissions and hospital transfers into an Excel-based electronic tracking tool. Data were de-identified by the nursing home and transmitted monthly. Fifty-two nursing homes submitted complete data for the first eight months of implementation of the INTERACT program. Thirty-day readmission rates were calculated for the patient population as a whole across the 52 reporting nursing homes. Observation stays and emergency department visits are not included in this rate. The re-hospitalization rate decreased steadily over the eight months of implementation. These preliminary data suggest that implementation of the INTERACT program resulted in a greater decrease in 30-day readmission rates than the reported modest decrease in national rates over a comparable time period.

## SESSION 1290 (PAPER)

### COGNITION

#### THE SMART STUDY OF RESISTANCE TRAINING AND/OR COGNITIVE TRAINING FOR MILD COGNITIVE IMPAIRMENT: A RANDOMIZED, DOUBLE-BLIND, DOUBLE-SHAM CONTROLLED CLINICAL TRIAL

M.A. Fiatarone Singh<sup>1</sup>, N. Gates<sup>2</sup>, N. Saigal<sup>1</sup>, G.C. Wilson<sup>1</sup>, H. Brodaty<sup>2</sup>, N.A. Singh<sup>3</sup>, P.S. Sachdev<sup>2</sup>, M. Valenzuela<sup>1</sup>, *1. University of Sydney, Lidcombe, New South Wales, Australia, 2. UNSW, Randwick, New South Wales, Australia, 3. Balmain Hospital, Balmain, New South Wales, Australia*

Background: Mild cognitive impairment (MCI) increases dementia risk; however the efficacy of physical or cognitive training is uncertain. The Study of Mental and Regular Training (SMART) was the first randomized, double-blind, sham-controlled trial investigating effects of cognitive training (CT) and high intensity progressive resistance training (PRT) in MCI. Methods: PRT and computerized CT were supervised 2-3 d/wk for 6 months with 18-month follow-up. Primary outcomes were Alzheimer's Disease Assessment Scale (ADAS-Cog), and Bayer Activities of Daily Living. Results: 100 adults [70.1 (6.7) years; 68% women] enrolled. Resistance Training significantly improved primary outcome ADAS-Cog; [relative effect size ES (CI): -0.33 (-0.73, 0.06);  $p < 0.05$ ] at 6 months, and executive function (WAIS Matrices;  $p = 0.016$ ) across 18 months. Normal ADAS-Cog scores occurred in 48% after PRT vs. 27% without PRT [ $p < 0.03$ ; Odds Ratio (95% CIs) 3.50 (1.18, 10.48)]. Resistance Training improved visual/constructional memory [ES (CI): 0.45 (0.05, 0.85);  $p = 0.04$ ] but worsened auditory memory ( $p < 0.03$ ). Cognitive Training only attenuated decline in Memory Domain at 6 months ( $p < 0.02$ ). Resistance Training 18-month benefit was 74% lower ( $p = 0.02$ ) for Executive Domain when combined with Cognitive Training [z-score change = 0.11 (-0.60, 0.28) Combined vs. 0.42 (0.22, 0.63) PRT] and 48% lower ( $p < 0.04$ ) for Global Domain [z-score change = 0.23 (0.10, 0.36) Combined vs. 0.45 (0.29, 0.61) PRT]. Conclusions: Resistance Training significantly improved the primary outcome: global cognitive function, with maintenance of executive and global benefit 12 months later. Combining Resistance with Cognitive Training diminished these benefits. Further trials of high intensity Resistance Training in MCI for prevention of incident dementia are warranted.

#### EFFECTS OF AGING AND DISEASE ON FRONTAL BRAIN ACTIVATION WHILE WALKING AND DUAL TASKING

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Background: The performance of cognitive tasks while walking increases oxygenated hemoglobin (HbO<sub>2</sub>) levels within the prefrontal cortex, a brain region linked to cognition and locomotor control. Aging apparently reduces this response. We aimed to assess the effects of aging and Parkinson's disease (PD) on hemodynamic-activation during walking and dual-tasking using functional near-infrared spectroscopy (fNIRS). Methods: Subjects walked at a comfortable speed, with and without dual-tasking (serial-subtractions). fNIRS, with probes at Brodman's Area 10, determined HbO<sub>2</sub> levels for each condition, relative to quiet standing values. RM-ANOVA determined differences among groups and conditions. Results: Subjects included: 23 young adults (30.9 ± 3.7yrs), 16 older adults (71.1 ± 1.6yrs), and 24 PD patients

(77.7±1.3yrs). HbO2 levels differed between the conditions in all groups ( $p=0.02$ ). Compared to quiet standing, the PD group had the largest HbO2 increase during usual-walking (PD:  $0.44\pm 0.11\mu\text{M}$ ; older adults:  $0.09\pm 0.12\mu\text{M}$ ; young adults:  $0.02\pm 0.08\mu\text{M}$ ). Conversely, the difference between dual-task walking and usual-walking was largest in the young adults and lowest in the patients with PD (PD:  $0.05\pm 0.12\mu\text{M}$ ; older adults:  $0.10\pm 0.07\mu\text{M}$ ; young adults:  $0.26\pm 0.09\mu\text{M}$ ). PD disease duration was negatively associated with the change in HbO2 between conditions ( $r=-0.51$ ,  $p=0.082$ ). Conclusions: The present findings are consistent with the idea that cognitive compensation is relied upon during usual-walking in aging and to a greater extent in PD, as manifest in frontal lobe hemodynamic-activation. During dual-tasking, already taxed cognitive resources limit further activation in PD and aging, while hemodynamic activation is observed in healthy young adults. This may partially explain the decreased dual-task walking abilities in aging and PD.

#### GENETICS AND COGNITIVE AGEING IN RELATIVELY YOUNG HEALTHY PERSONS – THE DOETINCHEM COHORT STUDY

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**Background** Several genetic variations have been associated with Alzheimer's disease, but it is unclear whether these genes are also associated with non-pathological cognitive ageing. **Methods** In the present study, APOE e2/3/4, BIN1, CLU, ABCA7, CR1, and PICALM are studied in relation to 10-year cognitive decline in 2200 men and women of the Doetinchem Cohort Study, aged 43-70 years at baseline. DNA was extracted from buffy coat samples and genotyped using KASPTM. Cognitive functioning was assessed 3 times: at baseline, and at 5 and 10 years of follow-up using a cognitive test battery including a verbal learning test, Colour Word Stroop test, Letter Digit Substitution Test, and a fluency test. Based on the results of these tests, a global cognitive score and three cognitive domain scores (memory, speed, and flexibility) were calculated. Associations between genes and cognitive decline were analysed using random intercept models. **Results** Persons with APOE E3/E4 ( $p<0.05$ ) or APOE E4/E4 ( $p<0.0001$ ) declined more rapidly in global cognitive function and especially memory function, while persons with APOE E2/E2 ( $p=0.04$ ) declined slower in global cognitive function than persons with APOE E3/E3. At adult age, average cognitive function was higher for persons with APOE E3/E4 ( $p=0.02$ ) and APOE E4/E4 ( $p<0.0001$ ) in contrast to persons with APOE E3/E3. For the other polymorphisms, no significant associations were observed with cognitive decline in our healthy population. **Conclusions** In our relatively young and healthy population, having at least one APOE e4 allele was associated with more rapid (non-pathological) cognitive decline.

#### GENETIC VARIANTS ASSOCIATED WITH LONGITUDINAL DECLINE IN EPISODIC MEMORY AFTER AGE 60 IN HRS

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**Background:** Decline in memory ability is a common aspect of aging but individuals vary greatly in slope and decline. There is strong evidence that genetics explains the level of ability, yet not as much examination has been done with regard to decline. Thus, determining possible genetic variants that contribute to changes in memory over time may help identify contributors to cognitive decline in older age. We used a summed index of delayed and immediate recall measures to assess episodic memory (EM). The study included participants in the Health and Retirement Study, assessed for EM between 1996 and 2012, with genetic data. Genetic data comprised 2.4 million single nucleotide

polymorphisms (SNPs) per individual. **Methods:** First, we used a two-slope mixed effects model to estimate individual change in EM over time and parameters for rate of change. Using parameters for those age 60 and over, we conducted a genomewide association scan (GWAS) for change in EM, including covariates for sex and ancestral informative markers ( $N=11,209$ ; mean age= $71.0\pm 8.0$ , range 60-107; 58% female). Third, we examined whether the same genetic variants influenced levels of EM at age 60. **Results:** Age of the sample was related to decline in EM scores ( $\beta=-0.30$ ,  $p<.0001$ ). One SNP was strongly associated with rate of decline in EM ( $P<5.0\times 10^{-8}$ ), two were associated at  $P<1.5\times 10^{-7}$ , and seven others were suggestive of association ( $p<2.0\times 10^{-6}$ ). Further findings related to level of EM will be presented. **Conclusions:** Findings have important implications for determining the genetic architecture of memory level and decline in older age.

#### EFFECTS OF PROCESSING SPEED TRAINING ON AGE-RELATED COUPLING OF SENSORIMOTOR AND COGNITIVE FUNCTIONS

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Aging is characterized by increasing interdependencies between sensorimotor and cognitive functioning. Slowed speed of information processing may account for a substantial proportion of age-associated decline in these two functional domains. The present study aimed to determine whether (i) processing speed acts as a common cause to behavioral slowing in sensorimotor (Fitts' law) and cognitive (Hick's and Sternberg's law) tasks, and (ii) processing speed training in one domain (sensorimotor) transfers to another domain (cognitive). Thirteen cognitively normal older adults and ten patients with dysexecutive syndrome performed a discrete aiming task (Fitts' law), a choice reaction time task (Hick's law), and a short-term memory scanning task (Sternberg's law). Task difficulty was parametrically manipulated to estimate group-related differences in information processing speed (i.e., slope of the law in each task). Then, the patients practiced the Fitts' task over a four-week period, 3 times per week and 30 minutes per session. Processing speed was assessed before and after practice in both trained and untrained tasks. The slopes of Hick's, Sternberg's and Fitts' laws were steeper but also closer to each other in patients than in healthy controls. Moreover, training improved performance on the trained task (Fitts) so that, after practicing, patients outperformed healthy controls. More importantly, the increased processing speed transferred to other untrained cognitive tasks. Collectively, these findings suggest that functional capacities tend to be more and more undifferentiated, and that behavioral intervention for processing speed may open a new avenue for the prevention of the widespread age-related changes in function across domains.

## END OF LIFE

## PREVALENCE OF ADVERSE END-OF-LIFE NURSING CARE QUALITY OUTCOMES AMONG CRITICALLY-ILL OLDER ADULTS

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**BACKGROUND:** Critically-ill older adults, particularly those receiving mechanical ventilation (MV), are at risk for poor nursing care quality outcomes at end-of-life (EOL). The existential implications of these outcomes may be greatest among patients who experience periods of sustained wakefulness. The purpose of the current study was to describe prevalence of nurse-sensitive care outcomes for this population. **METHODS:** We conducted a secondary analysis of a retrospective cohort of 1440 randomly selected ICU admissions to 6 ICUs in 2 academically-affiliated hospitals in 2009-2011 among adults requiring MV with >12 hours of sustained wakefulness. We abstracted electronic medical records for up to 28 days for outcome data on physical restraint, unrelieved pain, and heavy sedation. We defined patients at EOL as those at high risk of dying (APACHE III>63) and/or those who died during hospitalization. **RESULTS:** 652/1400 (45.3%) patients were ≥65, and 440/773 (56%) were at EOL. Older adults at EOL spent on average 39.4% of ICU days in restraint (95%CI=36.6,42.2), 47.8% of ICU days with unrelieved pain (95%CI=45.1,50.5), and 38.8% of ICU days with heavy sedation (95%CI=36.3,41.4). **IMPLICATIONS:** The prevalence of adverse nursing care quality outcomes among critically-ill older adults at EOL with sustained wakefulness is high. Our findings on pain prevalence (47.8%) are not unlike those cited in the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments (SUPPORT), where a similarly-aged cohort experienced comparable levels of pain. This lack of progress over nearly 20 years is disappointing, highlighting the persistent difficulty improving EOL care for this population.

## INFLUENCE OF ANTIPSYCHOTIC DOSE AND DURATION ON MORTALITY AMONG NURSING HOME RESIDENTS WITH APPROPRIATE INDICATIONS FOR USE

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Although growing evidence suggests antipsychotic use is linked to increased mortality among nursing home residents, it remains unclear whether risk varies by indications for use, since dose and duration regimens vary by treated condition. Using 2007-2009 Medicare administrative data linked to Minimum Data Set 2.0 files, this study estimated mortality among three mutually-exclusive cohorts of new antipsychotic users living in nursing homes with serious mental illness (SMI; n=7020), dementia with behavioral symptoms (dementia+behavior; n=902), or delirium (n=1807). Antipsychotic dose and duration of therapy were assessed monthly. Dose was measured as modified standardized daily dose (mSDD), with mSDD>1.0 above recommended geriatric dose. Duration was categorized as ≤30, 31-60, 61-90, and 91-184 days (SMI and dementia+behavior) and ≤7, 8-30, 31-90, and 91-184 days (delirium). Discrete time models were used to estimate hazard of death, with mSDD and duration as time-dependent exposures. Antipsychotic dose varied by indication, with mSDD>1.0 ranging from 10.6% (delirium) to 17.1% (SMI). Duration ranged from 89 days (delirium) to 97 days (dementia+behavior). In all three cohorts, antipsychotic users with mSDD≤1.0 had significantly lower mortality than

users with mSDD>1.0 (HRSMI=0.77, 95%CI=0.68-0.89; HRdementia+behavior=0.55, 95%CI=0.38-0.80; HRdelirium=0.62, 95%CI=0.45-0.86). Among all three cohorts, the highest risk of mortality occurred during the first month of antipsychotic use. Regardless of indication, lower mortality was observed when new antipsychotic use was limited to within-recommended geriatric dose and duration guidelines. Prescribers should closely monitor antipsychotic dosage during the first month of initiation, and tailor dose and duration regimens to individuals' indications.

## THE QUALITY OF END-OF-LIFE CARE IN VA NURSING HOMES

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**BACKGROUND:** The quality of end-of-life (EOL) care in nursing homes, where over 25% of older Americans receive care near death, is often inadequate. Most of the VA facilities including 132 Community Living Centers (CLCs = nursing homes) have palliative care teams; however, there is little evidence about the quality of EOL care in CLCs compared with that of other inpatient VA settings. The objective of this study is to compare quality of EOL care indicators and family evaluation of EOL care in CLCs with those of acute, intensive, and hospice/palliative care units. **METHODS:** Retrospective medical chart review of all deceased Veterans (n=57, 397) and telephone survey with next-of-kin of deceased Veterans using the Bereaved Family Survey (n=33,497), in 145 inpatient VA Medical Centers including 132 CLCs, across the U.S. Measurements included four indicators (e.g., palliative consult, patient and family contact with a chaplain, and emotional support provided to family members post-Veteran death) of optimal EOL care extracted from chart review and families' global evaluation of the quality of EOL care (Excellent/Very Good, Good, Fair/Poor) from the survey. **RESULTS:** Quality of EOL care indicators and family evaluation of EOL care for Veterans who died in CLCs were worse than those of Veterans dying in hospice/palliative care units, but were better than those in acute and intensive care units. **CONCLUSION:** Findings indicate that the integration of palliative care practice can promote the quality of EOL care in CLCs. Future research should examine additional factors associated with better EOL care in nursing homes.

## LIFE-SPACE PREDICTS END-OF-LIFE HEALTHCARE UTILIZATION AMONG COMMUNITY-DWELLING OLDER ADULTS

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**Background:** Functional decline predicts hospitalization and expenditure at the end-of-life, but there is little data on the role of mobility, as measured by life-space, on healthcare utilization. **Methods:** The UAB Study of Aging is a prospective cohort study of community-dwelling older adults >65 years. Data on patient and clinical characteristics were collected at baseline by in-home assessment. Life-space, emergency department (ED) utilization and hospitalizations were assessed by telephone follow-up every 6 months for up to 8.5 years or until death. The impact of life-space on ED utilization and hospitalization in the final 12

months prior to death was examined using multivariate logistic regression models. Results: At the end of the study period, 433 (43.3%) of the original 1,000 participants had died. There were 49 ED visits and 90 hospitalizations in the final 12 months for the 433 participants. Every one point decline in life-space was independently associated with ED utilization (Odds Ratio 1.016, 95% CI 1.001-1.031;  $p=0.03$ ) and with hospitalization (OR 1.013, 95% CI 1.001-1.025;  $p=0.03$ ), adjusting for age, sex, race, marital status, education, income, number of comorbid conditions, number of medications and access to a primary care physician. There was no difference between the last 6 months of life, and 7 to 12 months before death, in terms of the associations with ED utilization ( $p=0.88$ ) or hospitalizations ( $p=0.80$ ). Conclusion: Life-space change can identify those at higher risk of ED utilization or hospitalization for up to 12 months at the end-of-life.

#### **DOES ENROLLMENT IN CAPITATED HEALTH PLANS PREDICT LOCATION OF DEATH?**

E. Chen, F.W. Porell, E. Dugan, E.A. Miller, *UMass Boston, Boston, Massachusetts*

Most individuals prefer to die at home, yet large numbers die in a hospital. This study examines the relationship between enrollment in a capitated plan (Medicare Advantage) on the odds of dying in a hospital setting. Data from the 2008 and 2010 waves of the Health and Retirement Study (HRS), including enrollment in Medicaid, health status, social, and advance planning variables, were analyzed. We hypothesize that enrollees in capitated plans are more likely to die outside a hospital setting because Medicare Advantage contracts incentivize insurers to move eligible patients to the Medicare Hospice Benefit. We examine a broader set of variables than previous studies that rely on Medicare Administrative data. The analytic sample ( $N=1047$ ) comprised individuals in the HRS, who died from 2008-2010, and were enrolled in Medicare at the time of death. Logistic regression analyses estimated the impact of enrollment in capitated vs. fee-for-service Medicare and the likelihood of dying in a hospital, controlling for other characteristics. Enrollees in capitated plans were less likely to die in a hospital (OR=.64) than those in fee-for-service plans. The same was true when death was expected (OR=.54) or if decedents lived in a nursing home (OR=.40). Males were more likely to die in a hospital (OR=1.44) than females. Deaths due to respiratory (OR=1.98) or digestive (OR=1.92) diseases had higher odds of occurring in a hospital than deaths from cancer. Findings suggest that financial incentives in capitated contracts are more likely to spur alternatives to hospitals as the site of death than fee-for-service.

#### **SESSION 1300 (SYMPOSIUM)**

##### **WORKING WITH STATE AND LOCAL GOVERNMENTS: OPPORTUNITIES AND CHALLENGES FOR AGING RESEARCH**

**Chair:** A. Glicksman, *Planning, Philadelphia Corporation for Aging, Philadelphia, Pennsylvania*

**Co-Chair:** L.N. Ring, *Planning, Philadelphia Corporation for Aging, Philadelphia, Pennsylvania*

**Discussant:** K.J. Mahoney, *Boston College, Boston, Massachusetts*

Most programs and services for older adults are funded or administered at the state or local level. This panel will explore the opportunities and challenges that exist for collaboration between researchers and government agencies. Each of the papers on the panel examines some aspect of the scientific, political, and ethical issues that arise when such collaborations are attempted. Each paper will also address the issue of how to develop collaborations with local and state government. The first paper by Iris and Conrad examines their experience working with the development of an Adult Protective Service decision support system in Illinois. The next paper, by Graham, looks at the role of researchers in the state evaluation of a program to transition seniors and people

with disabilities Medicaid managed care plans in California. The third presentation, by Simon-Rusinowitz, looks at initial steps in developing age-friendly communities at the state, county and city level in Maryland, and the way in which a researcher participated in this process. Finally, Ring et. al. take a slightly different approach – rather than the role of research supporting or evaluating government programs, this group looks at the impact of using planning districts established by the City of Philadelphia as a base for research on the experience of aging in the urban environment. Kevin Mahoney, who has extensive experience working for local government and as a researcher, will place these four papers into a wider perspective on the opportunities and challenges of working with local government in aging research.

##### **ACADEMICS, STAKEHOLDERS, AND POLICYMAKERS: WORKING TOGETHER TO PROMOTE POSITIVE POLICY CHANGE**

C. Graham, *University of California, Berkeley, California*

In this presentation, Dr. Carrie Graham from University of California will discuss her experience collaborating with the California Department of Health Care Services to conduct a highly sensitive evaluation of the state's transition of beneficiaries with disabilities and complex care needs to Medicaid managed care plans. She will discuss several factors that improve the ability of academic researchers to work productively with state agencies and strategies to improve the chances that results will translate into positive policy changes, including: engaging the state in early priority setting and planning, engagement of stakeholders, and ongoing "member checks" with preliminary findings. She will review tips for obtaining actionable and timely results. She will also discuss some challenges in working with state agencies such as contracting issues, state leadership turnover, academic freedom, budgeting and obtaining state datasets. Finally, strategies for communicating results and policy recommendations will be discussed.

##### **STUDYING ADULT PROTECTIVE SERVICES: ENGAGING RESEARCHERS AND PRACTITIONERS IN COLLABORATIVE PARTNERSHIPS**

M. Iris<sup>1</sup>, K.J. Conrad<sup>2</sup>, *1. Leonard Schanfield Research Institute, CJE SeniorLife, Chicago, Illinois, 2. Chestnut Health Systems, Normal, Illinois*

Research regarding Adult Protective Services (APS) requires collaboration between researchers, program managers and services providers. Because adult protective services are administered by or directly based in governmental organizations, at the local, county, or state level, access to APS service and outcomes data often involves negotiations with program managers, supervisors, and case workers across all levels of the APS system. This presentation describes the opportunities and challenges encountered during the conceptualization, development and implementation of the Elder Abuse Decision Support System (EADSS) project in Illinois. Using a participatory research approach, the researchers worked closely with the Illinois Department on Aging and service providing organizations throughout the conceptualization, assessment development, and field testing phases, culminating in the implementation of the EADSS in Illinois. In our discussion we will highlight the scientific, political, and ethical issues that arose during this multi-year collaboration and describe methods to ensure mutual benefits to practitioners and researchers.



## INITIAL STEPS IN DEVELOPING AGE-FRIENDLY COMMUNITIES IN MARYLAND: STATE AND LOCAL LEVEL EXPERIENCES

L. Simon-Rusinowitz<sup>1</sup>, J.K. Davitt<sup>2</sup>, J. Wallen<sup>3</sup>, 1. *Health Services Administration, University of Maryland, College Park, Maryland*, 2. *University of Maryland Baltimore, Baltimore, Maryland*, 3. *University of Maryland School of Public Health, College Park, Maryland*

Maryland has lagged behind many states in shifting long-term services and supports (LTSS) spending to community options. Thus, Maryland legislators passed the 2011 (unfunded) Maryland Communities for a Lifetime Act, which focuses on community services such as LTSS, housing, transportation, health care, and civic engagement. We know little about the feasibility of implementing age-friendly services in a racially and economically diverse community. This paper discusses initial steps in implementing the legislation via a pilot project investigating community needs and preferences for an age-friendly community in one such Maryland county. The authors focus on the opportunities and challenges working with state and local government to conduct the project, which comprised focus groups with key stakeholders, elderly residents of two low-income senior buildings, and family members of building residents, as well as review of existing state and county data. We will present lessons learned and recommendations for applied research.

## FROM POLICY TO RESEARCH: CAN POLICY INITIATIVES SERVE AS A SOURCE FOR DEFINING COMMUNITY?

L.N. Ring<sup>1</sup>, A. Glicksman<sup>1</sup>, C. Hoffman<sup>1</sup>, M.H. Kleban<sup>2</sup>, 1. *Planning, Philadelphia Corporation for Aging, Philadelphia, Pennsylvania*, 2. *Polisher Research Institute, North Wales, Pennsylvania*

Various methods have been used by researchers to define the geographic boundaries of “community”, generally defined as a group of people who live in the same area who share a feeling of connection to ones neighbors. It is hoped that the definition of community can be used in policy development. We reversed the process by asking whether community boundaries created for a policy effort can be used for research. In 2011 the Philadelphia Planning Commission divided the city into 18 Planning Districts. We wished to know if these PDs would be useful to determine if level of interaction with neighbors differed by community. We found a significant relation between PD and measures of interaction with neighbors. By using the PDs as base for analyses we are able to support city efforts to improve the lives of the elderly using the PD to divide the city into separate communities.

## SESSION 1305 (SYMPOSIUM)

### POLICY SERIES: GERONTOLOGY 2.0: ADVANCING INNOVATION IN AGING

**Chair:** G. O'Neill, *The Gerontological Society of America, Washington, District of Columbia*

## SESSION 1310 (SYMPOSIUM)

### BEYOND ACTIVE AGING. EXPLORING PHILOSOPHICAL ALTERNATIVES

**Chair:** R. Edmondson, *National University of Ireland, Galway, Ireland*

Stimulating ‘active aging’ is often presented as the best strategy to address current societal issues related to the growing aging population. Implicitly, most views of successful, active aging apply a one-sided identification of success with health and active participation. The underlying presumption seems to be that behavior and attitudes enhancing our control over life should be stimulated. But what about the physical, social and existential vulnerabilities people will inevitably confront at

some point in the aging process? Existential, moral and spiritual aspects of ‘aging well’ tend to be undervalued in these views of successful aging. This neglect of ‘uncontrollable’ aspects raises problems. Not only does it suggest that some people’s aging process is a failure, it also blocks our possibilities to ascribe meaning to experiences of later life connected to our existential vulnerability as finite human beings. In this symposium, we will critically consider certain dominant conceptions of activity in current perceptions of aging well, primarily from a philosophical point of view. We will discuss the virtues of some alternative attitudes towards aging well, complementing the one-sided focus on certain conceptions of activity with reflections on the value of notions like transcendence, contemplation, serenity and practical wisdom.

## WISDOM: THE CONTRIBUTION OF PHILOSOPHICAL ACCOUNTS

R. Edmondson, *National University of Ireland, Galway, Ireland*

While the concept of wisdom has been perennially linked with that of older age, it demands renewed investigation in order to play a viable part in making sense of the life course. This paper will explore respects in which psychologists such as Ardelt, Baltes and Staudinger, or Sternberg regard wisdom as a trait or as a capacity, possessed by individuals. Edmondson contends that the history of philosophical conceptions of wisdom can add to this debate by casting light on a range of actions and processes capable of being considered wise; these can in turn be connected with specific understandings of ageing and the life course. These conceptions can be complemented by philosophically-informed ethnographic analyses of what happens in interactions deemed to be wise. This leads to an account of wisdom with the potential to mitigate some of the harsher implications of ‘active ageing’.

## GEROTRASCENDENCE: A CORRECTIVE VIEW OF ACTIVE AGING

P. Derkx, *University of Humanistic Studies, Utrecht, Netherlands*

Since 1989 it has become clear that the cosmic dimension of gerotranscendence is the only one with a satisfactory reliability (Braam et al 2006). Cosmic transcendence (CosT) involves an increased feeling of unity with the universe, a changed perception of time, space, life and death, and a growing affinity with past and future generations. Derkx will present five claims with arguments supporting them. Here two of these claims: (1) A high level of CosT appears to be a cohort phenomenon rather than to be associated with the process of aging. (2) The theory of gerotranscendence remains important, not as a naturalistic position about ‘normal’ aging but as a normative and spiritual position in the debate about aging optimally, i.e. as a corrective to a one-sided emphasis on (or rather interpretation of) active aging and as a corrective to a view of aging as only decline.

## LABYRINTHINE LIVING AND AGING

F. De Lange, *Protestant Theological University, Amsterdam, Netherlands*

In modern master narratives of aging, the eudaimonist concepts of ‘agency’ and ‘telos’ are often understood as means to an end, and going through the stages of life as a straightforward activity. Eudaimonism presents itself as a good candidate for an ethical theory of aging. A happy life is a life that strives to flourish, it says. Human flourishing is a life-long, deliberate, controlled, and goal oriented (teleological) activity. De Lange however argues that aging metaphors that draw on this vision (life plan, project, development tasks, journey, etc.) are at odds with the experience of time and space in old age (slowing down, erring). He proposes the labyrinth as an alternative symbol for aging. ‘Labyrinthine living’ still implies a normative understanding of life as a teleological activity, but better fits old age in its nomadic implications.

## VIRTUOUS AGING: MORAL LUCK AND THE IMPORTANCE OF CHARACTER

H. Lacey, J. Dohmen, *University of Humanistic Studies, Utrecht, Netherlands*

Perspectives on ‘aging well’ in late modernity, in order to be able to integrate questions related to what Nussbaum calls the ‘tragic’ experiences of life, should not totally disregard the notion of activity, but enrich it with alternative values. They investigate the merits of virtue ethical perspectives in moral philosophy for the study of the existential experience of aging. A central virtue ethical idea is that human beings should acquire an optimal attitude and moral excellence of character, helped by the development of phronesis, or practical wisdom. Lacey and Dohmen explore the relevance of these virtue ethical ideas, when applied to questions about how aging people should relate to the demands posed by their existence as vulnerable, finite agents, in a world partially determined by what Williams and Nussbaum call ‘moral luck’.

## SESSION 1315 (SYMPOSIUM)

### UNIQUE TRAINING NEEDS OF REPRESENTATIVES FOR PEOPLE WITH DEMENTIA IN A PARTICIPANT-DIRECTED PROGRAM

**Chair:** L. Simon-Rusinowitz, *Health Services Administration, University of Maryland, College Park, Maryland*

**Discussant:** L. Feinberg, *AARP, Washington, District of Columbia*  
**Discussant:** J. Tilly, *U.S. Administration for Community Living/Administration on Aging, Washington, DC, District of Columbia*

Participant-directed (PD) models, in which health service users acquire and direct their own services, have been shown to increase satisfaction for participants and caregivers, with equal or better health outcomes, including for elders with diverse disabilities. A critical feature making PD adaptable to participants with all types of disabilities, including dementia, is the representative. Representatives – often relatives or friends – are responsible for gauging the wishes and best interests of the participant, while performing numerous tasks, including assistance with hiring and managing caregivers, developing a spending plan (with program counselors), and evaluating overall care. There is keen interest in developing PD services for the growing number of persons with dementia. Representatives play a key role at the unique intersection of dementia and PD, with expanding responsibilities for participants’ health and well-being along the progressive trajectory of dementia. We need to find ways to support those who are in this critical role. This symposium presents findings from three studies that address this important issue. The first presentation focuses on representative preparedness, specifically role dimensions that are aligned with preparedness and perceived stress. Next, although the primary focus of PD is on the needs and preferences of participants, the second presentation reports research about the importance of respecting the needs and wishes of care team members when negotiating and resolving conflicts. The last presentation addresses the importance of communication skills, which are critical for success in the representative role. Each report identifies areas that evidence-based training interventions should address.

### PREPAREDNESS OF REPRESENTATIVES OF PERSONS WITH DEMENTIA IN PARTICIPANT-DIRECTED CARE

E.K. Mahoney<sup>1</sup>, L. Simon-Rusinowitz<sup>2</sup>, D.M. Loughlin<sup>2</sup>, K. Ruben<sup>2</sup>, C. Braun<sup>1</sup>, M. Dillon<sup>1</sup>, *1. Connell School of Nursing, Boston College, Chestnut Hill, Massachusetts, 2. University of Maryland, Baltimore, Maryland*

Representatives enact their role across the intersection of participant direction and dementia care. Self-rated preparedness for key dimensions of the role endorsed by a panel of experts in PD and dementia was assessed by telephone interview of a diverse sample of representatives

(N=30) of participants with moderate to advanced dementia. Overall preparedness scores were in the pretty well to very well prepared range, with variation across dimensions and between individuals. Role dimensions correlated with overall preparedness and stress were relatively discrete. Preparedness was related to what has to be done day-to-day in dynamic or unpredictable situations, gauging decisional capacity, anticipating changing needs, ensuring safety, supporting a dementia-capable care team and negotiation. Conversely, stress was related to having a safety net of capable back-up supports. Areas of strength, individual variation and particular challenges along the trajectory of representing can guide development of interventions to provide representatives with tailored training and support.

### REPRESENTATIVES’ COMMUNICATION SKILLS AND PREPAREDNESS TO CARE FOR INDIVIDUALS WITH DEMENTIA

K. Ruben, *Health Services Administration, University of Maryland, College Park, Maryland*

Good communication skills help representatives for elders with dementia feel “very well prepared” to care for recipients in a participant-directed program, and to perform optimally in their role. We evaluated the impact of communication skills on representative self-reported “preparedness” for representing care recipients, and for the stress of their role. Using a mixed-methods approach, we completed a secondary analysis of preparedness data obtained from a telephone survey of thirty representatives for individuals with dementia in the Arkansas “Independent Choices” program. Mean preparedness scores indicate that less than half of the representatives feel “very well prepared” for 7 measures of communication skills. Representatives gave examples of situations where poor communication impacts their ability to access information about dementia, communicate about this information, and perform optimally in their role. To enhance participant-directed services for individuals with dementia, representative training should include a health literacy component that includes communication skills. Key Words: Health Literacy, Representatives, Dementia, Participant-Direction

### HEARING ALL VOICES: NEGOTIATING THE NEEDS OF PARTICIPANTS WITH DEMENTIA AND THEIR CARE TEAM MEMBERS

L. Simon-Rusinowitz<sup>1</sup>, E.K. Mahoney<sup>2</sup>, K. Ruben<sup>1</sup>, D.M. Loughlin<sup>1</sup>, K.J. Mahoney<sup>2</sup>, *1. Health Services Administration, University of Maryland, College Park, Maryland, 2. Boston College, Chestnut Hill, Massachusetts*

Participant direction focuses on the needs and preferences of the participant. It is also important to respect the needs and wishes of care team members, as at times the participants’ needs and preferences may differ from those of care team members. To honor all team members’ needs, and prevent caregiver burnout, it is important to hear all of their voices. Representatives — the team coordinator — need to know how to identify participant requests, including those that extend beyond care team members’ abilities and boundaries. They need skills to negotiate such differences when caring for participants with dementia, whose requests, understanding of appropriate boundaries and ability to negotiate will change over time. This paper reports on qualitative and quantitative telephone interview data collected from 30 representatives in Arkansas’ Cash and Counseling program. We identified training areas needed to help them negotiate differing views, needs, and preferences among care team members.

## SESSION 1320 (SYMPOSIUM)

### THE EROSION OF RETIREMENT SECURITY: SOURCES AND REMEDIES

**Chair:** L. Polivka, *Claude Pepper Center, Florida State University, Tallahassee, Florida*

**Discussant:** L. Polivka, *Claude Pepper Center, Florida State University, Tallahassee, Florida*

The gap between the reality and perception of a growing crisis in the U.S. retirement security system has finally begun to close over the last few years. It is now widely recognized that many retirees from the boomer cohorts and those that follow will not be as economically secure as their parents after they retired. The Center for Retirement Research now estimates that over 50% of today's workers will not have enough financial resources to maintain a good standard of living in retirement. An emerging consensus recognizes that a U.S. retirement security crisis is imminent, but there is no consensus regarding either the sources of the crisis or possible remedies for cushioning its impact on retirees and their families. Explanations for the crisis range from those that focus on individuals and families—e.g., they have failed to save enough or invest well, unstable families are economically unstable—to perspectives that focus on structural changes in the U.S. and global economies since the 1970s, including changes in retirement programs in the private sector, are mainly responsible for the crisis. The three presentations in this symposium will describe the dimensions of the emerging crisis, assess the relative strengths of the alternative perspectives on its origins, identify the kinds of policy remedies that are most consistent with each perspective, and then discuss the mix of policy options that may be most politically feasible and most effective in responding to the crisis.

### RETIREMENT SECURITY IN A NEOLIBERAL ECONOMY

L. Polivka, *Claude Pepper Center, Florida State University, Tallahassee, Florida*

The origins and trajectory of the crisis in the U.S. retirement security system have slowly become part of the expanding discussion about the social, political and economic impact of population aging. This presentation will focus on an analysis of changes in the private sector retirement system since the 1970s and their connection to changes in the U.S. political economy as neoliberal ideology and practices have become dominant in the private and public sectors. The neoliberal priority on reducing labor costs and achieving maximum shareholder value has created an environment inimical to maintaining traditional defined benefits pension and health care benefits which have declined precipitously since 1980 and replaced by employee risk bearing defined contribution plans. The presentation will explore the implication of these neoliberal trends in the U.S. economy for the future of retirement security and for the role of the publically funded programs.

### GERONTOLOGICAL CONTRIBUTIONS TO UNDERSTANDING MIDDLE CLASS SECURITY

D.L. Redfoot, *Public Policy Institute, AARP, Washington, District of Columbia*

Gerontologists can add a unique perspective to discussions related to the declining security of the middle class in America. Drawing on data from the AARP Public Policy Institute Middle Class Security Project and subsequent research, this presentation will focus on what gerontologists can contribute to projecting security for future generations. Specifically, the presentation will look three important dimensions from a gerontological perspective: 1) going beyond a simple focus on income and savings to look at the multi-dimensional assaults on middle class security that come from rising costs for health, housing, education, and long-term care; 2) looking at the entire life span and how changing life events are affecting economic security; and 3) focusing on the social and intergenerational dimensions of middle class security as families

change. The widening gulf between haves and have-nots is likely to continue and intensify for future generations of retirees.

### CHANGING THE SOCIAL SECURITY NARRATIVE: WHY EXPANSION IS A REALISTIC, AS WELL AS THE BEST, POLICY SOLUTION

N. Altman<sup>1</sup>, E. Kingson<sup>2,1</sup>, *1. Social Security Works, Washington, District of Columbia, 2. Syracuse University, Syracuse, New York*

With two-thirds of working Americans estimated to be unable to maintain their standard of living in retirement, a substantial expansion of Social Security is, the presenters assert, the most viable means for addressing this crisis, especially for middle- and late-middle-aged workers. The presenters illuminate the changing Social Security policy narrative; examine why a window of opportunity for benefit improvements has opened; and identify benefit expansion and financing options for addressing the looming retirement income crisis. Further discussing major expansion proposals advanced by congressional champions, the presentation concludes by describing and recommending strategies – organizational, electoral, communications, lobbying and organizing – for expanding benefit protections.

## SESSION 1325 (SYMPOSIUM)

### VULNERABLE POPULATIONS AND THE IRB IN QUALITATIVE WORK

**Chair:** J. Weil, *University of Northern Colorado, Greeley, Colorado*

Qualitative work by its very nature often explores topics with elders who may be seen as vulnerable. Older persons can be placed at risk due to data provided in great levels of detail or some aspect of their statuses revealed in the data-collection process. When using open-ended interviews, interview scripts, or focus groups, for example, a researcher may collect information which is sensitive. Working in intergenerational family settings, one may also uncover family dynamics involved with the process of providing informed consent to elders or learn that verbal informed consent offers some protection to participants. Presenters in this symposium will discuss ethical issues raised by work with elders deemed vulnerable and ways to safeguard the information provided thorough Institutional Review Board (IRB) and Certificate of Confidentiality practices. Topics include the use of National Institute of Health's Certificates of Confidentiality with an older and vulnerable population at the Veterans Administration, in-depth interviews with refugee populations which include adult children's consent, focus groups with elders from four ethnic groups from NIA-funded Alzheimer's research Centers, the experience of a 4-year ethnographic study using a Certificate of Confidentiality, and verbal consent and Certificate of Confidentiality use in creating grounded theory with potentially undocumented persons.

### IRB AND OLDER VULNERABLE POPULATION AT THE DEPARTMENT OF VETERANS AFFAIRS (VA), VETERANS HEALTH ADMINISTRATION (VHA)

A. Tesfa, *Department of Veterans Affairs, Northport, New York*

The VA is an ideal setting for conducting research studies on older veteran population. All human subjects research is governed by the principles of the Belmont Report - respect for persons, beneficence and justice. In the VA, these principles are codified in the federal regulations 38 CFR 16 or the Common Rule which governs the Institutional Review Board (IRB). IRB reviews and approves research protocols involving human subjects; HIPAA's implementation in 2003 has changed the impact these regulations have on the protection of confidential information. Participation in qualitative research may result in feelings of guilt or embarrassment that may arise from talking or thinking about one's own behavior, attitudes or lived experiences on sensitive topics. Risks associated with these studies are primarily of disclosure of potentially sensitive information. IRBs weigh the risks and benefits to qualitative

research participants during review of protocols to protect vulnerable research subjects, including older adults.

### **IN-DEPTH INTERVIEWS WITH OLDER REFUGEE ADULTS: INDIVIDUALISTIC AND FAMILY-CENTERED APPROACH OF INFORMED CONSENT**

R. Gautam<sup>1</sup>, B.E. Mawn<sup>1</sup>, S. Beehler<sup>2</sup>, *1. Nursing, University of Massachusetts Lowell, Lowell, Massachusetts, 2. University of Minnesota, Duluth, Minnesota*

A qualitative study was conducted to describe the experiences of nine older Bhutanese refugees after resettlement in a U.S. city. The purpose of this paper is to explore the challenges that arose during the conduction of this study related to informed consent. This study was approved by a university IRB. Verbal consent was allowed since many respondents are known to be illiterate. An unanticipated finding documented in the study's field notes was that the notion of individual consent was culturally irrelevant to many in this sample. The majority of study participants sought approval and consent from their adult children to participate in the study. This paper examines a family-centered approach to research consent vs. the traditional individualistic approach. In this elderly refugee population a family-centered approach best fit the need to ensure participants were fully informed. Documentation of verbal consent included the decision-making process among family members in order to fully conform to the ethical principle of respects of persons while acknowledging cultural differences.

### **CONDUCTING FOCUS GROUPS ON DONATING ONE'S BRAIN FOR ALZHEIMER'S RESEARCH**

L. Boise<sup>1</sup>, L. Hinton<sup>2</sup>, H. Rosen<sup>3</sup>, M. Ruhl<sup>1</sup>, *1. Layton Aging & Alzheimer's Disease Center, Oregon Health & Science Univ, Portland, Oregon, 2. UC Davis School of Medicine, Davis, California, 3. UCSF Memory and Aging Center, San Francisco, California*

The multi-layered issues related to the conduct of focus groups at four Alzheimer's research centers with four ethnic groups will be presented. The topic of interest was the beliefs and concerns of African American, Caucasian, Chinese and Latino research subjects and their family members about brain donation. The focus groups illuminated a broad range of attitudes and perspectives on brain donation, including the role of family dynamics and culture in making a decision about brain donation. A pervasive lack of understanding about the importance of brain autopsy for research and the procedures used for brain removal was evident among the participants. Presentation will address methodological issues related to the conduct of focus groups and data analysis on a sensitive topic and consenting issues around brain donation from the perspective of researchers, focus group participants, the institutional review board, and state laws.

### **LEVELS OF RISK IN ETHNOGRAPHIC RESEARCH FOR MEXICAN AMERICAN WOMEN WITH DISABILITIES**

T. Harrison, *The University of TX at Austin, Austin, Texas*

In the process of deciding whether or not to enroll in a research study, participants routinely weigh the potential for benefit against the potential for harm. The worst possible perceived harm occurs when damage is irreversible. In the context of qualitative research, the public disclosure of illegal or stigmatizing events may be perceived as irreversible damage. The purpose of this work is to highlight how a certificate of confidentiality was perceived to protect the confidentiality of older Hispanic and non-Hispanic White women with disabilities enrolled in a study of health disparities in disability outcomes. In this process, the types of disclosures made by 122 women over the course of 444 interviews were categorized into levels of potential harm and used to create a framework for understanding types of protection that might be most useful in the qualitative research process. Acknowledgement: Support provided by NIH/NINR 1 R01 NR010360

### **PROTECTING THE CONFIDENTIALITY OF POTENTIALLY UNDOCUMENTED LATINO GRANDPARENTS RAISING GRANDCHILDREN**

A.N. Mendoza<sup>1</sup>, J. Weil<sup>2</sup>, C.A. Fruhauf<sup>1</sup>, *1. Colorado State University, Fort Collins, Colorado, 2. University of Northern Colorado, Greeley, Colorado*

For nearly three decades, scholars have been interested in researching grandparents raising grandchildren. Currently, closer attention is given to empirical samples of ethnically diverse grandparent caregivers. Due to increased awareness in both international and local climates where participants' privacy and confidentiality are at risk, researchers must consider additional safeguards to protect participants. This presentation will highlight best practices from previous research sampling potentially undocumented Latino grandparents raising grandchildren from a region that has a history of difficulty in obtaining Latino participants attributed to fear and distrust associated with past Immigration and Customs Enforcement raids. Recommendations will address the importance of witnessed consent and Certificate of Confidentiality in providing reassurance to participants that their legal status has no bearing on their participation and their information will not be divulged to governmental institutions.

### **SESSION 1330 (PAPER)**

#### **LONG TERM SERVICES AND SUPPORTS: FINANCING AND POLICY ISSUES**

#### **MEDICAID COST COMPARISONS ACROSS THE PROGRAM OF ALL-INCLUSIVE CARE FOR THE ELDERLY, HOME AND COMMUNITY BASED SERVICES/ FRAIL ELDERLY, AND NURSING FACILITIES**

C.L. Wendel, R.K. Chapin, A. Sellon, *School of Social Welfare, University of Kansas, Lawrence, Kansas*

The Program of All-Inclusive Care for the Elderly (PACE) provides coordinated healthcare and long term services and supports (LTSS) for Medicaid/Medicare dual eligibles through a single capitated payment. While there is some research to support the benefits of PACE, there is wide variation in cost/benefit outcomes across PACE sites and states. The state contracted with our research office at the University of Kansas to conduct a Medicaid cost-benefit analysis of PACE compared to Home and Community Based Services/Frail Elderly (HCBS/FE) and nursing facility (NF) services for Kansas Medicaid customers. We matched 136 PACE customers to 272 HCBS/FE and 272 NF customers by demographic and functional capacity characteristics using propensity score matching. In this presentation, we focus on how health and long term care Medicaid expenditures for PACE compare to costs for similar adults served by HCBS/FE and NFs, drawing on Medicaid Management Information Systems (MMIS) cost data from 2006-2011. Results demonstrated that PACE saves state Medicaid funds compared to NFs, but not compared to HCBS/FE. Medicaid costs for HCBS/FE study participants were 17% lower than PACE costs, with an average difference of \$320, per participant per month ( $p < .01$ ). However, costs differentials vary over time and by subgroup. For example, analysis of aggregate costs for the three months before death demonstrated that HCBS/FE costs were \$3,907 higher ( $p < .10$ ) and NF costs were \$2,594 higher ( $p < .01$ ), compared to PACE study participants. The need for further research into costs by subgroup will be discussed.

#### **THE IMPACT OF THE 2013 FAIR LABOR STANDARDS ACT (FLSA) REGULATIONS ON PARTICIPANT-DIRECTED PROGRAMS**

P. Nadash, *Gerontology, University of Massachusetts, Boston, Boston, Massachusetts*

This paper examines the impact of recent regulatory changes on direct care workers providing services under Medicaid-funded partic-

ipated-directed programs providing long term services and supports (LTSS) in home and community-based settings. It describes the context and background of the Fair Labor Standards Act [FLSA] of 1938 and the way in which its provisions – in particular, the “companionship exemption” (introduced in 1974) exempted employers of domestic workers — such as nannies, housekeepers, and the like, as well as home care workers — from paying minimum wage or overtime. In September 2013, new Department of Labor regulations tightened this exemption, effective January, 2015, extending fair employment standards to these workers. The paper explores the implications of this regulatory change in states where the impact is likely to be highest: California, New York, Oregon, and Washington, where the structure of participant-directed programs may mean that the much-needed regulatory changes, which were designed to protect workers, may, in fact, result in increased burdens on the family caregivers who provide LTSS to loved ones through participant-directed programs.

#### **ACCESS TO INSURANCE AND HEALTHCARE EXPENDITURES AND USE AMONG MIDDLE-AGED AND NEAR-OLD US IMMIGRANTS**

W. Tarraf, *Wayne State University, Detroit, Michigan*

Middle-aged and near-old individuals have seen worsening health and disability profiles. This regression in health profile is partly due to limited access to and inefficient use of healthcare. Near-old uninsured immigrants are especially vulnerable given their substantially restricted access to healthcare. The Affordable Care Act aims to alleviate some of these differentials by increasing access to insurance. We used causal inference techniques for observational data to provide preliminary evidence on whether and how access to insurance would affect health services spending (yearly total, out-of-pocket, and Medicaid) and use (appointments for routine care, emergency department (ED) use, and inpatient hospitalizations) among uninsured immigrants. We analyzed data on middle-aged and near-old immigrants (50-64 years) from the 2010 Medical Expenditures Panel Survey (n=967). To determine the effect of insurance on our outcomes of interest we used propensity score weighting and matching techniques to account for selection bias and match insured (treatment group) and non-insured (control group) immigrants on healthcare predisposing, enabling, and need characteristics. Our results indicate that insurance increased routine care (OR=4.4; 95% CI=2.69-7.20), but did not significantly affect ED services use or inpatient hospitalizations. Insurance also significantly increased total spending by \$2,853 (SE=\$722; p<0.001) and Medicaid spending by \$965 (SE=326; p<0.001) but had no significant effect on out-of-pocket expenditures. Higher access to insurance can potentially increase preventive routine primary care among middle-aged and near-old immigrants. Increased access, however, will come at a cost, and a substantial portion of this cost may need to be publicly financed through Medicaid.

#### **THE PROMISE OF CARE COORDINATION FOR OLDER ADULT DUAL ELIGIBLES: LESSONS FROM CAL MEDICONECT**

K.G. Kietzman<sup>1,2</sup>, J. Torres<sup>1,2</sup>, C. Chang<sup>1,2</sup>, T. Tran<sup>1,2</sup>, A. Choi<sup>3</sup>, S. Wallace<sup>1,2</sup>, 1. *UCLA Center for Health Policy Research, Los Angeles, California*, 2. *UCLA Fielding School of Public Health, Department of Community Health Sciences, Los Angeles, California*, 3. *California State University Dominguez Hills, Los Angeles, California*

The Helping Older-adults Maintain independence (HOME) project has been documenting the experiences of low income older adults with multiple chronic conditions and disability in California since 2010. In recent months, these “dual eligible” seniors (who are insured through both Medicare and Medicaid) have been faced with important decisions about the delivery of their medical care and long term services and supports. As part of California’s Coordinated Care Initiative (CCI), starting on April 1, 2014, an estimated 400,000 dual eligible beneficiaries in

eight counties will begin to be enrolled in a MediCal managed care program called Cal MediConnect unless they actively opt out of the program. Recent data from the HOME project reveal that those who will be directly affected by the transition are often confused or concerned about its potential effects on their health care. This vulnerable group of consumers is unevenly responsive to the program information received, depending in large part on the older adult’s physical or mental state and on the availability of family or other supportive resources. In-depth and repeated interviews conducted with these older adults and their primary caregivers also reveal what “continuity of care” actually means in the day-to-day lives of these individuals, who have been grappling in recent years with ongoing changes to the services, supports and providers they have come to rely on to continue to live safely at home. Finally, these data assess in “real time” whether any current gaps in care might be successfully addressed by the new managed care program.

#### **THE SEARCH FOR A PLAN FOR RATIONAL FINANCING OF LONG TERM CARE**

A.M. Tripp, 1. *University of Maryland Baltimore County, Baltimore, Maryland*, 2. *The Hilltop Institute, Baltimore, Maryland*

With the repeal of the CLASS Act and the subsequent lack of recommendations around financing by the Long Term Care Commission, it is important to review the state of long term care financing policy in the United States. This paper provides a research synthesis of the current state of long term care financing in the United States, a comparison of cross national models with a focus on European social insurance models, and the attempts to address the question of should the cost of care be shared within and across generations, or between the public and private sectors. Care provided by family and friends, when monetized, accounts for the vast majority of long-term services and supports. Following reliance on informal and unpaid care, the next largest source of services is the Medicaid program, which requires individuals and families to impoverish themselves to attain necessary care. The current system demonstrates a market failure for private long-term care insurance and the lack of a true market for affordable, efficient, and quality supports for those with functional limitations. Policy alternatives will be presented which seek to spread the risk for the costs of care as broadly as possible that could support both a private market for long term care insurance as well as making family caregiving more manageable.

#### **SESSION 1335 (SYMPOSIUM)**

##### **PRIMARY AND SECONDARY OUTCOMES OF THE PRISM FIELD TRIAL: A TECHNOLOGY-BASED INTERVENTION TO REDUCE ISOLATION, IMPROVE WELL-BEING AND PROMOTE INDEPENDENCE**

**Chair:** S.J. Czaja, *University of Miami Miller School of Medicine, Miami, Florida*

**Discussant:** J.W. King, *National Institute on Aging, Washington DC, District of Columbia*

The Center for Research and Education on Aging and Technology Enhancement (CREATE) completed a randomized clinical trial that evaluated the effect of a specially designed computer software application for older adults that was intended to enhance prospective memory, knowledge, resource access, information gathering, and social support. Three hundred older adult participants at risk for social isolation were randomly assigned to receive the Personal Reminder, Information, and Social Management (PRISM) system or a similarly structured binder system (control). The trial duration was one year. Primary outcomes included changes in degree of isolation, social support, and well-being. Secondary outcomes included changes in computer and technology attitudes, proficiency, and technology adoption. This symposium will highlight findings of the trial. S. Czaja will provide an overview of the trial, participant demographics and present findings regarding the primary outcome measures. W. Boot will discuss findings regarding use

of system features and how they vary with participant characteristics. N. Charness will examine how cognitive abilities changed in response to PRISM interventions and J. Sharit will present data on predictors of PRISM usage and changes in the secondary outcomes of attitudes and proficiency. Finally, W. Rogers will present how the PRISM trial informs theories and models of technology acceptance, and uptake. Overall, the PRISM trial succeeded in its aims and provides valuable insight into how well-being can be promoted in an at-risk older adult population. J. King will lead a discussion of these topics and highlight some of the challenges and opportunities associated with the PRISM trial.

#### **THE PRISM TRIAL: AN INTERVENTION TO ENHANCE THE WELL-BEING OF OLDER ADULTS**

S.J. Czaja<sup>1</sup>, J. Sharit<sup>2</sup>, N. Charness<sup>3</sup>, W.R. Boot<sup>3</sup>, W.A. Rogers<sup>4</sup>, 1. *Psychiatry and Behavioral Sciences, University of Miami Miller School of Medicine, Miami, Florida*, 2. *University of Miami, Miami, Florida*, 3. *Florida State University, Tallahassee, Florida*, 4. *Georgia Institute of Technology, Atlanta, Georgia*

This multi-site randomized trial gathered rigorous evidence about the value of the Personal Reminder Information and Social Management System (PRISM), a technology application designed for older adults at “risk for social isolation.” PRISM was designed to support social connectivity, memory, knowledge, leisure activities and resource access, and compared to a Binder condition. Participants completed baseline, 6 and 12-month follow-up assessments. Three hundred diverse adults aged 65+ were randomized into the trial. This presentation will present data from the 12-month assessment regarding social isolation, connectivity, social support, and the perceptions of the PRISM system. The data are encouraging and indicate that the participants assigned to the PRISM condition perceived PRISM as valuable, and that use of PRISM facilitated their ability to connect with family and friends, access community resources, and find information. The data also indicate that the use of PRISM was beneficial in terms of enhancing social connectivity and support.

#### **COGNITIVE CHANGES FOR PRISM USERS**

N. Charness<sup>1</sup>, W.R. Boot<sup>1</sup>, S. Czaja<sup>2</sup>, J. Sharit<sup>2</sup>, W.A. Rogers<sup>3</sup>, T.L. Mitzner<sup>3</sup>, 1. *Psychology, Florida State University, Tallahassee, Florida*, 2. *University of Miami, Miami, Florida*, 3. *Georgia Institute of Technology, Atlanta, Georgia*

Cross-sectional studies show positive relationships between computer use and cognition (Tun & Lachman, 2010; Elliot, Mooney, Douthit, & Lynch, 2013). Freese, Rivas and Hargittai (2006) showed that high school cognition predicted computer use at age 65. However, Slegers, van Boxtel and Jolles (2009) found no effect for computer training on cognition in a one-year RCT. PRISM allows comparisons of cognitive performance at baseline and 12 months for lower SES older adults at risk for social isolation who were randomly assigned to computer and binder conditions. Using measures such as digit symbol, Trails A&B, Fuld, Animal Fluency, STOFHLA, Stroop, Shipley vocabulary, Letter sets, we assess how tests cohere and how they relate to treatment, time, and their interactions. Preliminary results indicate that the cognitive measures show no retest effects and that neither the computer condition nor the binder condition leads to improvements in cognition, consistent with Slegers et al.

#### **A DETAILED EXAMINATION OF PRISM FEATURE USE OVER TIME**

W.R. Boot<sup>1</sup>, N. Charness<sup>1</sup>, S.J. Czaja<sup>2</sup>, J. Sharit<sup>2</sup>, W.A. Rogers<sup>3</sup>, T.L. Mitzner<sup>3</sup>, 1. *Psychology, Florida State University, Tallahassee, Florida*, 2. *University of Miami, Miami, Florida*, 3. *Georgia Institute of Technology, Atlanta, Georgia*

PRISM was designed to support prospective memory, communication, information gathering, and knowledge about important topics

related to health and independence. The trial represents a unique opportunity to understand what computer features older adults find most useful by examining the features they use, and the features they use most frequently. Feature access and specific actions (e.g., reading/sending email, accessing the help function) were recorded and sent to a central server for each of the 150 participants assigned to the PRISM computer condition. We present a detailed analysis of feature use over time and individual differences in patterns of use. Consistent with the intent of the trial to facilitate communication and information gathering, email and Internet were among the most used features of the PRISM system. System games were also popular. Data provide insight into how older adults incorporate new technology into their lives and what they use this technology to accomplish.

#### **EXAMINING CORRELATES OF OVERALL USAGE OF THE PRISM SYSTEM**

J. Sharit<sup>1</sup>, S. Czaja<sup>2</sup>, W.R. Boot<sup>3</sup>, N. Charness<sup>3</sup>, W.A. Rogers<sup>4</sup>, T.L. Mitzner<sup>4</sup>, 1. *Univ Miami, Coral Gables, Florida*, 2. *University of Miami Medical School, Miami, Florida*, 3. *Florida State University, Tallahassee, Florida*, 4. *Georgia Institute of Technology, Atlanta, Georgia*

The PRISM field trial assessed outcomes associated with use of a computer system specifically designed for older adults at risk for social isolation. As part of this trial we developed: (1) the Computer Proficiency Questionnaire (CPQ), which measures computer proficiency across six different subscales, and which was administered at baseline, six, and 12 months, and (2) the PRISM System Evaluation Questionnaire (PSEQ), which was administered at six and 12 months. Data on overall use of PRISM enables the variability in PRISM usage to be examined over the 12-month trial and related to individual variables such as health status and cognitive abilities, and to changes in ratings of computer proficiency (CPQ) and of satisfaction with and usefulness (PSEQ) of the PRISM system. These data can help us better understand barriers to use and benefits that accompany increased use of such systems for these older, primarily lower SES adult populations.

#### **TESTING TECHNOLOGY ACCEPTANCE MODELS FOR PRISM USERS**

W.A. Rogers<sup>1</sup>, T.L. Mitzner<sup>1</sup>, S.J. Czaja<sup>2</sup>, N. Charness<sup>3</sup>, W.R. Boot<sup>3</sup>, J. Sharit<sup>2</sup>, 1. *School of Psychology, Georgia Institute of Technology, Atlanta, Georgia*, 2. *University of Miami, Miami, Florida*, 3. *Florida State University, Tallahassee, Florida*

Extant theoretical models of technology acceptance are extremely limited – they do not account for specific characteristics of older adults, have not been empirically tested with senior-focused technologies, and frequently only measure intention to use a technology rather than behavioral integration of a technology into everyday life. The PRISM field trial assessed usage patterns of a computer system specifically designed for older adults. Prior to, and following experience with PRISM, 150 participants completed a technology acceptance scale regarding perceptions of ease of use and usefulness of the system. Our analyses identify individual difference variables that predict perceptions both before and after use, as well as usage rates. These data provide insights for broader-based models of technology acceptance to guide design, instruction, and deployment of products for older adults. The 6 month usage data enable us to differentially identify predictors of behavior integration of a computer technology into everyday activities.

## SESSION 1340 (SYMPOSIUM)

### RE-ENGAGING THE SOCIAL IN A GLOBAL CONTEXT: NEW CHALLENGES FOR THE SOCIOLOGICAL IMAGINATION

**Chair:** C. Phillipson, *Sociology, The University of Manchester, Manchester, Lancashire, United Kingdom*

The weakening of institutions supporting old age – notably retirement and the welfare state – has been a central narrative within critical gerontology. Here, globalisation is viewed as playing a key role re-defining ageing, generating new forms of risk and insecurity. But research in this area remains disconnected from analyses of the interplay between cellular, individual and social processes of aging. Drawing on the theme of linking ‘personal troubles with public issues’ this paper examines the relevance of globalization to this wider debate. This will be done by examining, first, its contribution to the ‘crisis construction of aging’; second, promoting economic inequalities; third, emphasizing aging as an individual rather than collective responsibility. The paper will explore the way in which these developments are reconstructing later life transitions. The discussion will review these changes to the structural contexts of ageing and the implications which might follow for movement through the life course.

### AGING – FROM CELLS TO SOCIETIES?

J. Baars, *University of Humanistic Studies, Haarlem, Netherlands*

The idea of bringing research on cells and societies in a continuum can be seen as a contemporary version of the ‘organism analogy’ in sociological functionalism (Luhmann 1996). Outdated as this idea may seem, it is still vivid in many aging studies that take the nation state as the context of research, focusing on the functioning of ‘national subsystems’ such as the labor market or health care. However, the sum of the systemic ‘parts’ is increasingly more complex than the national ‘whole’. This has major implications for aging: although age still functions as a marker in (national) bureaucracies, aging processes are constituted by a multitude of systemic formations that try to regulate their specific cohorts. The de-standardization of the life course may imply a decreasing relevance of age, but this is matched by more intense regulation of the times that are spent in specific systemic contexts (cf. Baars 2012).

### FROM CELLS TO SOCIETY: THE SOCIOLOGICAL IMAGINATION IN THEORY, RESEARCH AND POLICY

D. Dannefer<sup>1</sup>, C.L. Estes<sup>2</sup>, L. Burton<sup>3</sup>, 1. *Department of Sociology, Case Western Reserve University, Cleveland, Ohio*, 2. *University of California San Francisco, San Francisco, California*, 3. *Duke University, Durham, North Carolina*

This session takes as a point of departure appreciation for what C.W. Mills termed the “sociological imagination”, the work of tracing connections between the lives of individuals and the historical and social forces in which they are enmeshed. A key element here concerns examining links between private troubles and public issues (and policy). Such a theme is especially resonant given the individual and societal challenge of longevity and its interaction within a climate of economic austerity and crisis. To this end, session presenters move through the various levels – from micro, meso and macro – through which age and the life course unfold. In doing so, they explore competing narratives around themes of resilience and plasticity on the one side and socially constructed inequalities on the other. Each presenter will apply this framework to major themes within critical perspectives on ageing, including institutionalized ageism and its effects, biosocial interactions, cumulative dis/advantage, and autonomy and justice. Presenters will be encouraged to follow the perspective developed by Mills by demonstrating how particular research findings and observations about the lives of older people can be drawn together to develop generalizations concerning society as a whole. In line with this, the papers will examine the interdependence and interplay of social institutions and processes

(cellular, individual and social), with attention to wider cultural, political and economic processes. The discussant will review the papers, highlighting connections for theory, research and policy, drawing on the spirit of the “sociological imagination” as applied to work in the field of aging.

### THEORIZING CUMULATIVE DISADVANTAGE THROUGH THE LENS OF LATE LIFE PHENOTYPIC MALADAPTATION

K.Z. Douthit<sup>1</sup>, D. Dannefer<sup>2</sup>, A.J. Elliot<sup>1</sup>, 1. *Education & Human Development, University of Rochester, Rochester, New York*, 2. *Case Western Reserve University, Cleveland, Ohio*

Although cumulative disadvantage is rooted primarily in social theory, it provides a fruitful medium for interdisciplinary, multilevel analysis of mechanisms relating to late-life, physiological and psychological embodiment of contextual challenge over the life course. This paper proposes a biosocial model of cumulative disadvantage that views social settings in terms of their potential for inducing phenotypic maladaptation in old age. Highlighting sources of phenotypic plasticity, including intra-generational and intergenerational epigenetic mechanisms, as well as other sources of human and animal phenotypic plasticity, a model of compromised, late-life health and mental health outcome is described. Using late life cognition as an exemplar, the model highlights the potential for reversing socially and psychosocially mediated and moderated injurious gene activity.

### DOMINANCE AND RESISTANCE: SOCIAL MOVEMENTS AND SOCIAL SECURITY

C.L. Estes, *University of California San Francisco, San Francisco, California*

Since President Reagan, a war over Social Security is engaged. Socially constructed by forces opposed to social insurance, underwritten by big money, think tanks and politicians systematically sell the media and public on Social Security’s inevitable demise. Breaching the Third Rail of US policy is attempted with crisis, austerity and deficit discourses. Social Security Defenders voice human needs, vulnerable peoples, and earned benefits, with their mobilization and coalesce across disparate rainbow causes. Social Inequality claims the debate stage. The Resistance movement of Social Security Defenders is identified, its composition, strategy and tactics in conflicts over eroding democracy and the ascendant Market (class) State vs Citizen State.

## SESSION 1345 (SYMPOSIUM)

### THE IMPACT OF CREATIVE AND MEANINGFUL ACTIVITIES ON NEUROPSYCHIATRIC SYMPTOMS IN PERSONS WITH DEMENTIA

**Chair:** N. Hodgson, *Johns Hopkins University, Baltimore, Maryland*

**Co-Chair:** L.N. Gitlin, *Johns Hopkins University, Baltimore, Maryland*

**Discussant:** N. Hodgson, *Johns Hopkins University, Baltimore, Maryland*

Person centered approaches to engaging persons with moderate stage dementia (PwD) in creative and meaningful activity can facilitate well-being and quality of life. Yet most PwD spend their days doing nothing and without any participation in activities that hold meaning. A burgeoning area of research suggests that active engagement in creative activities is associated with a decline in burdensome neuropsychiatric symptoms such as agitation. There is a need to examine the evidence base on the specific symptoms most affected by activity engagement and the specific types of creative activities perceived as meaningful that have the largest effects on symptom burden. This symposium will present 4 papers reporting on evidence based outcomes and practical application of selected activities to reduce neuropsychiatric symptoms in persons with moderate stage disease. Marx reports on data from two

activity trials on the types of activities prescribed by cognitive level, time of day recommended and frequency. Maguire presents findings from a systematic review of targeted prescriptive music activities on symptoms of agitation and physiologic measures of stress for persons with dementia. Hodgson reports on a pilot study that examined the relationship between timing of activities and symptoms of circadian disruption. Hansen presents results of a qualitative analysis of an online caregiver discussion board focused on activities described as meaningful. Together these studies affirm the benefits of a variety of creative activities that are meaningful and engaging. We will conclude with a discussion of potential mechanisms through which activity engagement reduces neuropsychiatric symptoms.

#### **ACTIVITY DEVELOPMENT FOR DEMENTIA PATIENTS ON GERIATRIC MENTAL HEALTH UNIT**

K.A. Marx<sup>1</sup>, L.N. Gitlin<sup>1</sup>, K. VanHaitma<sup>2</sup>, D. Alonzi<sup>3</sup>, T. Gentile<sup>3</sup>,  
1. *Center for Innovative Care in Aging, Johns Hopkins University, Baltimore, Maryland*, 2. *Polisher Research Institute, North Wales, Pennsylvania*, 3. *Johns Hopkins Bayview, Baltimore, Maryland*

Neuropsychiatric behaviors are almost universal in dementia patients. Non-pharmacologic interventions, such as activities, have been endorsed by major medical organizations as the first line of management. This study examines the type of activities developed by occupational therapists as an intervention on a hospital unit specializing in geriatric mental health. 20 participants (average age 77.5, sd=7.9, 60% female) were enrolled in the study. Cognitive functioning testing indicated that the average abilities reflected manual type activities that were not goal directed. Overall, 62 different activity prescriptions were developed and six categories emerged, physical, cognitive, prior role, reminiscing, arts and crafts, and passive activities. Physical activities, such as walking or chair exercises, represented 24.2% (n=15). The second largest category was cognitive activities (e.g. sorting cards or puzzles) with 21.0% (n=13). Development of activities that are meaningful to the person and appropriate for the disease stage have the potential to decrease neuropsychiatric behaviors.

#### **“THE WORK OF OUR HANDS”: QUALITATIVE ANALYSIS OF A CAREGIVER DISCUSSION BOARD**

B.R. Hansen, N.A. Hodgson, L.N. Gitlin, *The Johns Hopkins University, Baltimore, Maryland*

Despite the potential benefits of creative activities for persons with dementia, caregivers are given little information on the types of activities that are most useful for maximizing quality of life and preserving capabilities. Discussion board comments were abstracted from a Massive Open Online Course (MOOC) delivered to 25,000+ students from 131 countries on the Care of Individuals with Major Neurocognitive Disorders. Qualitative methods were used to analyze the comments of over 75 caregivers posted to a discussion board thread on the use of activities in persons with dementia. Analysis indicated the leading activities included (1) reminiscence activities (sorting photos or creating scrapbooks), (2) physical activities (balloon toss), (3) sensory experiences (clapping to music or touching familiar objects), or (4) interactive experiences (holding pets). Caregivers emphasized the observed benefits of engaging the hands of patients in activities to maximize the sensory experience, eye-hand coordination, and preserved memories through familiar hand work.

### **SESSION 1350 (SYMPOSIUM)**

#### **EMERGING INTERVENTIONS FROM THE VA/HARTFORD GERIATRIC SOCIAL WORK SCHOLARS**

**Chair:** L. Daniels, *Vet Center, Readjustment Counseling Service, Portland, Oregon*

This symposium unites 5 scholars from the Department of Veterans Affairs (VA)/Hartford Geriatric Social Work Initiative as they pres-

ent current research emphasizing interventions to improve health and behavioral health of older adults. Since 1999, the John A. Hartford Foundation and Gerontological Society of America (GSA) have collaboratively educated Social Work academics about research, policy, and expanded pedagogy focused on aging issues through the Hartford Gerontological Social Work Faculty Scholars program. Since that time, cohorts of social work professors have gained knowledge about how to integrate gerontology into their curriculum. In 2010, the Hartford Foundation included PhD-level VA social workers within the geriatric social work scholars program. Subsequently, 5 VA social workers have been heavily involved in research studies to improve services for the nation's veterans receiving care through the Department of Veterans Affairs. This symposium is the first time that the VA/Hartford Geriatric Social Work Scholars will share their insights gained from their respective research studies as a result of their participation in the prestigious Hartford program. Epitomizing GSA's theme of "making connections from cells to societies", each scholar's study describes interventions which can pertain not only toward improved services in the VA's healthcare system, but potentially to non-federal community-based aging issues of suicide prevention, PTSD treatment, vocational rehabilitation, care-givers, and elderly cancer patients.

#### **EMERGING INTERVENTIONS AT THE VA- CARE TRANSITIONS WITH OLDER VETERANS AND THEIR CAREGIVERS**

B. Ford, 1. *GRECC, Birmingham VA Medical Center, Birmingham, Alabama*, 2. *University of Alabama at Birmingham, Birmingham, Alabama*

Older adults are particularly vulnerable to the consequences of fragmented care as they transition between health care settings. Research indicates that almost half of older adults experience a medical error, and 1 in 5 suffer an adverse event associated with discharge. This study examined care transition experiences of older veterans and their caregivers. Fifty patients age 65 years and older, discharged from a Veterans Administration (VA) Medical Center hospital completed the Care Transitions Measure-15TM survey 3-4 weeks post-discharge. Seven patients and 6 caregivers participated in semi-structured interviews. Overall the quality of care transitions was rated as good; however, some items were indicated as problematic for veterans. Themes that emerged included agreeableness, frustration with complex information, caregiver education, and the timing and methods of information delivery. These findings have implications for emerging care transition interventions for veterans and their caregivers.

#### **INDIVIDUALIZING PSYCHOSOCIAL DISTRESS MANAGEMENT IN OLDER VETERANS WITH ADVANCED STAGE CANCERS NEAR THE END OF LIFE**

F.R. Nedjat-Haiem, 1. *Department of Veterans Affairs, Los Angeles, California*, 2. *University of Southern California, Los Angeles, California*

Patients with life-limiting cancers have complex psychosocial needs that go unnoticed, thus leading to intense suffering and complicated care. Psychosocial distress is a significant problem influencing approximately 30% to 45% of cancer patients, and up to 70% of those with life-limiting cancers. Research suggests that vulnerable individuals with complex terminal conditions encounter problems such as distress, associated with unmet needs in symptom management, emotional support, and communication. Distress that is overlooked or mismanaged can further intensify patients' anxiety, complicating end-of-life decision-making, and triggering the over- or under-use of treatment. Consequently, patients are likely to experience poor quality of life and express desire to hasten death. This study examined factors that influence individualizing psychosocial distress management among Veterans and clinical providers; aimed to describe older Veterans' experiences with distress in advanced cancer care and providers' practices with managing distress.



By describing patients' and providers' experiences, we identify ways to improve care.

### **VOCATIONAL REHABILITATION AND OLDER VETERANS: DOES WORK THERAPY "WORK"?**

E. Naito-Chan, *Compensated Work Therapy Transitional Residence Program, Department of Veterans Affairs, Los Angeles, California*

Employment is generally accepted as an important component of treatment and recovery for patients with mental disorders. Consequently, the role of vocational rehabilitation (VR) is playing an increasingly critical role in mental health treatment. This is particularly true for veterans in mental health programs under the Veterans Health Administration (VHA). An area that has not received much examination concerns the participation and outcomes of an increasing number of older adults entering VR programs. More studies focusing on older VR participants may result in the design and implementation of age-specific vocational rehabilitation services. This study compares older veterans (55 years and older) with younger veterans (18-54 years) in VR programs for the purpose of exploring differences and identifying variables associated with successful outcomes. A secondary analysis of data collected on veterans participating in a VHA Compensated Work Therapy (CWT) program was conducted. Data analysis and findings will be presented.

### **SIMPLE INTERVENTION FOR SUICIDAL VETERANS**

J. Hunter, *Stratton VA Medical Center, Albany, New York*

The "Building on Strengths and Interests to reinforce Meaning and Purpose in Life Experiences (SIMPLE) intervention targets veterans who have been admitted to inpatient psychiatry as a result of thoughts or acts of self-directed violence with intent to die. SIMPLE is a short term cognitive-behavioral suicide prevention ("indicated") intervention designed to successfully transition veterans at considerable risk for suicide from inpatient to outpatient settings, reduce likelihood of acts of self-directed violence, and decrease level of suicide risk. The goals are to decrease hopelessness, increase sense of meaning and purpose in life, decrease levels of depression, decrease subsequent episodes of suicide crises, and increase social connectedness for veterans admitted to inpatient psychiatry with suicide ideation. An experimental study will be discussed that will reveal if and how the SIMPLE intervention is effective. Ultimately, this intervention and research endeavor seeks to improve treatment programming for older veterans at risk for self-directed violence.

### **LIFE REVIEW, REMINISCENCE, AND AGING AMONG VIETNAM WAR VETERANS DIAGNOSED WITH PTSD**

L. Daniels, *Dept of Veterans Affairs, Vet Center Portland OR, Portland, Oregon*

For over 30 years, Vietnam War veterans have been at the forefront of receiving PTSD counseling through VA special programs and community-based Readjustment Counseling centers (Vet Centers). Now, these veterans face a new and potentially daunting challenge in terms of developmental changes, unresolved traumatic memories, and the natural inclination to reminisce about their past. Almost no VA or Vet Center programs have protocols for treating aging war veterans suffering from traumatic stress. This pilot study investigated aspects of reminiscence that may be related to the stuck memories indicative of PTSD; the potential impact of PTSD on the natural inclination to reminisce; and if structured life-review made a difference in PTSD symptoms, levels of depression, satisfaction with life, subjective well-being, and self-forgiveness. This intervention study is in an effort to bridge the gap between PTSD and gerontology interventions and toward the goal of "successful aging" among older war veterans.

## **SESSION 1355 (SYMPOSIUM)**

### **HIGH RISK GROUPS: WHAT ARE THEY DOING RIGHT?**

Chair: B. Sellars, *Wesleyan College, Macon, Georgia*

Aging and disparities research often views groups that are at-risk as the ones needing the most help. However, there are lessons to be learned from high-risk populations, especially those who are thriving. This symposium highlights different samples of high-risk groups who are using positive strategies to maintain and improve both physical and mental health. While this symposium does not nullify the fact that these groups are vulnerable, it will highlight that even vulnerable groups have positive mechanisms for surviving against the odds. The first paper, "Something to Lose: Midlife Body Image and Weight-Related Goals as Midcourse Corrections," addresses how high-risk midlife adults can change weight-related behaviors to improve well-being outcomes. With a continued focus on health, the second paper, "Illness Perception and Self-Management among Older African Americans," discusses how older African Americans, another high risk-group, view their health and how they use social support to cope positively with their chronic illnesses. "Experiences with Discrimination: Coping Strategies of Healthy Older African Americans," will address how older African American men who are aging successfully cope with discrimination both in the past and present in a positive way. Another high-risk group, widows, is addressed in the papers, "Coping with Widowhood Through Positive Social Relations" and "Trajectories in Long Term Care: Do Individual Resources Buffer the Impact of Spousal Deprivation Over Time?" Both papers highlight the benefits of using social support among individuals who have experienced spousal loss. In sum, this symposium demonstrates that not all vulnerable individuals function poorly in high-risk situations.

### **SOMETHING TO LOSE: MIDLIFE BODY IMAGE AND WEIGHT-RELATED GOALS AS MIDCOURSE CORRECTIONS**

N. Newton<sup>1,2</sup>, S.A. Russell<sup>1</sup>, *1. Northwestern University, Evanston, Illinois, 2. psychology, Univ Michigan, Ann Arbor, Michigan*

Many people regard midlife as a time of gradual physical decline. Changes in appearance, which typically include weight gain, often negatively affect psychological and physical well-being, predominantly among women (Halliwell & Dittmar 2003; Merrill & Verbrugge, 1999). According to Identity Process Theory, adults who adjust psychologically and behaviorally to the aging process exhibit greater self-esteem (Whitbourne & Skultety, 2002). Analyses using data from the Folely Longitudinal Study of Adulthood (age 56-59; N = 141), found no gender differences in midlife levels of Body Appreciation and Body Mass Index (BMI), or the relationship between Body Appreciation and self-esteem or psychological well-being. Most importantly, women and men with negative Body Appreciation were more likely than their counterparts with positive Body Appreciation to express weight-related goals. Results are discussed in terms of Identity Process Theory, and how "midcourse corrections" (Stewart & Vandewater, 1999) can motivate midlife adults towards positive behavioral change.

### **ILLNESS PERCEPTION AND SELF-MANAGEMENT AMONG OLDER AFRICAN AMERICANS**

K.L. Phillips<sup>1</sup>, C.R. Rogers<sup>2</sup>, *1. IMPAQ International, LLC, Columbia, Maryland, 2. University of Minnesota, Minneapolis, Minnesota*

While African Americans suffer disproportionately from chronic diseases when compared to the general population, many older African Americans maintain very positive outlooks about their lives. Using the framework of Leventhal's self-regulatory model (SRM), the purpose of this study was to gain an understanding of illness perception among older African Americans. Two focus groups were conducted using previous participants of a chronic illness self-management program

(N=31). While the respondents were aware they had an illness, they did not have any concerns or emotions related to it. The majority of the respondents in both groups revealed that their faith or spiritual beliefs allowed them to cope and manage any adverse emotions associated with their illness. Many of the respondents also indicated that relied on the support of their families and friends. Information from this study may be used to understand and assist older African Americans with managing their illnesses.

#### **EXPERIENCES WITH DISCRIMINATION: COPING STRATEGIES OF HEALTHY OLDER AFRICAN AMERICANS**

B. Sellars, A. Hernandez, *Wesleyan College, Macon, Georgia*

Numerous research studies have discussed the role of discrimination on the health of African Americans with an increasing focus on African American men throughout the lifespan. This study investigates how older African American men who are aging successfully (e.g., low incidence of disease, high physical and cognitive functioning) have coped with and are currently coping with discrimination. The sample consists of eleven African American men aged 70 years and older (M=79.6 years) who participated in mixed methods interviews. Using the Schedule of Racist Events (SRE), men provided insight into their experiences with discrimination, both in the present and retrospectively. The mean scores for the SRE for past week, entire lifetime, and overall stressfulness were 27.7, 47.2 and 38.4, respectively. Participant's coping strategies included avoiding negative situations, finding alternative ways to vent anger, and accepting/anticipating discrimination due to the cultural context. Implications for positive lifespan development will be addressed.

#### **COPING WITH WIDOWHOOD THROUGH POSITIVE SOCIAL RELATIONS**

J.A. Manalel, T.C. Antonucci, *Psychology, University of Michigan, Ann Arbor, Michigan*

Spousal loss is typically considered the most stressful life event in adulthood. This leaves older adults, who often rely on their spouses as a primary source of support, especially vulnerable to the challenges of widowhood. Widows' stress appraisal of the loss may vary according to circumstances surrounding this event, like spousal relations and death anticipation. However, positive support from other network members is associated with decreased loss-related anxiety and yearning in widows. This study identifies associations between pre-loss factors, like marital quality and death anticipation, and post-loss social support and grief symptoms. Data from the prospective study of widowhood, Changing Lives of Older Couples study, include 265 widowed individuals (age 49-87). Preliminary regression analyses indicate that baseline support from family and friends and marital quality, but not death anticipation, predict positive support 6 and 18 months after the loss, suggesting that each contribute to positive long-term adjustment to widowhood.

#### **TRAJECTORIES IN LONG TERM CARE: DO INDIVIDUAL RESOURCES BUFFER THE IMPACT OF SPOUSAL DEPRIVATION OVER TIME?**

M. Broese van Groenou<sup>1</sup>, D.J. Deeg<sup>2</sup>, *1. VU University, Amsterdam, Noord-Holland, Netherlands, 2. VU Medical Centre, Amsterdam, Netherlands*

Single older adults are more likely to use professional services and care than those with a partner, but longitudinal evidence of how individual resources impact the use of long term care among those experiencing spousal deprivation (due to illness or death) is limited. Using data from a survivor sample (N = 1,055) in four waves of the Longitudinal Aging Study Amsterdam (1998-2008), we showed that spousal deprivation often coincides with health impairment, a smaller network size and moving house. Multivariate analyses showed that, compared to staying partnered, widowhood predicted increased use of professional

home care (OR=3.81,  $p < 0.05$ ), but spousal illness did not (OR=1.26,  $p > 0.05$ ). In general, higher levels of mastery decreased professional home care use, whereas a larger network size increased the use of social services. We conclude that individual and social resources may limit professional home care use related to spousal deprivation and health impairment in later life.

### **SESSION 1360 (SYMPOSIUM)**

#### **BRAIN PLASTICITY: FROM MIDLIFE STIMULATION TO LATE LIFE PREVENTION**

**Chair:** H.H. Dodge, *Oregon Health & Science University, Portland, Oregon, University of Michigan School of Medicine, Ann Arbor, Michigan*

**Discussant:** J. Kaye, *Oregon Health & Science University, Portland, Oregon*

The human brain is more plastic than previously thought; Accumulating evidence suggests that diet, exercise as well as social engagement and network could have direct effects on brain structure and Alzheimer's disease (AD) pathology. Facing a rapid increase in prevalence of those with dementia, it is urgent to delay the onset and progression of dementia. In the absence of curative pharmacological treatment for AD, life style modifications could have large impact on reducing the prevalence of dementia. However, behavioral RCTs are needed to precisely define public health benefits and answer practical questions such as the optimal types, doses, and duration of behavioral modifications. In this symposium, we will present 4 unique studies which show human brain plasticity; The first comes from a longitudinal Japanese cohort study with over 2000 participants. It shows that cognitive stimulation through work could affect brain functions even when subjects reach the oldest old age group. Second, we will introduce novel physical exercise RCTs which examined dose-response relations between aerobic exercise, cognitive functions and AD biomarkers. The third study examined the association between social networks and brain structure via magnetic resonance imaging (MRI) using data from the Cardiovascular Health Study (CHS). The final study presents results of a unique RCT where the effect of increasing social interactions using internet/web-cam on cognitive functions was examined. This symposium aims to shed light on links between social behavioral factors and brain plasticity, and introduce the results of some of the most recent RCTs in this field.

#### **RELATIONSHIP BETWEEN WORK EXPERIENCE AT MIDLIFE AND COGNITIVE FUNCTION IN LATE LIFE**

Y. Ishioka<sup>1</sup>, Y. Gondo<sup>2</sup>, Y. Masui<sup>1</sup>, H. Inagaki<sup>1</sup>, K. Ikebe<sup>3</sup>, K. Kamide<sup>4</sup>, Y. Arai<sup>5</sup>, R. Takahashi<sup>1</sup>, *1. Tokyo Metropolitan Institute of Gerontology, Itabashi, Tokyo, Japan, 2. Graduate School of Human Sciences, Osaka University, Suita, Osaka, Japan, 3. Graduate School of Dentistry, Osaka University, Suita, Osaka, Japan, 4. Graduate School of Medicine, Osaka University, Suita, Osaka, Japan, 5. School of Medicine, Keio University, Shinjuku, Tokyo, Japan*

We examined whether complexity of the main lifetime work, a cognitive reserve marker, might be associated with cognitive function among three age groups (young-, old-, and oldest-old). Using data from 2300 Japanese community-dwelling participants in the Septuagenarian, Octogenarian, Nonagenarian Investigation with Centenarian (SONIC) Project, we conducted multiple group regression analyses separately by sex. Cognitive function was assessed using the Montreal Cognitive Assessment. Evaluation of complexity of work with data, people, and things was developed based on the Japanese job complexity score. More complex work with data was associated with higher cognitive performance for both men and women in the young-old age and for women in the old-old age. More complex work with people was associated with higher cognitive performance for men in the old-old and oldest-old age.

The results suggest evidence the importance of complexity of work in maintaining cognitive function even in the oldest old age.

### THE ROLE OF EXERCISE IN THE PREVENTION AND TREATMENT OF ALZHEIMER'S

J.M. Burns<sup>1</sup>, D.K. Johnson<sup>2</sup>, E.D. Vidoni<sup>1</sup>, *1. University of Kansas Medical Center, Kansas City, Kansas, 2. University of Kansas, Kansas City, Kansas*

Physical exercise may sustain cognitive function and delay dementia in older adults. We will introduce three randomized controlled clinical trials to examine the effect of aerobics exercise on cognitive function and biomarkers conducted at the University of Kansas. A 6 month dose-response trial (n=101) suggests cognitive benefits at low doses of aerobic exercise (75 minutes/week) and the benefits may increase with exercise dose. The best predictor of cognitive gain, however, is increased cardiorespiratory fitness (VO<sub>2</sub>peak). The optimal exercise "dose" may thus be individualized to maximize gains in fitness rather than time spent training. Another trial of exercise in individuals with early AD (n=43) suggests that aerobic exercise moderates hippocampal atrophy and thus may influence the neurodegenerative process. Our recently initiated RCT assesses the effect of exercise on biomarkers (brain atrophy and in-vivo amyloid load) among those in preclinical AD stage. Approaches, results and future directions are discussed.

### RESULTS OF A RANDOMIZED CONTROLLED CLINICAL TRIAL AIMED TO EXAMINE THE EFFECT OF CONVERSATIONAL ENGAGEMENT ON COGNITIVE FUNCTIONS

H.H. Dodge<sup>1,2</sup>, M. Bowman<sup>1</sup>, N. Larimer<sup>1</sup>, K. Wild<sup>1</sup>, N.C. Mattek<sup>1</sup>, J. Kaye<sup>1,3</sup>, *1. Oregon Health & Science University, Portland, Oregon, 2. University of Michigan School of Medicine, Ann Arbor, Michigan, 3. Portland Veteran Affairs Medical Center, Portland, Oregon*

Past epidemiological studies have demonstrated that larger social networks or more frequent social interactions may have protective effects on the incidence of Alzheimer's Disease. We will present the results of a randomized controlled behavioral clinical trial which examined whether conversation-based cognitive stimulation has a positive effect on general and domain-specific cognitive functions among older adults with normal cognition or mild cognitive impairment. Daily face-to-face communications were conducted through the use of personal computers, webcams, and user-friendly interactive Internet with touch screen. We found high adherence to the study protocol and the experimental group significantly improved language-based executive function at the post-trial assessment in comparison with the control group, despite a small sample size and short trial period. User-friendly internet communication programs are shown to be feasible even among octogenarians and can be extended to a community-based cost-effective social-interaction prevention program. Limitations and future directions will be discussed.

### SOCIAL NETWORKS AND MRI MEASURES OF BRAIN HEALTH IN OLDER ADULTS: THE CARDIOVASCULAR HEALTH STUDY

J.D. Flatt<sup>1</sup>, N.R. Fowler<sup>1</sup>, H.J. Aizenstein<sup>1</sup>, R. Schulz<sup>1</sup>, W. Longstreth<sup>2</sup>, A.B. Newman<sup>1</sup>, C. Rosano<sup>1</sup>, *1. University of Pittsburgh, Pittsburgh, Pennsylvania, 2. University of Washington, Seattle, Washington*

We examined the association between social networks and measures of brain health assessed via magnetic resonance imaging (MRI) in 1794 older adults from the Cardiovascular Health Study (CHS). Social networks were assessed using the Lubben Social Network Scale and MRI brain health measures included grey matter atrophy and white matter hyperintensities. The cross-sectional association between social networks and MRI brain health measures were examined in logistic

regression models. After adjusting for sociodemographics (age, gender, race, and education) and health-related characteristics (hypertension, diabetes, and depression), older adults with larger social networks were less likely to have grey matter atrophy (OR 0.72, 95 CI 0.58-0.90) and less likely to have white matter hyperintensities (OR 0.77, 95 CI 0.62-0.96) than those with smaller networks. These findings are consistent with the hypothesis that having larger social networks could help to preserve brain health in late life.

## SESSION 1365 (SYMPOSIUM)

### THE LIFELONG DISABILITIES SPECIAL INTEREST GROUP PRESENTS THE ABCS OF AGING WITH ID: ACCESS, BELIEFS, AND CARE GIVING/CARE RECEIVING

**Chair:** M. Clute, *Social Work, Eastern Washington University, Cheney, Washington*

**Co-Chair:** Y. Shirai, *University of Arizona, Tuscan, Arizona*

**Chair:** K. Culler, *Arizona State, Phoenix, Arizona*

We have much to learn about aging with an intellectual disability (ID). Aging in general is a not a steady predictable progression along a preconceived timeline. It is a dynamic process affected by many factors and shaped by others around us. Our resources, such as education, health, and the many aspects of our social capital affect the process. Aging with ID appears to be just as dynamic and perhaps even a more complex trajectory than aging for the general population. For those with ID, opportunities and access to education, health care, and gaining social capital are affected by societal belief systems and program policies as well as caregiver belief and knowledge throughout the individual's life. Many external factors affect the aging processes for those with ID. One factor that may be truly unique for those aging with ID is the early or even lifelong relationship with caregivers. The dynamics of reciprocity, shared decision making and education and support for the caregivers are all essential for us to understand. This symposium will offer a variety of issues for audience consideration about aging with ID. Topics will focus on factors affecting aging with ID from education to aging within the context of care receiving and care giving.

### MORTALITY AMONG OLDER ADULTS WITH INTELLECTUAL DISABILITY: UNDERSTANDING THE EFFECT OF EDUCATION

S. Landes, *University of Florida, Gainesville, Florida*

Though research suggests that socioeconomic status is likely a cause of poor health and premature mortality for persons with intellectual disability, prior studies have not explored the effect of socioeconomic status on mortality risk. The aim of this study was to investigate whether education predicted differential mortality risks among adults with intellectual disability living in the US. Data was analyzed from the 1997 to 2004 National Health Interview Survey linked with the National Death Index through 2006. Logistic regression models estimated the effects of demographic characteristics, education, and health on mortality risk for adults with intellectual disability. For the overall sample, mortality risk decreased for each level of education, up until the high school level. Mortality risk was also associated with older age and poorer health. For older adults, age 55 and over, lower mortality risk was associated with improved health and/or a high school level of education.

### RECIPROCITY IN END OF LIFE CARE: ADULTS WITH ID AND THEIR AGING PARENTS

M. Clute, *Social Work, Eastern Washington University, Cheney, Washington*

In 2011, at the special interest group discussion on adults with ID/DD, members began discussion of the phenomenon of care giving by adults with ID/DD for elderly parents. In a current research project bereaved adults with ID and their guardians are being interviewed about parental bereavement. Questions related to reciprocity are included in

the interviews. The data is still being gathered, but there is evidence that reciprocity does occur between some aging parents and their children with ID. What the researcher hopes to explore is how this reciprocity may affect the bereavement experience and quality of life for the adult with ID after the death of a parent. Parents and caregivers need to be aware of the importance of reciprocity and acknowledge the contributions to parental care the adult with ID may have provided at the end of life. Implications for parent/caregiver education and bereavement support will be addressed.

#### **OLDER CAREGIVERS OF ADULTS WITH INTELLECTUAL DISABILITIES: RECIPROCAL AND SOCIAL NETWORKING RELATIONSHIPS**

E.A. Perkins<sup>1</sup>, W.E. Haley<sup>2</sup>, K. LaMartin<sup>2</sup>, W. Wang<sup>2</sup>, 1. *Department of Child and Family Studies, University of South Florida, Tampa, Florida*, 2. *University of South Florida, Tampa, Florida*

The majority of people with intellectual disabilities live with their family caregivers, and continue to do so throughout their adulthood. Caregiving relationships for parents of adult children with ID are lifelong, and can be subject to changing and evolving circumstances over time. This presentation amalgamates data from a study, literature review, and pilot study to report on the presence of reciprocity in co-resident aging caregivers and their adult children with ID, the use of social networking in aging caregivers, as well as highlight preferences for conducting data with this caregiving population. Both emotional and tangible reciprocity is evident, and some caregivers reported giving more than they received in emotional and tangible benefits – suggesting that mutual dependence may develop with increasing age. Potential benefits and pitfalls of caregiving communities online were identified, and the difficulties in recruitment and survey preferences that are present in this caregiving population are discussed.

#### **MISSOURI MEDICAID WAIVERS FOR INDIVIDUALS WITH INTELLECTUAL AND DEVELOPMENTAL DISABILITIES: OLDER ADULTS' SERVICE UTILIZATION**

K. Barton<sup>1,2</sup>, G.S. Gotto<sup>1</sup>, 1. *University of Missouri Kansas City Institute for Human Development, Kansas City, Missouri*, 2. *Gerontology, University of Massachusetts Boston, Boston, Massachusetts*

In September 2010 the Centers for Medicare and Medicaid Services approved the Missouri Partnership for Hope (PfH) Medicaid Waiver, a Home and Community-Based waiver developed for individuals with intellectual and developmental disabilities (I/DD). The goal of PfH is to improve access, expand eligibility, and maximize funding for supports and services for individuals with I/DD of all ages. Unlike Missouri's Community Support and Comprehensive I/DD Medicaid waivers, where eligibility is crisis-driven, PfH services are designed to be preventative, with a \$12,000 annual cap per participant. Analyses of service utilization rates for PfH, Community Support, and Comprehensive waiver participants by age reveal that many of the targeted waiver services provided through PfH (e.g. assistive technology) are infrequently utilized, particularly by participants age 50 or older. Findings indicate opportunity to prevent/delay costly care in older adulthood through utilization of PfH supports and services. Implications of the regional availability of services are also discussed.

#### **THE ROLE OF AGING AND DISABILITY RESOURCE CENTERS IN SERVING ADULTS AGING WITH INTELLECTUAL DISABILITIES AND THEIR FAMILY CAREGIVERS**

C. Coyle<sup>1</sup>, J.E. Mutchler<sup>1</sup>, J. Kramer<sup>1</sup>, M. Putnam<sup>2</sup>, 1. *University of Massachusetts Boston, Boston, Massachusetts*, 2. *Simmons College, Boston, Massachusetts*

For the first time, adults with intellectual and developmental disabilities (I/DD) are now facing both their own aging processes and the aging

of their family caregivers. The purpose of this project is to assess the activities of Aging and Disability Resource Centers (ADRCs) as they seek to serve older adults with intellectual disabilities and their family caregivers. Data come from in-depth qualitative interviews with ADRC coordinators and program site staff in the eight states participating in the Enhanced ADRC Options Counseling Program. Using a constant comparative approach, themes and sub-themes are extracted and models of service provision for this specific population are described at the state and local level; as well, comparisons are drawn across states. Results indicate that very few supports are available to explicitly serve adults who simultaneously require aging and disability services and their families and the nature of these supports varies greatly across states.

#### **SESSION 1370 (SYMPOSIUM)**

##### **ENHANCING CARE CONNECTIONS FOR OLDER ADULTS WITH ANXIETY**

**Chair:** S. Shrestha, *Psychology, University of St. Thomas, Houston, Texas, Baylor College of Medicine, HOUSTON, Texas*

**Discussant:** S.H. Zarit, *Pennsylvania State University, University Park, Pennsylvania*

Anxiety is common among older adults and is associated with increased disability, service utilization, and mortality. Anxiety also predicts poor treatment outcome in late-life depression and is a risk factor for dementia. Late-life anxiety is usually unrecognized by providers and undertreated, although evidence supports the effectiveness of psychosocial treatment. Most treatment studies, however, are conducted with homogeneous samples in academic or primary care settings. Reach of anxiety treatment needs to be expanded to include more diverse populations, varied settings, and different therapeutic approaches. In the proposed symposium, four papers will be presented. The first will present follow-up data on older adults who completed a primary-care-based study of Generalized Anxiety Disorder (GAD) offering modular cognitive behavioral therapy delivered by PhD and BA-level lay providers. Results showed maintained improvements in worry, anxiety and depression in both treatment groups at 12-months. The second paper will outline 3-month outcomes from a study comparing a modular, person-centered, culturally tailored intervention for late-life anxiety that includes an option to integrate religion/spirituality with telephone information and resource counseling. The study is on-going and currently includes 35 participants, most of whom are African American. The third study will present findings from a pilot study comparing cognitive-behavioral treatment with problem-solving therapy in older Veterans or Veteran caregivers with full or subsyndromal GAD. Individuals in both treatment groups exhibited clinically significant change in anxiety symptoms. The fourth study examines determinants of anxiety among Latino elders. Result showed that physical disability and depression predicted anxiety in this underserved group.

##### **EXPANDING REACH OF LATE-LIFE ANXIETY TREATMENT IN UNDERSERVED, MOSTLY AFRICAN AMERICAN COMMUNITIES**

S. Shrestha<sup>1,2,3</sup>, N.L. Wilson<sup>3</sup>, A. Bush<sup>2,3</sup>, M. Armento<sup>2,3</sup>, G. Evans<sup>2,3</sup>, M.E. Kunik<sup>2,3,4</sup>, M.A. Stanley<sup>2,3,4</sup>, 1. *Psychology, University of St. Thomas, Houston, Texas*, 2. *Houston VA Health Services Research and Development Center of Excellence, Michael E. DeBakey VA Medical Center, Houston, Texas*, 3. *Baylor College of Medicine, Houston, Texas*, 4. *VA South Central Mental Illness Research, Education and Clinical Center, Houston, Texas*

New treatment models are needed to expand the reach of mental health care to minority elders. Calmer Life (CL) is a skills-based, person-centered, culturally tailored intervention for late-life anxiety that includes resource counseling and an option to integrate religion/spirituality. The program was developed in the context of a community-academic partnership with senior-serving organizations in underserved

communities, and nontraditional community providers were trained to deliver the intervention. This presentation will report 3-month outcome data comparing CL with telephone information and resource counseling called Enhanced Community Care (ECC). Currently, 35 individuals are enrolled in the program (18 CL and 17 ECC). The current sample is predominantly African American (89% CL and 71% ECC) and female (89% CL and 100% ECC). Recruitment will continue until the end of March. If effective, CL will help expand the reach of late-life anxiety treatment to minority populations that are often poorly represented in empirical research.

#### **LONG TERM TREATMENT OUTCOMES FOR LATE LIFE GAD IN PRIMARY CARE PROVIDED BY PHD AND LAY PROVIDERS**

J. Calleo<sup>1,2</sup>, A. Bush<sup>2,1</sup>, C. Kraus-Schuman<sup>1</sup>, N.L. Wilson<sup>2</sup>, M.E. Kunik<sup>1,2</sup>, M.A. Stanley<sup>1,2</sup>, *I. Michael E. DeBakey VAMC, Houston, Texas, 2. Baylor College of Medicine, Houston, Texas*

Primary care providers frequently encounter older adults needing help for anxiety. Implementation of evidence-based treatment in this setting requires a sustainable delivery model and demonstration of long-term benefits. A modified version of CBT for older adults with GAD was delivered by PhD and BA-level lay providers with no prior mental health experience in 2 primary care settings. Treatment was tailored to individual patient preferences and telephone-based delivery was used to provide and review treatment skills. CBT delivered by both PhD and lay providers reduced anxiety and GAD severity compared to usual care at post-treatment (6 months). This study examines the maintenance of gains over the subsequent 12-months (n = 96). Patients received up to 4 additional booster calls over this interval. Improvements in GAD symptoms (GADSS), anxiety (SIGH-A, STAI-Trait) and depression symptoms (PHQ-8) were maintained in both treatment groups. Thus, treatment delivered by lay providers can have lasting benefits.

#### **A PILOT COMPARISON OF PROBLEM SOLVING THERAPY AND COGNITIVE BEHAVIORAL THERAPY FOR GENERALIZED ANXIETY DISORDER IN OLDER ADULTS**

S.A. Beaudreau<sup>1,2,3</sup>, C.E. Gould<sup>2,4</sup>, J. Fairchild<sup>1,2</sup>, T. Rideaux<sup>1</sup>, T. Huh<sup>1,2</sup>, R. O'Hara<sup>1,2,3</sup>, *1. Sierra Pacific Mental Illness Research Education and Clinical Center, Palo Alto VA, Palo Alto, California, 2. Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, California, 3. School of Psychology, University of Queensland, Brisbane, Queensland, Australia, 4. Geriatric Research Education and Clinical Center, Palo Alto VA, Palo Alto, California*

This pilot study examined the preliminary efficacy of cognitive behavioral therapy (CBT) versus problem solving therapy (PST) in older Veterans or Veteran caregivers (M = 79.7 years) with full or subsyndromal Generalized Anxiety Disorder (GAD). We examined whether clinical improvements occurred for one treatment over the other on anxiety and related symptoms (worry, depression), cognition, sleep, functioning, and rational problem-solving. Both treatments led to clinically significant improvement (>10-point reduction) of anxiety symptom severity on the Hamilton Anxiety Scale. None of the patients randomized to CBT went from full to subsyndromal GAD or subsyndromal to minimal GAD symptoms pre- to post-treatment; all completers of PST went from full GAD to subsyndromal GAD status. Neither treatment led to clinically significant improvements in mental health symptoms, cognition, sleep, functioning or rational problem-solving. Recommendations for employing PST with older adults and its potential as an adjunct to CBT for late-life GAD will be discussed.

#### **ANXIETY SYMPTOMATOLOGY IN OLDER LATINOS: THE ROLE OF PHYSICAL AND PSYCHIATRIC COMORBIDITY**

M. Aranda, *Social Work, University of Southern California, Los Angeles, California*

Minimal research has been reported on anxiety in older Latino populations. Based on the BSI Anxiety Subscale, we examined the rates of self-reported anxiety symptoms in a clinical population (n=249) of primarily Spanish-speaking Latinos 60+ years of age. Anxiety symptoms ranged from 0 to 24, with an average score of 8.97 (s.d.=5.5). Using linear regression modeling we identified determinants of anxiety symptomatology, specifically: physical disability (p=.000); depression severity (p=.000); and level of pain (p=.025). Age, gender, among other variables were not significant determinants of anxiety. Although older Latinos will make the largest group of older Americans by 2028, their mental and behavioral health status is poorly addressed. Implications of the results will be discussed with regards to integrated models of clinical interventions.

#### **SESSION 1375 (SYMPOSIUM)**

##### **INTERDISCIPLINARY RESEARCH IN THE BERLIN AGING STUDY: FROM CELLS TO INDIVIDUALS TO SOCIETIES**

**Chair:** J. Drewelies, *Humboldt University Berlin, Berlin, Germany*  
**Co-Chair:** D. Gerstorff, *Humboldt University Berlin, Berlin, Germany*

Lifespan and gerontological research has long acknowledged the multidimensional character of aging and the necessity for interdisciplinary research on aging processes. This symposium will consist of five presentations that highlight first results of the Berlin Aging Study II (BASE-II). Düzel and colleagues show that in healthy older individuals the subjective motivational perspective to engage in future novelty is correlated with current cognitive performance in working memory and episodic memory tasks. Drewelies and colleagues combine psychological and medical data from BASE-II to examine the role of perceived control in well-being change and its associations with abdominal adiposity and telomere length. Pawelec and colleagues examine linkages between immune parameter and socioeconomic status using data from the BASE-II. Kolbe and colleagues demonstrate the importance of green spaces for residents of urban areas by using Geographic Information System (GIS) and combining information on environmental factors (e.g., green spaces, noises) with BASE-II household data on special level. Steinhagen-Thiessen and colleagues use medical data from BASE-II to examine the role of lipoprotein (a), an independent risk factor for cardiovascular disease, in type 2 diabetes.

##### **ASSOCIATIONS BETWEEN MOTIVATION TO ENGAGE IN FUTURE NOVELTY AND CURRENT COGNITIVE STATUS IN HEALTHY OLDER ADULTS - IMPLICATIONS FOR SUCCESSFUL AGING**

S. Düzcel<sup>1</sup>, D. Gerstorff<sup>2</sup>, J. Drewelies<sup>2</sup>, N. Buchmann<sup>3</sup>, I. Demuth<sup>3</sup>, S. Kühn<sup>1</sup>, U. Lindenberger<sup>1</sup>, *1. Max-Planck Institute for Human Development, Berlin, Germany, 2. Humboldt University Berlin, Berlin, Germany, 3. Charité Berlin, Berlin, Germany*

There is consensus that lifestyle factors such as physical exercise, cognitive stimulation, and social engagement help to maintain cognitive abilities in old age. However, the mechanisms driving the motivation to lead an active life, which requires novelty exploration, are largely unknown. S. Düzel et al. (2010) developed the 'subjective health horizon questionnaire' (SHH) to assess expectations about future health and physical performance. We collected SHH data from 1100 healthy older BASE-II participants (mean age=70 years; 50% female) along with cognitive measures, a medical exam, and subjective reports of health and wellbeing. The novelty exploration SHH subscale was associated with global and specific measures of episodic and working memory. Associations between SHH and metabolic risk factors were not reliable.

Our analyses point to an association between motivation to engage in future novelty and current cognitive status. Relations of the SHH to brain physiology are currently being explored in a BASE-II subsample.

#### **PERCEIVED CONTROL AND WELL-BEING CHANGE – ASSOCIATIONS WITH ABDOMINAL ADIPOSITY AND TELOMERE LENGTH?**

J. Drewelies<sup>1</sup>, S. Düzel<sup>2</sup>, N. Buchmann<sup>3</sup>, I. Demuth<sup>3</sup>, A. Meyer<sup>3</sup>, D. Gerstorff<sup>1</sup>, *1. Humboldt University Berlin, Berlin, Germany, 2. Max-Planck-Institute for Human Development, Berlin, Germany, 3. Charité Berlin, Berlin, Germany*

Perceived control often operates as a general-purpose resource for successful aging. However, the underlying pathways are less well understood. In this study, we investigate the role of physiological risk factors associated with health-promoting behavior and with stress regulation. Using 2-wave data from the Berlin Aging Study-II (n = 210; 52% women, mean age = 70,9), we found that participants who reported perceiving more control over their lives experienced less well-being decline over 2,6 years. We also found that perceived control was indeed associated with a reduced risk for abdominal adiposity (a major component of the metabolic syndrome) and with larger telomere length (a marker against accelerated cellular aging imposed by stress). We discuss how physical activity, diet, and people's repertoire of coping strategies contribute to our findings.

#### **IMMUNE STATUS IN BASE-II DONORS: ASSOCIATIONS WITH SOCIOECONOMIC SCORE**

E. Derhovanessian<sup>1</sup>, P. Eibich<sup>3</sup>, I. Demuth<sup>2</sup>, E. Steinhagen-Thiessen<sup>2</sup>, G. Pawelec<sup>1</sup>, *1. Second Department of Internal Medicine, University of Tuebingen, Tuebingen, Germany, 2. Charite - Universitätsmedizin Berlin, Berlin, Germany, 3. German Institute for Economic Research (DIW Berlin) Socio-Economic Panel Study (SOEP), Berlin, Germany*

Immunosenescence is a descriptive term for the deleterious age-associated changes to immunity observed in all mammals studied so far. However, there are many difficulties in interpreting immunogerontological observations because immunological data are likely to be influenced by many parameters not commonly studied, including health, socioeconomic conditions, genetics, nutrition, psychological and cognitive status, pathogen exposures. The BASE-II study does aim to take account of all these parameters. Here, we will focus on socioeconomic score (SES) incorporating the individual's current occupational position, weighted income (in the household), vocational and educational level, and Cytomegalovirus (CMV) infection. We tentatively conclude that SES associates with the distribution of naïve and memory T cells in young people, but not in the elderly, whereas CMV infection does so in both young and old. Thus, interactions between CMV infection and SES require further dissection and integration with the other parameters measured in BASE-II.

#### **THE GREENER, THE HAPPIER? THE EFFECTS OF URBAN GREEN SPACES ON RESIDENTIAL WELL-BEING**

C. Krekel<sup>1,2</sup>, J. Kolbe<sup>2</sup>, H. Wüstemann<sup>2</sup>, *1. German Socio-Economic Panel Study (SOEP), German Institute for Economic Research (DIW Berlin), Berlin, Germany, 2. Technical University Berlin, Berlin, Germany*

The evidence for physical and mental health benefits of urban green spaces is still scarce. This paper investigates the effects of urban green spaces on the mental and physical health of residents, especially the elderly, in Berlin, Germany, using panel data from the Berlin Aging Study (BASE-II) for the time period between 2008 and 2012 and geocoded data from the Berlin Senate Department for Urban Development and the Environment. We calculated the coverage of urban green spaces in pre-defined buffers around households and the distance between households and the nearest green site. Health benefits are measured as self-reported life satisfaction and physical and mental health status, as

well as morbidity and the frequency of hospitalization. The valuation of health benefits is based on avoided health care costs. In addition, we calculated the willingness-to-pay, using implicit marginal rates of substitution. Preliminary results indicate positive effects of urban green spaces on health.

#### **THE ROLE OF LIPOPROTEIN (A) IN TYPE II DIABETES: DATA FROM THE BERLIN AGING STUDY II (BASE-II)**

E. Steinhagen-Thiessen<sup>1</sup>, N. Buchmann<sup>1</sup>, T. Liu<sup>2</sup>, L. Bertram<sup>3</sup>, K. Norman<sup>1</sup>, R. Eckardt<sup>1</sup>, I. Demuth<sup>1</sup>, *1. Charité - Universitätsmedizin Berlin, Berlin, Germany, 2. Max Planck Institute, Berlin, Germany, 3. Dept. of Vertebrate Genomics, Berlin, Germany*

Lipoprotein (a) (Lp(a)) is an independent risk factor for cardiovascular disease. While earlier studies suggested that Lp(a) concentrations are on average higher in type 2 Diabetes (T2D) patients, recent studies consistently found the opposite, an inverse association of Lp(a)-levels and T2D. So far little is known about the basic cause of this observation, however, there is some evidence from animal experiments that increased insulin levels might impact on Lp(a) serum concentration. Here we studied the relationship between Lp(a), insulin resistance and T2D (ESC Guidelines) in a total of 1,453 BASE-II participants (60-84 years, 67±17 years, women=53.3%). The prevalence of T2D was 9.9%. Lp(a)-levels were significantly lower in the T2D group when compared with non-T2D subjects (p=0.019). These data will be presented together with the results of a mendelian randomization analysis focusing on T2D as the driving factor in the Lp(a)-T2D relationship

#### **SESSION 1380 (SYMPOSIUM)**

##### **A PRIMER ON THE WISCONSIN LONGITUDINAL STUDY: OVER 50 YEARS OF SOCIAL DATA COMBINED WITH GENETIC DATA**

**Chair:** C. Roan, *Sociology, University of Wisconsin, Madison, Wisconsin*

**Co-Chair:** P. Herd, *Sociology, University of Wisconsin, Madison, Wisconsin*

The Wisconsin Longitudinal Study is a data source that connects cells to society. The study is a sample of one in three Wisconsin high school graduates, and a selected sibling, from the class of 1957. WLS is unique among major social scientific resources for the length with which it has followed a large population-based cohort sample and that it includes siblings. We recently released the latest round of data collected between March of 2010 and December of 2012. The new data include anthropometric and functioning measures which add yet a new dimension to the many types of WLS data. The data cover nearly every aspect of the participants' lives from early life socioeconomic background, schooling, family and work to health, social participation, civic engagement, well-being, and cognition. The study also has a wealth of unique data including examples such as administrative IQ scores from high school, information collected from high school yearbooks that include measures of attractiveness, proxy measures for obesity, and complete lists of student activities for all respondents. Examples of administrative data include Medicare records, Social Security records, and resource data on primary and secondary schools attended by participants. At the cellular level, DNA data can be merged with fifty-five years of social data. This session will introduce the study to researchers who are not familiar with the data by providing an overview of the study as well as practical information on the structure of the data. Attendees will be provided with a USB containing documentation and the data.

## HOW TO ACCESS AND USE DATA FROM THE WISCONSIN LONGITUDINAL STUDY

C. Roan, *Sociology, University of Wisconsin, Madison, Wisconsin*

With over 27,000 analysis variables covering more than 55 years of data, new users of the WLS data may find themselves overwhelmed when looking for the measures they need to answer their research questions. We will give detailed instructions on how to use the tools and reference materials developed by WLS staff. Attendees will learn how to search for analysis variables, where to find copies of the survey instruments online, and how to download the public data. We will also explain the organizational structure of the data, variable naming conventions, and offer recommendations on how to break the data into smaller pieces if your computing resources are limited. Participants in this symposium will also learn about the differences between publicly available data and the small subset of data available only by application. Finally we will explain how to apply to use the genetic data and other non-public data.

## A PRIMER ON GENETIC DATA AVAILABLE IN THE WISCONSIN LONGITUDINAL STUDY

C.S. Atwood, *1. Medicine, University of Wisconsin-Madison, Madison, Wisconsin, 2. Veterans Administration Hospital, Madison, Wisconsin*

The inclusion of genetic data into the WLS database allows analyses linking genotypic, biomedical, psychosocial, and life course outcomes in novel ways. WLS is a unique resource available to all qualified researchers for investigations exploring the genotypic contribution to observed associations among phenotypic measures across domains, gene  $\times$  gene interaction studies, and gene  $\times$  environment interaction studies. This presentation will give an overview of the current genetic data, future genetic analyses to be performed and the different analytical techniques (e.g. recursive partitioning, random jungle, multi-factor dimensionality reduction; machine learning algorithms) being used to mine this dataset. Examples of how the genetic data has been used to identify gene  $\times$  gene and gene  $\times$  environment interactions associated with the etiology of complex diseases and conditions will be presented.

## WHAT'S IN THE WLS? AN OVERVIEW OF SURVEY CONTENT ACROSS TIME

P. Herd, *University of Wisconsin-Madison, Madison, Wisconsin*

This presentation will provide an overview of the WLS data. Survey years include 1957, 1964, 1975, 1993, 2004, and 2011. The content of the WLS has changed to reflect the life course of participants: education inspired the initial data collection, familial and career outcomes focused data collection in midlife, and later rounds have shifted attention to respondent's health, cognitive status, psychological and other dimensions of wellbeing, non-work activities, and caregiving and social support. Some examples of non-survey derived measures include: parent earnings from state tax records (1957-60), high school IQ scores; characteristics of high schools and colleges, employers, industries, and communities of residence; archival data on high school and elementary school resources; information on social participation, facial obesity, and attractiveness from yearbooks; matches to the National Death Index and the Wisconsin State Tumor Registry; and Medicare claims data for older siblings.

## SESSION 1385 (PAPER)

### MENTAL HEALTH AND WELL-BEING

#### THE IMPACT OF PSYCHIATRIC HISTORY AND COGNITIVE FUNCTION ON NURSING HOME USE AMONG OLDER AMERICANS

M. Brown, *Syracuse University Aging Studies Institute, Syracuse, New York*

Previous research indicates that older adults reporting a history of psychiatric, emotional or nervous problems are likely to have poorer cognitive function and experience steeper cognitive declines. This association between psychiatric history and cognitive function may result in greater levels of nursing home utilization. The current study uses growth curve modeling to analyze the eight waves of the Health and Retirement Study data to address the following research questions: 1) is a history of psychiatric, emotional or nervous problems associated with greater utilization of nursing homes, net the effect of selected life course variables, and 2) does respondent cognitive function interact with psychiatric history to further influence nursing home utilization. Nursing home utilization is measured as the number of nights spent in a nursing home in the two years prior to interview at any time point. Psychiatric history is independently associated with greater nursing home utilization; this association remains after controlling for a variety of life course variables in the model. Both psychiatric history and lower cognition scores are independently associated with increasing nursing home utilization as respondents age, and their interaction is associated with an even steeper increase in nursing home utilization with age. Evidence of a relationship between psychiatric history, cognitive decline, and nursing home utilization can enhance public understanding of the impact that psychiatric history has on the long-term care system, and educate policy-makers and long-term care providers about the need for appropriate community-based supports and services for older adults with a history of mental health issues.

#### MOVING PATIENT OUTCOMES TOWARD WELLNESS AND RECOVERY (MPOWR): SHARED DECISION MAKING WITH OLDER ADULTS

S. Pais<sup>1</sup>, A. Reeve<sup>2</sup>, M. Moore<sup>1</sup>, C. Spensley<sup>1</sup>, N. Milan<sup>1</sup>, *1. Felton Institute, San Francisco, California, 2. University of New Mexico, Albuquerque, New Mexico*

Background: Despite their desire to be more involved in decision making about medications, hospitalization, and other aspects of treatment, the role of clients with serious mental illness in their treatment is largely passive. Defined as the collaboration between clients and care managers to achieve a shared agreement about health care decisions, shared decision-making contributes to improved health outcomes in several physical and mental health conditions. Purpose: To describe the implementation of Moving Patient Outcomes toward Wellness and Recovery (mPOWR), a toolkit with an evidence based questionnaire and decision aids designed to improve shared decision making with older adults in community mental health settings. Methods: Four community mental health agencies are participating in this study with one urban site and one rural site serving as the mPOWR implementation sites and the others as the control sites. Data is being collected in a time-series design, using qualitative and quantitative methods. Primary outcome measures include: quality of life, community living skills, patient-defined service goal attainment, patient perceptions of alliance, satisfaction, use of treatment options and shared decision-making. Results: This project which is funded by the Patient Centered Outcome Research Institute is ongoing. Preliminary results addressing the key aspects of shared decision making with older adults from the two intervention sites will be shared, including barriers and successes.

## VERY OLD AND VERY HAPPY? STABILITY AND CHANGE OF MULTIPLE WELL-BEING INDICATORS IN ADVANCED OLD AGE

M. Wettstein, O.K. Schilling, H. Wahl, *Department of Psychological Aging Research and Network Aging Research (NAR), Heidelberg University, Heidelberg, Germany*

Research on stability and change of subjective well-being (SWB) has rarely included samples of very old individuals and considered a broad range of SWB indicators across an extended time interval. We investigated the amount of SWB stability and change as well as co-variation between changes over seven measurement occasions distributed across approximately four years in a sample of 124 participants aged between 87 and 97 years ( $M = 90.56$  years,  $SD = 2.92$  years) at the first measurement occasion. Included were measures of hedonic (life satisfaction, PANAS) and eudaimonic well-being (Ryff Scales of Psychological Well-Being). In addition, indicators of mental distress (depression, attitudes toward death and dying, and health concerns/disease phobia) were assessed. Although participants reported on average high and fairly stable well-being levels across most indicators, the mean number of depressive symptoms was close to the cutoff point of clinical depression. In addition, depression showed, together with a subset of other SWB indicators (positive affect, environmental mastery, purpose in life), a worsening change trend. In contrast, acceptance of death and dying was surprisingly high and increased, whereas the mean level in fear of death was very low and further declined over time. Based on correlations between SWB slope components derived by multilevel models, we found only limited evidence for uniform SWB changes and SWB dedifferentiation processes in old age. Findings suggest that SWB change in very old age follows a multidirectional trend.

## ASSOCIATIONS BETWEEN CHANGES IN FORMAL AND INFORMAL VOLUNTEERING AND MENTAL HEALTH

C.M. Proulx, A.L. Curl, A. Ermer, *University of Missouri, Columbia, Missouri*

We employed longitudinal data from 6 waves (2000-2010) of the Health and Retirement Study (HRS) to examine whether changes in formal and informal volunteering impact depressive symptoms and cognitive functioning in adults ages 65 and older. Formal volunteering has been found to benefit mental health, but less is understood about whether informal volunteering exerts similar benefits. Examining both forms of volunteering simultaneously over time allows us to explore the long-term benefits of each, net of the other. Understanding whether changes in both formal and informal volunteering affect mental health is critical for designing interventions that may maximize opportunities for older adults to maintain these forms of productive engagement and the social benefits that likely extend from them. The analytic sample includes 6,402 older adults. Multilevel models controlled for adults' age, gender, race, ethnicity, health status, marital status, household income, household wealth, and driving ability. Results provide evidence of the negative impact of decreases in formal and informal volunteering on mental health. Decreases in both forms of volunteering were related to decreases in cognitive functioning ( $\beta = .20$  and  $.11$ ,  $p < .001$  for formal and informal volunteering, respectively) and increases in depression over time ( $\beta = -.05$  and  $-.02$ ,  $p < .05$  for formal and informal volunteering, respectively). Thus, when considered simultaneously, changes in both forms of volunteering independently influence mental health outcomes, suggesting that interventions aimed at promoting and maintaining volunteer activity in later adulthood are likely to positively impact mental health and functioning.

## MENTAL HEALTH TREATMENT AMONG COMMUNITY-DWELLING OLDER ADULTS WITH ANY MENTAL ILLNESS

B. Han, *Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Rockville, Maryland*

Objectives: This study examined mental health treatment rates among community-dwelling older adults with past-year any mental illness (AMI) in the United States. Characteristics associated with receipt of mental health treatment among this population were also investigated. Methods: We analyzed data from 13,600 persons aged 65 or older who participated in the 2008-2012 National Surveys on Drug Use and Health (NSDUHs), which were then merged with the 2011-2012 Area Resource File. Past-year AMI was based on diagnostic criteria specified within the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders. Descriptive and logistic regression modeling were applied. Results: Among community-dwelling older adults, 12.0% (annual average) had AMI in 2008-2012, which was stable between 2008 throughout and 2012. Among older adults with past-year AMI, 32.4% (annual average) received mental health treatment (3.7% received inpatient treatment, 13.9% received outpatient treatment, and 27.3% received prescription medications), and these corresponding treatment rates remained unchanged between 2008 throughout 2012. Multivariate logistic regression results suggested that among older adults with AMI, receipt of mental health treatment was more likely among those aged 65-74, women, non-Hispanic whites, those with college or more education, retired older adults, divorced/separated older adults, those who perceived need for mental health treatment, those with serious mental illness, those with over 2 emergency room visits in the past year, and those who resided in a county with over 30 psychiatric offices. Conclusions: These results indicate the need to screen for AMI among older adults and to improve their mental health treatment rates.

## SESSION 1390 (PAPER)

### MINORITY AGING I

#### THE EFFECT OF SOCIAL FACTORS BY GENDER ON EPISODIC MEMORY IN A POPULATION SAMPLE OF AGING BLACK AMERICANS

L.L. Swett, *Catholic University of America, Washington, District of Columbia*

Purpose of the Study: The purpose of this study is to examine select psychosocial factors (i.e. social ties, locus of control, lifetime discrimination) for non-demented, community-dwelling Black Americans by gender between the ages of 50 and 78 that are predictive of cognitive health. Design and Methods: Data for the study come from the University of Michigan Health and Retirement Study (HRS), a longitudinal panel study that surveys a representative sample of older Americans every two years. A secondary analysis of the 2010 wave was completed. Complete data are available for 162 men and 319 women. Regression analysis was run to predict a total cognitive score measuring episodic memory. Results: Black men were shown to have a higher level of episodic memory when they had higher levels of education ( $\beta = .24$ ,  $p < .001$ ), a lower perception of a positive relationships with their children ( $\beta = -.23$ ,  $p < .001$ ), a lower level of perceived constraints ( $\beta = -.24$ ,  $p < .01$ ), and a higher level of lifetime discrimination ( $\beta = .20$ ,  $p < .01$ ). Black women had a higher level of episodic memory when they had higher levels of education ( $\beta = .50$ ,  $p < .001$ ) and lower levels of perceived negative support from family, friends, and children ( $\beta = -.17$ ,  $p < .05$ ). The model explains 24% of the variance in episodic memory for men and 28% for women. Implications: These predictive psychosocial factors should be included in cognitive health policy discussions for aging Black men and women.



## PERCEPTIONS, AWARENESS, AND SYSTEMS OF SUPPORT AMONG AFRICAN AMERICAN FAMILIES RESPONDING TO MILD COGNITIVE IMPAIRMENT

E. Potter<sup>1</sup>, K.A. Roberto<sup>2</sup>, N. Brossoie<sup>2</sup>, R. Blieszner<sup>1</sup>, *1. Human Development, Virginia Tech, Blacksburg, Virginia, 2. Center for Gerontology, Blacksburg, Virginia*

Despite increased knowledge of the risks of mild cognitive impairment (MCI) among older African Americans, researchers seldom detail minority families' experiences with early memory problems. We examined relationship and caregiving issues as experienced by African American families through a life course perspective. For this qualitative investigation, we analyzed semi-structured interview data to shed new light on the ways in which African American families perceived behavioral changes in their relatives with MCI (referred to as PwMCI), personal relationship changes attributed to memory decline, and family engagement in systems of support. The sample included 27 PwMCI (aged 55 to 88), 27 primary care partners (aged 29 to 92) and 14 secondary care partners (aged 42 to 91) who all identified as Black or African American. Our findings focus on three family issues related to MCI: (a) family acknowledgement or recognition of changes in PwMCI, (b) primary care partners' responses to memory decline or diagnosis, and (c) PwMCIs' and families' current and future use of outside support. Findings reveal no homogeneous African American family experience as family members were influenced by their personal relationships with PwMCI, attitudes towards aging, knowledge about memory loss, and the medical diagnosis. Family members also tended to have differing opinions on the need and use of outside support, relying heavily on friend and family networks. Moreover, for some care partners the church was an undesirable source of support. Family and caregiving researchers and practitioners need to consider complex relationships and personal attitudes that influence families' experiences with MCI.

## PERCEIVED STRESS AND COGNITIVE DECLINE IN DIFFERENT COGNITIVE SYSTEMS IN A COHORT OF OLDER AFRICAN AMERICANS

A.D. Turner, B.D. James, A. Capuano, N.T. Aggarwal, L.L. Barnes, *Alzheimer's Disease Center, Rush University Medical Center, Chicago, Illinois*

Research indicates that stress is linked to cognitive impairment, however few community-based studies explore the relationship between stress and cognitive decline, and fewer still involve specific cognitive systems rather than a global measure of cognition. We examined the relation of perceived stress with rate of decline in different cognitive systems. Participants were 583 older African Americans from the Minority Aging Research Study (mean (SD): age = 73.6 (6.3); education = 14.8 (3.6) who were without dementia at baseline. The 4-item Cohen's Perceived Stress Scale was given at baseline and at annual intervals for up to 9 years, a battery of 19 cognitive tests was administered from which previously established composite measures of five cognitive domains were derived. In mixed effects models adjusted for age, sex, education and vascular risk factors, higher perceived stress was related to faster declines in global cognition (estimate=-0.019; SE=0.008; p=0.011), episodic memory (estimate=-0.023; SE=0.011; p=0.029) and visuospatial ability (estimate=-0.019; SE=0.009; p=0.023). Results were similar in subsequent models adjusted for depressive symptoms. The results indicate that higher levels of perceived stress are related to impaired global cognition and more rapid decline in episodic memory and visuospatial ability in older African Americans.

## LEARNING STYLES AND CULTURAL PREFERENCES AMONG A SAMPLE OF OLDER BLACK ADULTS

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The purpose of this study was to obtain data that would inform the development of a training manual directed at preparing facilitators in a peer-led reminiscence intervention to decrease depressive symptoms among a sample of older Black adults. Focus group methodology was used to obtain culturally appropriate learning styles among the participants and their acceptance of a peer led reminiscence intervention. Six focus groups (N=36) were held in a senior center in a northeast urban area. The mean age of the sample was 64.6 (SD=9.3), the majority of the participants were female (75%). Under the supervision of the second author, the focus groups were led by a Black graduate student who had been trained in focus group techniques. Data were collected until saturation was reached. Sessions were taped and transcribed verbatim. Borkan's immersion/crystallization techniques were used to analyze the data. The following themes related to learning styles and acceptance of the peer reminiscence process emerged: 1) "we can learn from one another", 2) prefer visual learning techniques, 3) emphasis on simple and clear language, 4) prefer experiential learning, 4) create a trusting, social environment, and 5) being sensitive to religious beliefs and practices. These data allow the investigators to address the learning needs of peer facilitators in ways that take into account cultural sensitivity and learning styles. The next step in the process will be the testing of the manual among a sample of older Black adults.

## THE PREVALENCE OF PERCEIVED STRESS AMONG U.S. CHINESE OLDER ADULTS

M. Zhang<sup>1</sup>, C. Li<sup>1</sup>, E. Chang<sup>1</sup>, R. Chen<sup>1</sup>, J. Huang<sup>1</sup>, M.A. Simon<sup>2</sup>, X. Dong<sup>1</sup>, *1. Rush Institute of Healthy Aging, Chicago, Illinois, 2. Northwestern University, Chicago, Illinois*

Background: Perceived stress is an important indicator of well-being. Aging process, cultural factors and the immigration experience contribute to the perceived stress among U.S Chinese older adults. However, we have limited understanding of the experience of stress among this population. This study aims to describe the prevalence of perceived stress, and to quantify the levels of perceived stress by socio-demographic factors in a community-dwelling Chinese older population. Methods: Data were drawn from the PINE study, a population-based survey of U.S. Chinese older adults aged 60 and above in the greater Chicago area. We assessed perceived stress through face-to-face interviews using Perceived Stress Scale (PSS) (Cronbach's alpha=0.80). Results: Of the 3,159 participants, 58.9 % were women and the mean age was 72.8 (SD = 8.3). Our findings indicated 11.4 % to 31.8 % of U.S Chinese older adults perceived stress under specific scenarios in their lives. More than one third of participants felt they could not cope with things had to do in their lives. Older adults with older age, female gender, higher educational and income level tend to perceive higher level of stress. Participants with zero years of education showed the highest level of perceived stress among subgroups with mean score of 12.2. Conclusions: In sum, this study indicates that a significant amount of Chinese older adults in the U.S experience some level of stress in their daily lives. Future longitudinal studies are needed improve the understanding of risk factors and outcomes associated with perceived stress in Chinese older adults.

## ADULT PROTECTION AND ELDER ABUSE

## UNDERSTANDING ELDER MISTREATMENT IN ASIAN AMERICAN AND PACIFIC ISLANDER (AAPI) COMMUNITIES

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While Asian American and Pacific Islander (AAPI) older adults can experience socio-cultural barriers in elder mistreatment help-seeking efforts (Lee & Shin, 2010), little is known about factors associated with such behaviors. Using survey methods, we examined the relationships between AAPIs' elder mistreatment experiences and social support, and socio-cultural factors. Elder mistreatment experiences were measured using the National Elder Mistreatment Study questionnaires (National Institute of Justice, 2009). Multidimensional Scale of Perceived Social Support was used to measure social support from significant others, family, and friends (Zimet, 1990). Help-seeking behaviors, cultural perceptions of elder mistreatment, and demographic characteristics were measured through the questionnaires developed for this study. A total of 70 participants from community agencies in a Western state completed the survey. They were 65.7 years old on average (SD=7.07) with majority of them being female (64.3%) and Korean-Americans (64.3%). Data were analyzed using chi-square and Spearman's rho statistic tests. Females are more likely to experience elder mistreatment ( $\chi^2=5.647$ ,  $p<.05$ ). Older adults with higher levels of familial support are less likely to view adult child not paying the borrowed money back as financial mistreatment ( $r_s=-.315$ ,  $p<.01$ ). Older adults with higher levels of social support are more likely to report physical mistreatment to Adult Protective Services (APS) ( $r_s=.260$ ,  $p<.05$ ). Older adults with higher English proficiency level are less likely to contact APS for emotional mistreatment ( $r_s=-.251$ ,  $-.252$ , and  $-.291$  for speaking, reading, and writing, respectively,  $p<.05$ ). Implications for culturally competent AAPI elder mistreatment services are discussed.

## IMPACT OF SURVEY CONTEXT AND AGE ON SELF-REPORTED RATES OF FRAUD VICTIMIZATION

M. Beals, D.C. Carr, M.J. Deevy, L. Carstensen, *Stanford University, Stanford, California*

Using data from a survey of U.S. adults ( $n=3,000$ ) ages 25 to 95 in 2013, this study examines how sensitization to fraud contexts impacts reporting of fraud victimization, and whether this sensitization is moderated by age. Survey participants were randomly assigned to one of three groups: 1) crime 2) consumer and 3) control. In the two experimental contexts, participants answered six questions related to recent crime or consumer purchasing behaviors before being presented with questions concerning personal fraud victimization. Results show that exposure to the crime context is associated with 20.8% lower odds of reporting victimization, but consumer context is not different than control. However, age moderates the effect of sensitization on reporting fraud in both contexts relative to control. Participants who are age 70 or older who receive the crime context have 68% decreased odds of reporting victimization compared to those under age 70. The effect of consumer context is moderated by age such that those age 70 or older who receive the consumer context have 73% increased odds of reporting victimization compared to those under age 70. These results suggest exposure to different survey contexts has a significant effect on self-reported rates of fraud victimization, and adults ages 70 and older are more susceptible to the sensitizing effects of survey design than younger age groups. We discuss the implications of these findings for obtaining more accurate information about the prevalence of elder fraud victimization.

## CAREGIVER SENSE OF ENTRAPMENT AND PSYCHOLOGICAL ABUSE OF OLDER PERSONS WITH DEMENTIA

E. Yan<sup>1</sup>, L. Chu<sup>1</sup>, S. Cheng<sup>2</sup>, T. Kwok<sup>3</sup>, A.F. Tiwari<sup>1</sup>, D. Fong<sup>1</sup>, 1. *Social Work and Social Administration, University of Hong Kong, Hong Kong SAR, Hong Kong*, 2. *Hong Kong Institute of Education, Hong Kong SAR, Hong Kong*, 3. *The Chinese University of Hong Kong, Hong Kong SAR, Hong Kong*

Guided by the frustration-aggression hypothesis, this study examined the associations between caregivers' sense of entrapment, perceived burden and psychological abuse of older Chinese with dementia. A total of 121 family caregivers were recruited from out-patient geriatric clinics in Hong Kong. Participating caregivers provided information on their demographic characteristics, sense of entrapment, caregiving burden, and psychological abusive behaviours directed towards the care recipient in the past year. Psychological abuse was common. Forty-five percent of the caregivers reported varying degrees of psychological abusive behaviours directed towards the care-recipients. Results of hierarchical linear regression indicated that proposed factors accounted for 35.8% of the variance in caregivers' psychological abuse. Psychological abuse was associated with caregiver female gender ( $\beta=-.187$ ,  $p=.038$ ), a larger number of co-residing days ( $\beta=.265$ ,  $p=.016$ ), a stronger sense of entrapment ( $\beta=.249$ ,  $p=.008$ ), a higher level of perceived caregiver burden ( $\beta=.279$ ,  $p=.015$ ), and absence of assistance from a domestic helper ( $\beta=-.226$ ,  $p=.007$ ). Perceived burden mediated the effect of sense of entrapment on psychological abuse while assistance from a domestic helper mitigated the effects of perceived burden on psychological abuse.

## INTERDISCIPLINARY TEAMS: AN EVALUATION OF A MODEL DESIGNED FOR ELDER ABUSE PROFESSIONALS

B. Primetica<sup>1</sup>, A. Bukach<sup>1</sup>, D.M. Bass<sup>1</sup>, S. Pla-Raith<sup>2</sup>, 1. *Benjamin Rose Institute on Aging, Cleveland, Ohio*, 2. *Cuyahoga County Department of Senior and Adult Services, Cleveland, Ohio*

Community-wide Interdisciplinary Teams (I-Team) for elder abuse, neglect, and exploitation is a newly evolving structure that brings together professionals from diverse organizations and disciplines to better serve vulnerable older adults in complicated, multi-problem situations. I-Teams typically include representatives from the legal system, law enforcement, aging services, mental health services, and medical services. An evaluation of the I-Team in Cuyahoga County, Ohio involved administering a structured survey that was completed by 43 (75.4%) of the 57 professionals who are members of this collaborative workgroup. The survey assessed a variety of perceptions of the benefits, challenges, and satisfaction with the I-Team. Survey results showed respondents rated the I-Team as having a positive impact (i.e., ratings above the desired benchmark) on a number of domains such as: agencies' responses to elder abuse (78%), communication and collaboration (73%), and knowledge about (77%) and trust among different service-organizations (83%). Responses also indicated a number of challenges and areas for improvement including: the need for more information on services provided by organizations represented on the I-Team (11% below benchmark), limited impact of the I-Team on client outcomes (24% below benchmark), and a lack of time for staff to participate in I-Team (17% below benchmark). The survey suggested a number of changes that may improve the functioning of the I-Team such as: creating a directory of services offered by member agencies, collecting data to measure client outcomes, and getting the commitment of leaders from member organizations to enable more comprehensive staff participation.

## DOES EMBEDDEDNESS PROTECT? PERSONAL NETWORK DENSITY AND VULNERABILITY TO MISTREATMENT AMONG OLDER AMERICAN ADULTS

M.H. Schafer, *Sociology, University of Toronto, Toronto, Ontario, Canada*

**Objectives:** This study considers the association between personal network density and risk of elder mistreatment among American adults. **Methods:** Using egocentric network data from the National Social Life Health and Aging Project (NSHAP), we employ logistic and negative binomial regression to predict recent experience of elder mistreatment. We further unpack the density-mistreatment association by linking perpetrators to the victim's network and by assessing their position within its structure. **Results:** As hypothesized, older adults with dense networks had a lower risk of elder mistreatment. Interestingly, the perpetrators of these harmful acts were often found within seniors' close networks—though there was little evidence to suggest that perpetrators themselves were poorly embedded in the network. **Discussion:** Results highlight how network-level phenomena can operate distinctively from dyadic mistreatment processes. Dense personal networks seem to provide structural protection against elder mistreatment, even as many offensive acts are committed by those that are close to the victim and relatively well-embedded in their network.

## SESSION 1400 (PAPER)

### TRAINING, EDUCATION AND LONG-TERM CARE

#### PERSONAL CARE AIDES IN ASSISTED LIVING AND SIMILAR RESIDENTIAL CARE COMMUNITIES: AN OVERVIEW FROM THE 2010 NATIONAL SURVEY OF RESIDENTIAL CARE FACILITIES (NSRCF)

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Personal care aides (PCAs), along with other direct care workers, provide the hands-on care, including help with activities of daily living, for individuals living in assisted living and similar residential care communities (RCCs). However, earlier studies have demonstrated that recruitment and retention of such workers is a great challenge as low pay, inadequate training, high work demands and lack of benefits contribute to attrition. Using data from the Department of Health and Human Services' NSRCF, the first nationally representative survey of residential care communities with four or more beds (n=2302), this study aims to: (1) provide an overview of work activities performed, and training and employment benefits received by PCAs working in RCCs, and (2) assess if activities performed, and training and benefits received vary by RCC characteristics. Overall, about 96% of RCCs had one or more PCAs and about 94% of RCCs provided PCAs with on-going in-service training. Results from bivariate analyses (accounting for complex survey design using STATA software) showed that provision of training varied by size, with a higher percentage of small RCCs (4-10 beds) providing training (44%) compared to RCCs with more beds. Over 80% of PCAs performed recreational, laundry and other housekeeping services for residents. Most RCCs offered paid time-off (84%) but far fewer provided health insurance to PCAs and their families (44%). This overview of PCA activities, training and benefits may provide insights into approaches to improve the retention of such workers and subsequently the quality of care provided to residents living in RCCs.

## THE IMPACT OF REMINISCENCE TRAINING ON HEALTH CARE WORKERS TO CARE FOR OLDER DEMENTIA PATIENTS IN VETERANS HOME

S.Y. Chen, *Department of Adult and Continuing Education & Graduate Institute of Elder Education, National Chung Cheng University, Chia-Yi, Taiwan*

Many studies found that reminiscence activities could promote social interaction of older adults with dementia, but less from care workers approach to investigate the effect. This study investigates the effect of reminiscence training for the care workers to care for the elderly with dementia and the executive barriers. Three are sixteen health care workers in dementia care units of Veterans Home, including one unit supervisor, seven nurses and eight care attendants. This study carried out two days reminiscence training for care workers and then, grouping by care unit, performed group reminiscence activities for the elderly. Nurses design and lead the activities by the help of care attendant. They work together to carry out eight group reminiscence activities and help twenty five older dementia patients to complete their life story picture books. At the mid-time and after activities carry out personal interview for the care workers. The results show that life story picture books become an important medium for care workers to communicate with older adults with dementia. For nurses, through the reminiscence activities let them more understand the older patients' functional decline, encourage communicating with patients' families and enhance capacity of designing senior activities. For care attendant, reminiscence activities help them understand dementia patients' past living experiences, so increase empathy and more patience to care them. But dementia causes older adults' cognitive functional decline and increase confuse behaviors become the most interference in the activities. This study suggests encouraging the participation of older adults' families.

#### SOURCES OF NEW WORKERS AND JOB MOBILITY IN LONG-TERM CARE

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The past decade has seen substantial job growth in the health care industry overall, and the long-term care (LTC) sector in particular. Limited research is available as to where the LTC industry draws its supply of workers. The characteristics and experiences of LTC workers after they leave LTC jobs also are unknown. This project uses 12 years (2000 to 2011) of the publicly-available Current Population Survey (CPS) Annual Social and Economic Supplement ("March Supplement"), which is an annual cross sectional survey of approximately 200,000 individuals. This study uses descriptive statistics to analyze trends on where LTC draws their workforce, where leavers of LTC go, the jobs individuals take in the LTC sector, and the skills/education they bring into LTC. We use multivariate logistic regression to estimate the predictors of individuals entering or leaving the LTC sector. We document substantial industry and occupational turnover in LTC. We also find that many people who enter LTC jobs were not in the labor force before entering LTC work. Over a quarter of those who enter LTC jobs come from another part of the health care industry and another quarter were not previously working in the labor force. The LTC industry has also been drawing from the leisure and hospitality industry (11.8%) followed by from the retail trade industry (6.8%). Entrants are slightly younger and more diverse than current workers in LTC. This research will support efforts to ensure an adequate supply LTC workers and will provide guidance in designing retention strategies.

## STUDENT VOICES: CNA PERCEIVED EFFECTIVENESS OF TRAINING PROGRAMS

K. Cassie, *College of Social Work, Univ of Tennessee-EP, Nashville, Tennessee*

According to the Bureau of Labor statistics, the demand for certified nursing assistants (CNAs) to care for America's aged is increasing. Given that CNAs spend more time with patients than other health care professionals in many settings, their role is very important. However, some believe they are poorly trained and educated. The purpose of this research is to assess CNA perceived effectiveness of training programs at meeting their education needs and preparing them for their professional position in health care. This research reports on telephone surveys with 399 nursing assistants certified within the past 12 months. Respondents reported they were most confident in providing activities of daily living. However, they were least confident in discussing patient care with families, in working with nursing staff, supervisors, rehabilitation staff and social workers, in dealing with problems at work and in working with dying patients. Overall, participants of high school training programs were more likely to report that their training programs were excellent at preparing them for what it was actually like to work in health care ( $p = .029$ ) and at dealing with patient behavior problems ( $p = .033$ ). Those who participated in training programs sponsored by the Red Cross or Goodwill were most likely to report their training program was excellent at preparing them to discuss patient care with families ( $p = .019$ ). No statistically significant differences were observed between training programs and CNA knowledge of aging on Palmore's Facts on Aging Quiz. Implications for practice, education and research will be discussed.

## CONTINUING EDUCATION PRACTICES AND INTERESTS OF NURSING HOME SOCIAL WORKERS

K. Cassie, *College of Social Work, Univ of Tennessee-EP, Nashville, Tennessee*

The National Association of Social Worker's Code of Ethics (2008) admonishes social workers to attain and maintain competence in their area of practice through participation in continuing education. This research assesses the extent to which 120 nursing home social workers in a single southeastern state participate in continuing education and their interest in future continuing education. On average, social workers reported attending 18 continuing education hours in the past 12 months. Common methods of participating in continuing education was face-to-face training outside of the work place (61%), followed by face-to-face training inside the work place (45%). The most common topics of continuing education were Alzheimer's disease and dementia (65.8%), behavior management (50%), advanced directives (48.3%), elder abuse and neglect (45%) and the MDS 3.0 (40.8%). Regression analysis revealed three characteristics associated with participating in continuing education: race, perceived time available and years at the work place. When asked about their future interest in continuing education, 73% of the sample indicated they were interested in participating in continuing education in the future, 23% might be interested and 4% were not interested. Most participants desired to attend face-to-face training outside of their work place (73%). The most requested topics included: behavior management (51.3%), depression (34.8%), Alzheimer's disease and dementia (33%), and mental illness (31.3%). Regression analysis revealed that those with higher levels of education were more likely to desire to participate in continuing education in the future. Implications for social work educators, researchers and practitioners will be discussed in this presentation.

## SESSION 1405 (SYMPOSIUM)

### AGING WELL: CONCEPTUAL ORIENTATIONS AND OBSERVATIONS FROM THE WOMEN'S HEALTH INITIATIVE STUDY

**Chair:** B.B. Cochrane, *School of Nursing, University of Washington, Seattle, Washington, Fred Hutchinson Cancer Research Center, Seattle, Washington*

**Co-Chair:** N.F. Woods, *School of Nursing, University of Washington, Seattle, Washington*

This symposium will provide a foundation for future dialogue about aging well, based on an integrative literature review of theoretical and empirical work dating from the 1970s, which revealed three conceptual orientations to this topic: successful aging, effective aging, and optimal aging. Methodological aspects of the integrative review and its findings, a full consideration of the three frameworks utilizing distinct indicators from the Women's Health Initiative (WHI) database, and a provocative discussion of their relevance and utility for future research will be addressed. The WHI is a large, nearly 20-year study of postmenopausal women's health, involving women 50-79 years at baseline in 1993, who were enrolled at 40 clinical centers across the U.S. Health history, physical measures, and psychosocial data were collected at baseline and throughout the study, along with medical history updates at least annually. Data analyses of aging well indicators included over 26,000 active participants in the WHI Extension 2, who were age 80 years and older at the time they completed a "lifestyle" questionnaire in 2011-2012. In the first paper, we will present an overview of the conceptual orientations and relevant measures from the WHI. The second, third, and fourth papers will explore profiles of successful, effective, and optimal aging, respectively, using these indicators. The final paper will provide a discussion of the results that compares and contrasts the three conceptual orientations, summarizes key insights gained, and poses a series of questions to spur on future health promotion research on aging well.

### AGING WELL: CONCEPTUAL FRAMEWORK AND MEASURES

N.F. Woods<sup>1</sup>, B.B. Cochrane<sup>1</sup>, E. Rillamas-Sun<sup>2</sup>, O. Zaslavsky<sup>3</sup>, A.Z. LaCroix<sup>2</sup>, 1. *University of Washington, Seattle, Washington*, 2. *Fred Hutchinson Cancer Research Center, Seattle, Washington*, 3. *University of Haifa, Haifa, Israel*

Objectives for the Paper: After attending this session, participants will be able to: 1. Review contemporary theoretical and conceptual perspectives on aging well that are found in the published literature, and 2. Describe indicators of aging well that reflect these key differing concepts and perspectives as they were assessed in the Women's Health Initiative (WHI) An integrative review of the many contemporary conceptualizations of aging well was conducted and used to identify meaningful organizing frameworks within the literature, as well as relevant indicators of aging well. This approach was undertaken as a way to structure future discussion, research, and clinical considerations about aging well from multiple perspectives and among diverse groups of older women. Publications from the 1960s forward revealed three primary conceptualizations of aging well: successful aging, effective aging, and optimal aging. An exploration of measures used in the Women's Health Initiative – many of them well-established, standardized measures — revealed multiple indicators available for profiling each of the three conceptual frameworks of aging well. The large, well-characterized sample of older women who are continuing to contribute data in the WHI affords a unique opportunity to study aging well and its predictors, indicators, and outcomes through these different conceptual lenses.

## **SUCCESSFUL AGING AMONG WOMEN 80 AND OLDER: PROFILE OF WHI PARTICIPANTS**

E. Rillamas-Sun<sup>1</sup>, N.F. Woods<sup>2</sup>, O. Zaslavsky<sup>3</sup>, B.B. Cochrane<sup>2,1</sup>, A.Z. LaCroix<sup>4,1</sup>, 1. *Public Health Sciences, Fred Hutchinson Cancer Institute, Seattle, Washington*, 2. *UW School of Nursing, Seattle, Washington*, 3. *University of Haifa Dept of Nursing, Haifa, Israel*, 4. *UCSD Family and Preventive Medicine, San Diego, California*

A commonly-used construct of aging well is “successful aging,” defined by Rowe and Kahn as freedom from disease or disability, high cognitive and physical functioning, and active engagement with life. Indicators of successful aging were examined in older women of the Women’s Health Initiative Extension 2 Study. The absence of major disease and mobility disability, good perceived health, residence in places with special services for older adult care (e.g. a nursing home), and physical functioning were analyzed to derive a profile of successful aging in 26,704 women, aged 80 years and older. Nearly half of these women had no major disease or mobility disability, and over 85% rated their health as good or better. Although the women’s physical functioning indicated some limitations, only 24.6% reported living in a place with special services for older adults. Consistent differences across the successful aging indicators by family income and alcohol use were observed.

## **EFFECTIVE AGING AMONG WOMEN 80 AND OLDER: PROFILE OF WHI PARTICIPANTS**

B.B. Cochrane<sup>1,2</sup>, N.F. Woods<sup>1</sup>, E. Rillamas-Sun<sup>2</sup>, O. Zaslavsky<sup>3</sup>, A.Z. LaCroix<sup>4,2</sup>, 1. *School of Nursing, University of Washington, Seattle, Washington*, 2. *Fred Hutchinson Cancer Research Center, Seattle, Washington*, 3. *University of Haifa, Haifa, Israel*, 4. *University of California, San Diego, San Diego, California*

“Effective aging” was described by Curb and colleagues as the adaptation and rehabilitation that can occur as older adults develop disease. Effective or compensatory aging allows for the possibility of relatively high levels of functioning in the face of health problems common among older adults. Indicators of effective aging – resilience, self-mastery, environmental mastery, and self-control – were analyzed to profile women ages 80 and older who were enrolled in the Women’s Health Initiative Extension 2 and completed a Lifestyle Questionnaire in 2011-2012. On average, these women had high resilience scores, particularly among those who had higher baseline family incomes or reported drinking at least one alcoholic drink per week. Women with lower education levels had the lowest scores. Over half of women reported good environmental mastery and over 70% indicated they had good self-control. Differences in effective aging indicators by demographic characteristics, smoking, and alcohol use will be further elaborated.

## **OPTIMAL AGING AMONG WOMEN 80 AND OLDER: PROFILE OF WHI PARTICIPANTS**

O. Zaslavsky<sup>1</sup>, N.F. Woods<sup>2</sup>, E. Rillamas-Sun<sup>3</sup>, B.B. Cochrane<sup>2</sup>, A.Z. LaCroix<sup>4</sup>, 1. *Department of Nursing, University of Haifa, Haifa, Israel*, 2. *University of Washington, Seattle, Washington*, 3. *Fred Hutchinson Research Institute, Seattle, Washington*, 4. *University of California in San Diego, San Diego, California*

The concept of well-being (WB) refers to perceived optimal psychological functioning. Many WB indicators were evaluated in the WHI, and those consistent with a conceptualization of optimal aging, as exemplified by Ryff’s work, will be described. Among these indicators, experienced (hedonic), evaluative and eudaemonic measures are especially pertinent as they present momentary affective states, global subjective evaluation and self-actualization in accordance with a true self. We will characterize the status of “optimal aging” among women ages 80 and over and report the influence of socio-demographic and behavioral factors on its indicators. In general, these older women reported high levels of optimal aging. About two-thirds reported enjoying life and having been happy at least most of the time. The women also reported

moderately high levels of life satisfaction, social support and satisfaction with their current quality of life, but more modest levels of personal growth and purpose in life.

## **DISCUSSION, CONCLUSIONS AND IMPLICATIONS FOR RESEARCH, HEALTH PROMOTION AND PUBLIC HEALTH**

A.Z. LaCroix<sup>1,2</sup>, N.F. Woods<sup>3</sup>, E. Rillamas-Sun<sup>2</sup>, O. Zaslavsky<sup>4</sup>, B.B. Cochrane<sup>3,2</sup>, 1. *University of California, San Diego, San Diego, California*, 2. *Public Health Sciences, Fred Hutchinson Cancer Research Center, Seattle, Washington*, 3. *University of Washington, Seattle, Washington*, 4. *University of Haifa, Haifa, Israel*

This paper summarizes findings across profiles of successful, effective, and optimal aging. Although many women in the Women’s Health Initiative (WHI) reported physical functioning levels consistent with disability, most rated their health as good or better. Most reported moderately high resilience, self-control, and self-mastery but lower levels of environmental mastery. They reported high optimal aging, as reflected in their high emotional well-being, moderately high life satisfaction and social support, and more modest levels of personal growth and purpose in life. Despite a wide range of functioning levels and other measured indicators, most women in the WHI have the potential to age well. Further examination of predictors of positive coping and resilience in the face of aging-related disability can identify opportunities to support and facilitate aging well among U.S. women. Implications of these findings for future research, health promotion, and public health programming for women as they age will be discussed.

## **SESSION 1410 (SYMPOSIUM)**

### **UNDERSTANDING ASSOCIATIONS OF MEDICINES WITH GERIATRIC SYNDROMES: IMPLICATIONS FOR PRESCRIBING AND DEPRESCRIBING**

**Chair:** S. Hilmer, *Royal North Shore Hospital, Kolling Institute of Medical Research, University of Sydney, St Leonards, New South Wales, Australia*, *NHMRC Cognitive Decline Partnership Centre, Sydney, New South Wales, Australia*

**Discussant:** C. Boyd, *Johns Hopkins University School of Medicine, Baltimore, Maryland*

Geriatric syndromes (eg falls, confusion, incontinence, frailty) often occur with polypharmacy (use of 5 or more medicines) and/or use of specific classes of medicines. Here we will provide an overview of recent observational and interventional research studies that provide insights to the strength, mechanisms and causation of these associations. Our multidisciplinary international presenters will discuss new research and conceptual frameworks that can be applied to the practice of prescribing and deprescribing (withdrawing) medicines in older adults. Dr Gnjidic (pharmaco-epidemiologist, Australia) will review what pharmaco-epidemiology research tells us about the associations between medicines and geriatric syndromes. A/Prof Hilmer (geriatrician and clinical pharmacologist, Australia) will discuss the impact of interventional studies of prescribing and deprescribing on geriatric syndromes. Prof Patricia Slattum (pharmacist, USA) will present her recent study that addresses confounding by indication with an in depth investigation of the relationship between poor sleep, sleeping tablets and falls. A/Prof Cara Tannenbaum (geriatrician, Canada) will apply the principle of therapeutic competition to prescribing for older people with urinary incontinence. Dr Emily Reeve (pharmacist, Australia) will describe the development and application of a patient centred deprescribing process. Our discussant, A/Prof Cynthia Boyd (geriatrician, USA), will integrate these concepts and apply them to management of complex older people with multi-morbidity and geriatric syndromes.

## INTERVENTIONAL STUDIES OF PRESCRIBING AND DEPRESCRIBING: IMPACT ON GERIATRIC SYNDROMES

S. Hilmer, *Royal North Shore Hospital, Kolling Institute of Medical Research, University of Sydney, St Leonards, New South Wales, Australia*

Exposure to specific drug classes has been shown to cause geriatric syndromes such as falls, confusion and/or incontinence in relatively short term interventional studies. The pharmacologic mechanisms are often well understood and the effects can be reversed by deprescribing (drug withdrawal). No interventional studies have demonstrated that drugs cause frailty or that drug withdrawal can reverse it. Interventional studies of medicines to prevent or treat geriatric syndromes have had limited success. It is unethical to perform interventional prescribing studies to determine the effects of polypharmacy (use of >5 medicines) and other measures of 'high risk' or 'potentially inappropriate' prescribing on geriatric syndromes. There is scope to examine the impact of withdrawing these exposures on geriatric syndromes. However, clinical studies are limited by ethical and feasibility constraints and by enormous inter-individual variability in exposures (at baseline and after withdrawal), co-morbidities and environmental factors, which may all contribute to these multi-factorial outcomes.

## WHAT DOES PHARMACO-EPIDEMIOLOGY TELL US ABOUT THE ASSOCIATIONS BETWEEN MEDICINES AND GERIATRIC SYNDROMES?

D. Gnjjidic, *Faculty of Pharmacy, The University of Sydney, Sydney, New South Wales, Australia*

Evidence from pharmaco-epidemiological studies suggests that multiple drug use and high risk drugs contribute to risk of developing geriatric syndromes including frailty and cognitive impairment. However, research on how drugs influence clinical outcomes in older people who have already developed a geriatric syndrome is limited. In our prospective study of older people with and without Alzheimer's disease (AD) (n=33,206) there was a dose-response relationship between cumulative anticholinergic and sedative drug use and hospitalization and mortality over 1-year. In a prospective study of community-dwelling men aged  $\geq 70$  years (n=1,705) we found no association between statins and institutionalization (hazard ratio, HR=1.60; 95%CI 0.98-2.63) or mortality (HR=0.88; 95%CI 0.66-1.18). Moreover, frail men were two times more likely to be institutionalized and die over 7-years compared to non-frail men, regardless of statin use. It is critical to establish whether drugs do more good than harm in older adults with established geriatric syndromes.

## UNTANGLING CONFOUNDING BY INDICATION: POOR SLEEP, SLEEP MEDICATIONS AND FALLS

Y. Min, P.W. Slattum, *Department of Pharmacotherapy and Outcomes Science, Virginia Commonwealth University, Richmond, Virginia*

Poor sleep, use of sedative medications and falls are common among older adults. In the 2010 Health and Retirement Study (n=9,937), 71% of older adults reported sleep problems and 21% reported taking medications or other treatments to help sleep in the past two weeks, and 36% reported falling in the past two years. In a prospective study of older adults living in retirement communities (n=116), 70% reported poor sleep quality based on the Pittsburgh Sleep Quality Index and 42% reported taking medications or other treatments to aid sleep. Falls were assessed over 6 months. In both studies, the association between the risk of falls, poor sleep and sleep medications was evaluated. Use of sleep medications is associated with an increased risk of falling regardless of sleep quality reported. It is important to consider medication-associated risk when treating sleep problems in older adults.

## CAUSE, EFFECT AND MANAGING THERAPEUTIC COMPETITION: MEDICINES THAT CAUSE INCONTINENCE AND MEDICINES THAT TREAT INCONTINENCE AND CAUSE OTHER GERIATRIC SYNDROMES

C. Tannenbaum, *Université de Montréal, Montreal, Quebec, Canada*

Urinary incontinence complicates the management of other geriatric syndromes such as falls and dementia. For example, prescription of cholinesterase inhibitors for dementia can precipitate urinary incontinence. Conversely, treatment of incontinence with antimuscarinic medication may attenuate the effect of cholinesterase inhibitors. Another example is heart failure. Up to 50% of heart failure patients suffer from urinary incontinence, which exacerbates functional decline. The association between heart failure and incontinence may be attributable to worsening heart failure pathophysiology. However, medications used to treat heart failure, such as diuretics or ACE inhibitors may also indirectly provoke urinary symptoms. This type of bidirectional drug-disease interaction, in which the treatment for the first condition adversely impacts the second, and subsequent treatment of the second condition exacerbates the first, can be termed therapeutic competition. Recommendations and practical tips will be provided that outline more judicious management of incontinence in patients with other geriatric syndromes and comorbidities.

## THE DEVELOPMENT AND APPLICATION OF A PATIENT-CENTERED DEPRESCRIBING PROCESS

E. Reeve, 1. *University of Sydney, St Leonards, New South Wales, Australia*, 2. *NHMRC Cognitive Decline Partnership Centre, Sydney, New South Wales, Australia*, 3. *University of South Australia and Royal Adelaide Hospital, Adelaide, South Australia, Australia*

The term 'deprescribing' has been utilized to describe the complex process that is required for safe and effective medication cessation. Patients play an important role in their own health, and their attitudes towards deprescribing must be investigated and acknowledged for clinicians to provide optimal care. We recently conducted a review of previously proposed deprescribing processes and relevant literature to develop the patient-centered deprescribing process; a five step cycle that encompasses gaining a comprehensive medication history, identifying potentially inappropriate medications, determining if the potentially inappropriate medication can be ceased, planning the withdrawal regimen (e.g. tapering where necessary) and provision of monitoring, support and documentation. The evidence to support the individual steps of the process is limited, however, it provides important practical insights into deprescribing in clinical practice, in particular for older people with cognitive impairment and associated functional decline.

## SESSION 1415 (SYMPOSIUM)

### IN-HOME RESEARCH ON TECHNOLOGIES FOR AGING IN PLACE

**Chair:** E. Gonzalez, *Georgia Tech Research Institute, Atlanta, Georgia*

**Co-Chair:** C.M. Galambos, *University of Missouri, Columbia, Missouri*

Technology can provide supportive solutions for older adults to maintain independence. For these gerotechnology innovations to effectively support aging in place, research should incorporate the home environment. This symposium highlights four research initiatives that conduct in-home research on technologies for aging in place and represent a spectrum of home laboratory settings. Presentations will discuss these distinct but complementary research projects emphasizing research goals, capabilities, studies, and limitations of each initiative. Attendees of this symposium will 1) become familiar with recent advances of in-home research on gerotechnology 2) understand applied benefits of home laboratories and 3) recognize challenges related to privacy issues, development of interdisciplinary teams, and obtaining

ground truth. The Center for Advanced Studies in Adaptive Systems (CASAS), Washington State University, utilizes smart home environments to conduct remote health and activity monitoring, establish predictive algorithms, and develop technological interventions to promote aging in place. At Georgia Tech, a multidisciplinary research team utilizes HomeLab, a population of over 550 independent living older adults, to conduct in-home evaluations of health and wellness technologies. From Oregon Health and Science University, the Oregon Center for Aging and Technology (ORCATECH) Life Lab is a population of community-dwelling older adults who participate in studies of health assessment and intervention within their homes outfitted with embedded sensing and computing technologies. Tiger Place is a University of Missouri affiliated senior living neighborhood, where an interdisciplinary team at the Center for Eldercare and Rehabilitation Technology (CERT) investigate, develop, and evaluate technologies for aging in place and coordinated healthcare.

#### **CASAS: A SMART HOME IN A BOX**

D. Cook, *Washington State University, Pullman, Washington*

The possibilities of using smart homes for health monitoring and assistance are extraordinary and are timely given the aging of the population. Participants at this talk will learn about smart home technologies and hear about the CASAS “smart home in a box” that can be easily installed and used out of the box. They will also find out how activities can be identified from sensor data and used to identify markers that indicate potential health issues. They will also learn how the information can be used to design activity-aware health interventions.

#### **GEORGIA TECH HOMELAB: BRINGING TECHNOLOGY HOME TO SUPPORT AGING IN PLACE**

E. Gonzalez, C. Bailey Fausset, W. Fain, *Georgia Tech Research Institute, Atlanta, Georgia*

As the gerotechnology market expands, research investigating the needs, consumer preferences, and home environments of older adults is essential. Georgia Tech’s HomeLab initiative utilizes a multidisciplinary research team and an older adult population to conduct in-home health and technology research. HomeLab includes 556 participants (Mage = 71.5 years; SD = 9.8; Range: 50-100) living independently in Metro Atlanta. Demographic, health, lifestyle, and home environment data are collected for each participant; from these data, potential participants can be quickly identified for specific studies. HomeLab collaborates with industry and academia to enable innovation and support research by conducting user testing, ethnographic research, and longitudinal studies. Projects have included evaluating a remote health monitoring system, identifying user preferences for wearable health devices, surveying social media use, assessing use and attitudes about activity trackers, and investigating everyday technology usage. This presentation will highlight the HomeLab population, projects, challenges, and future research directions.

#### **THE OREGON CENTER FOR AGING AND TECHNOLOGY (ORCATECH) LIFE LABORATORY: BUILDING EVIDENCE FOR EFFECTIVE PERVASIVE COMPUTING APPROACHES TO FACILITATE AGING IN PLACE**

J. Kaye, K. Wild, P. Jacobs, N.C. Mattek, L. Boise, D. Austin, N. Larimer, H.H. Dodge, *Oregon Health & Science University, Portland, Oregon*

Current approaches to capturing data about health and well-being are limiting, relying largely on brief episodic encounters dependent on personal recall or data that imprecisely incorporates the time domain and are prone to be ecologically invalid. Recent developments (pervasive and ubiquitous computing, in-home and community based embedded sensing, wireless communication and “data mining” technologies) challenge the prevalent paradigm so as to provide real-time, real-world data that are objective, continuous and ecologically valid. ORCATECH

has focused on creating extensible research procedures, a unique Life Laboratory of community volunteers, basic functional algorithms of human health-related activity and distinctive collaborations to create new knowledge and facilitate dissemination of evidence for using this new research approach. Based on over 1,000 community volunteers covering over 1,000,000 hours of continuous home assessment, examples of how this approach provides unique insight into key functions (cognition, socialization, physical activity and health) vital for maintaining independence will be presented.

#### **TIGERPLACE: SUPPORTING AGING IN PLACE WITH TECHNOLOGY**

C.M. Galambos<sup>1,2</sup>, M. Skubic<sup>3</sup>, M.J. Rantz<sup>2</sup>, S. Miller<sup>2</sup>, G.L. Alexander<sup>2</sup>, J.M. Keller<sup>3</sup>, M. Popescu<sup>4</sup>, *1. School of Social Work, University of Missouri, Columbia, Missouri, 2. University of Missouri Sinclair School of Nursing, Columbia, Missouri, 3. University of Missouri Electrical and Computer Engineering Department, Columbia, Missouri, 4. University of Missouri Health Management Informatics Department, Columbia, Missouri*

The University of Missouri Eldertech Research Team has developed an unobtrusive, environmentally mounted, in-home monitoring system that detects changes in health status and supports aging in place. Our approach has demonstrated significantly lower costs and improved outcomes for our TigerPlace residents. A retrospective analysis of 104 significant events using our monitoring system revealed that changes appeared in the sensor data approximately two weeks prior to the health event. Using this information, an alert system was developed and tested in a one year prospective study. Alerts were sent to health care providers via secure e-mail of 20 intervention participants. Testing on a number of physical functioning measures, the intervention group showed significant improvement as compared to the control group. Current projects include the development of a hydraulic bed sensor, using Kinect depth images for in-home gait analysis and fall detection, and Doppler radar to detect falls and capture in-home walking speed.

### **SESSION 1420 (SYMPOSIUM)**

#### **FARMING FOR HEALTH: EXPLORING BENEFITS OF GREEN CARE FARMS FOR PEOPLE WITH DEMENTIA AND THEIR CAREGIVERS**

**Chair:** J.P. Hamers, *CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

**Co-Chair:** H. Verbeek, *CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

**Discussant:** H. Chaudhury, *CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

Innovations in health and social care are highly warranted, as the number of older people with chronic diseases are rising and a shortage of staff and resources is foreseen. Green Care Farms are new initiatives originated outside the healthcare sector to enable people with dementia and their family caregivers to live independently and to participate in society for as long as possible. Green care farms combine agricultural activities with care services for a diverse range of client groups from the health-care and welfare sector, including those with dementia. As opposed to regular health care institutions (e.g. residential and nursing homes), green care farms offer care activities in a home-like and small-scale setting. Green care farming is an upcoming phenomenon in the USA, Europe, and Japan. This symposium will provide insight into the potential value of green care farming for people with dementia and their family caregivers based on experiences from the Netherlands, United Kingdom and the USA. The first presenter provides insight into the potential value of day care for people with dementia and their family caregivers in terms of social participation. The second presentation addresses a first experiment of structural farm based day programs for seniors in the US. The third presenter focuses on green care farms as an

alternative for 24hour nursing home care. Finally, presentations from the United Kingdom address the evaluation of an innovative intervention which helps people with dementia enjoy outdoors activities and being involved with animals, which has similarities with green care farms.

#### **GREEN CARE FARMS FOR PEOPLE WITH DEMENTIA AS AN ALTERNATIVE TO TRADITIONAL NURSING HOME CARE**

H. Verbeek, B. de Boer, L. Bastings, J.P. Hamers, *CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands*

**Objective:** New dementia care models are increasingly directed towards small scale and homelike environments. In the Netherlands, green care farms combine agriculture with care activities, predominantly focused on daycare for people with dementia. This project, however, explores a green care farm providing 24hour nursing care. **Methods:** Mixed-method case study, collecting quantitative data on the physical environment and qualitative data on participants' experiences. **Results:** A dairy farm has established two small scale, homelike settings for 18 people with dementia at their farm. First experiences indicate more opportunity for meaningful activities for residents, as these are integrated in the physical environment. For example work related (gardening, feeding animals, sweeping the yard) and domestic activities (preparing meals) are facilitated. **Conclusion:** Positive first experiences were reported with a green care farm as an alternative for traditional nursing homes. However, more insight is needed in the quality of care provided, costs and effects on residents' quality of life.

#### **ADVENTURES IN DEMENTIA: PROMOTING THE BENEFITS OF OUTDOOR ACTIVITY FOR PEOPLE WITH DEMENTIA**

S.C. Evans, D. Brooker, J. Bray, *Association for Dementia Studies, University of Worcester, Worcester, United Kingdom*

**Objective:** To evaluate a programme encouraging staff to include people with dementia in outdoor activities. There is limited but growing evidence for the benefits of engagement with the natural environment for people living with dementia. The 'Natural Leaders' programme, delivered by Dementia Adventure in the UK, encouraged leisure and recreational organisations to include more people with dementia in their activities. The Association for Dementia Studies, based at the University of Worcester, were commissioned to evaluate the effectiveness of the programme. **Methods:** A mixed methods approach was adopted based on survey tools, established measures and in depth interviews to explore the impact of the training on staff. **Results:** Increased knowledge of dementia, altered attitudes towards risk and dementia, and higher levels of confidence about working with clients with dementia. **Conclusion:** Targeted training can support leisure and recreational staff to engage with people living with dementia and include them in outdoor activities.

#### **INTERGENERATIONAL CARE FARM PROGRAMS IN MONTANA, USA FISCHER MF, SHEPPARD L**

M.M. Fischer<sup>1</sup>, L. Sheppard<sup>2</sup>, *1. Day Programs, A Plus Health Care, Kalispell, Montana, 2. Agency on Aging, Kalispell, Montana*

**Objective:** Care farming is a new phenomenon in the US. First programs have been implemented on farms in Flathead Valley, Montana. In this pilot, the Area Agency on Aging, A Plus Health Care and eight farms have created care farm programs. **Method:** Mixed-method approach using qualitative interviews and quantitative measurements, including the empowerment matrix and the Geriatric Depression Scale. **Results:** Seniors suffering from depression, loneliness or substantial physical inactivity, and cases for respite care were offered opportunities to participate in a day on the farms (n=40; average age 76 years; 60% female). Focus was given to mixes of intergenerational participants of varying disabilities. Results involved increased stamina, improved GDS scores, decreased problem-behaviors and significant effects in

terms of respite and the ability to remain in a home-based care setting. **Conclusion:** The programs are seen as an innovative example of the paradigm shift in health care towards prevention, wellness and community inclusion.

#### **MAINTAINING SOCIAL PARTICIPATION OF PEOPLE WITH DEMENTIA AND THEIR FAMILY CAREGIVERS; THE ROLE OF DAY CARE AT GREEN CARE FARMS**

S. De Bruin, A. Stoop, C. Molema, C. Baan, *Centre for Nutrition, Prevention and Health Services, National Institute for Public Health and the Environment, Bilthoven, Netherlands*

**Objective:** Determine the value of green care farms (GCFs) for people with dementia and their family caregivers in terms of social participation. **Methods:** Semi-structured interviews with family caregivers and their relatives with dementia that attended day care at a GCF (GCF group, n=21) or attended regular day care (RDCF group, n=17). **Results:** People with dementia in the GCF group were primarily males (85%) of 71 years on average that all had a spousal caregiver, whereas those in the RDCF group were mostly females (53%) of 85 years on average that mostly had non-spousal caregivers (77%). In both groups, respondents indicated that day care positively affected their social participation. The aspects of social participation and the extent to which these aspects were affected, however, differed between the groups. **Conclusion:** Both differences in how both settings address social participation and characteristics of people with dementia and their family caregivers determine social participation.

#### **SESSION 1425 (PAPER)**

#### **FORM, FUNCTION & FITNESS**

#### **IGF-1 AND LEAN MASS BEFORE AND AFTER A RESISTANCE EXERCISE IN FREE LIVING ELDERLY**

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**Background and aim:** As insulin-like growth factor-1 (IGF-1) is related to the preservation of muscle mass. Both acute and chronic resistance exercise has consistently been shown to increase intramuscular levels of IGF-1. Conversely, prospective studies investigating the effect of resistance training on circulating levels of IGF-1 have provided inconsistent results. The aim of the present study was to investigate circulating total IGF-1 in old adults who engaged in a 12 weeks of progressive resistance training. **Methods:** Subjects (N=236, 73.7±5.7 years, 58.2% female) participated in a 12-week resistance exercise program (3 times/week; 3 sets, 6-8 repetitions at 75-80% of the 1-repetition maximum), designed to increase strength and muscle mass of major muscle groups. Body composition and circulating IGF-1 were assessed. **Results:** At baseline IGF-1 was significantly associated with lean mass (also when corrected for age, gender and various covariates). After the training period IGF-1 decreased significantly from 112.1 ± 35.6 to 106.1 ± 35.2 µg/L. On an individual level, IGF-1 decreased in 59% and increased in 39% of the participants. A reduction in IGF-1 was associated to greater gains in lean mass (r = -0.185, P = 0.009) and appendicular muscle mass (r = -0.164, P = 0.017) also when corrected for various confounders. **Conclusion:** Our study confirms known correlations between lean mass and IGF-1 in old adults. A reduction of IGF-1 after training was associated with higher gains in lean mass which indicates a redistribution of IGF-1 to the site of muscle building as hypothesized previously.



## REDUCTIONS IN ADIPOSITY AND INCREASES IN LEG STRENGTH, BUT NOT MUSCLE MASS, REDUCE THE RISK OF MOBILITY IMPAIRMENT IN ADULTS WITH CHRONIC DISEASE

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**Aim:** We hypothesized that lower fat mass (FM) and higher leg strength, but not greater muscle mass (SMM), would independently reduce risk of impaired gait. **Method:** Data were pooled from 7 clinical trials in adults (> 40 years). The lowest quintile of gait was categorized as impaired; quintiles 2-5 categorized as normal. FM and SMM were determined using bioelectrical impedance assessment (BIA) or dual energy x-ray absorptiometry (DXA). Maximal knee extension (KE) strength was measured. Variables significantly different between gait speed categories were converted into quintiles, and entered into a logistic regression model, with age, sex and height as covariates. **Results:** Data were available in 715 participants (349 men, 366 women): 136 (19%) had impaired gait (0.96±0.16m/s); 579 (81%) had normal gait (1.29±0.15m/s). KE, FM and SMM were all significantly different between gait speed categories (p<0.05). Compared to the lowest quintile of KE, quintile 2 had a significantly reduced risk of impaired gait (OR 0.38; 95% CI 0.21 – 0.67) (p<0.01), with quintiles 3, 4 and 5 showing similar significant reductions. Similarly, compared to the lowest quintile of FM, quintile 2 had a significant reduction in risk for abnormal gait (OR 0.46; 95% CI 0.24 – 0.87) (p=0.02), with quintiles 3, 4 and 5 showing similar reductions in risk. Quintile of SMM was unrelated to gait category (p>0.05). **Conclusions:** Higher lower leg strength and lower adiposity independently reduce risk of impaired gait. Progressive resistance training addresses both domains, and is thus a potentially robust intervention for preservation of gait velocity with age.

## COMPARISON OF HIGH- AND LOW-VELOCITY RESISTANCE TRAINING IN OLDER ADULTS: FUNCTIONAL FITNESS OUTCOMES

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Recent studies have suggested that high-velocity resistance training (HV) may be more effective at improving functional outcomes than low-velocity resistance training (LV), but these results are equivocal. The purpose of this study was to compare functional fitness changes following HV to those experienced following LV. Forty-two participants over the age of 75 years completed the 52-week intervention. Participants were randomly assigned to HV, LV, or an active control group. Functional fitness was assessed using three tests from the Senior Fitness Test: chair stand test (CS), arm curl test (AC), and the 8-foot up-and-go test (UPGO). Assessments were taken at baseline, 26-, and 52-weeks. Repeated measures ANOVA revealed no significant interaction effects, but significant time effects were observed for all three tests (p < .05). Post hoc analyses indicated that the greatest improvements occurred in the first 26 weeks of training. AC continued to improve significantly from 26 to 52 weeks, but CS and UPGO plateaued after six months of training. These results indicate that HV is not different than LV training. In fact, neither is significantly different than the active control group, although univariate effect sizes indicated greater improvements in the HV and LV groups than the active control group. As expected, these results support that initiating an exercise program, regardless of intensity or velocity, improves functional fitness.

## SARCOPENIA PREVALENCE BY DIABETES IN OLDER ADULTS IN THE HEALTH ABC STUDY

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Sarcopenia, defined by age-related low muscle mass, has been shown to be higher among diabetic vs. non-diabetic older adults. However, previous studies used definitions of low muscle mass, but did not additionally include low muscular strength as recently recommended. We determined the prevalence of sarcopenia among diabetic compared to non-diabetic participants in the Health, Aging, and Body Composition Study (Health ABC), a prospective cohort aged 70-79 years (N=2330; 54% women, 39% black, age 77.5±2.8 years) at 1997-98 enrollment. Sarcopenia was defined by concurrent low DXA-measured appendicular lean mass normalized for height (< 5.67kg/m<sup>2</sup> for women; <7.23kg/m<sup>2</sup> for men) and low grip strength (<20kg for women; <30kg for men). Diabetes was defined by self-reported diagnosis, use of hypoglycemic drugs, and fasting blood glucose, and glycemic control by Hemoglobin A1c (HbA1c) levels. Among diabetic participants, 60% had a diabetes duration >5 years. Diabetes was categorized as: none (n=1884), controlled (HbA1c<7%; n=270), and poorly-controlled (HbA1c>7%; n=176). Multivariable logistic regression analyses tested the association between diabetes at year 4 with sarcopenia at year 6. Sarcopenia prevalence at year 6 was 8.06% among those without diabetes vs. 5.74% with controlled diabetes, and 4.22% with poorly-controlled diabetes (p=0.11). Adjusting for age, sex, race, BMI, and comorbidities, controlled diabetes (OR:0.27; 95% CI:0.06-1.3), and poorly-controlled diabetes (OR:0.58; 95% CI:0.09-3.92) had no difference in sarcopenia at year 6 compared to those without diabetes. Using recent definitions incorporating strength, sarcopenia may not vary by diabetes/glucose control in older adults.

## RELATIONSHIP OF SARCOPENIA AND FUNCTIONAL FITNESS AMONG COMMUNITY-DWELLING OLDER ADULTS

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Sarcopenia is defined as age-related loss of lean-tissue mass (LTM) and is related to reductions in muscular strength and function. However, the relationship between sarcopenia, functional fitness (FF), and muscle function has not been adequately studied. Therefore, the purpose of the present investigation was to determine the relationship between sarcopenia and selected measures of FF and muscle function. Community-dwelling older adults (n = 54) were recruited from the surrounding area. Each participant performed the following assessments: 10-meter habitual walk (HW), 30-second chair stand (CS), chair stand power (POW), and dual energy x-ray absorptiometry (DXA). Appendicular skeletal mass (aSM), a measure of sarcopenia, was calculated by adding LTM (kg) of arms and legs and dividing by height (m<sup>2</sup>). Multiple regression analysis was performed to determine the amount of variance accounted for in aSM by the independent variables (HW, CS, POW). Results indicated 56% of the variance in aSM was accounted for by the predictor variables. The variable with the greatest unique contribution was POW, accounting for 54%. Based on the results, POW is the most significant contributor to aSM. This is important for clinicians that may not have access to DXA results. Furthermore, future studies are needed evaluating the relationship between sarcopenia, muscular power, and intervention strategies to decrease the loss of LTM with age.

## LONG TERM CARE II

**PREVALENCE OF MRSA COLONIZATION IN ELDERLY RESIDENTS OF LONG-TERM CARE FACILITIES: A SYSTEMATIC REVIEW AND META-ANALYSIS**

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**Background:** Infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA) cause significant morbidity and mortality in long-term care facilities (LTCF). The objective of this study was to estimate the burden of MRSA colonization in LTCFs. **Methods:** A systematic search of the MEDLINE database was conducted from 2000 through August 2012 using PRISMA guidelines. A pooled prevalence of MRSA across studies was estimated using a random effects meta-analysis model. Heterogeneity was assessed using Cochran Q and I<sup>2</sup> statistics. Sensitivity analyses were conducted to examine the effect of potential sources of heterogeneity across studies according to study characteristics. **Findings:** Twenty nine studies met the inclusion criteria for meta-analysis. Twenty five focused specifically on MRSA and four reported on multiple organisms. All but three studies used a cross-sectional design; only five utilized a random sampling of participants. The reported prevalence of MRSA ranged from 0-63%. A pooled MRSA prevalence of 11.9% (95% CI 9.2-15.2) was estimated based on 27,254 LTCF residents. Heterogeneity was greater than expected by chance ( $p$ -value $\leq$ 0.001). Pooled MRSA prevalence was higher in the US (33.1%, 95% CI 21.6-47.2%) compared to Asia (6.1%, 95% CI 4.9-7.6%) and Europe (8.6%, 95% CI 6.2-11.8%). Additionally, MRSA prevalence differed by specimen sites and rate of participation but not by study quality. **Interpretation:** The burden of MRSA in LTCFs is substantial; however, estimation of prevalence differs by geographic region, as well as variation in sampling. Continued surveillance is needed along with greater attention placed on prevention of MRSA in LTCFs.

**EFFICACY OF A MULTIPARAMETRIC TELEMONITORING SYSTEM ON MORTALITY AND HOSPITAL ADMISSIONS OF ELDERLY PATIENTS WITH HEART FAILURE**

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**Background.** Trials on the efficacy of telemonitoring (TM) in heart failure (HF) have yielded contrasting results. We evaluated the effect of an innovative model integrating TM vital parameters and telephone support on 6-months survival and hospital admissions of elderly patients with heart failure. **Methods and results.** This was a parallel arms, randomized trial including HF patients aged 65 or older discharged from acute care ward or day-hospital. Patients were randomly assigned to the intervention group (TM of oxygen saturation, heart rate, and blood pressure plus telephone support, N = 47) or standard care (N = 43), and were followed up for 6 months. The outcome measure was a combination of all-cause death and hospital admissions. The mean age of the sample was 80 years, with an average ejection fraction of 46. The two groups were similar with the exception of prevalence of women and of disability (both more common in the control group). Incidence of the outcome was 42% in the control group and 21% in the intervention group (relative risk: 0.508, 95% CI: 0.508 – 0.977). The results were unchanged after taking into account the setting of enrollment, gender and disability (hazard ratio: 0.419, 95% CI: 0.187 – 0.937). **Conclusions.** TM of elderly people with HF is feasible and reduces the risk for death and hospitalization. Further studies are needed to confirm these findings and evaluate the cost-efficacy of the service.

**REDUCING REHOSPITALIZATIONS FOR NURSING HOME RESIDENTS: APRNS CHAMPIONING THE CHANGE**

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The Missouri Quality Initiative for Nursing Homes is one of the enhanced care and coordination providers funded through Centers for Medicaid and Medicare as a four-year demonstration project. Project goals include reducing avoidable hospitalizations, improving transitions of care, improving outcomes, and lowering costs. To achieve these goals advanced practice registered nurses (APRNs) were deployed into sixteen nursing homes in St. Louis, Missouri. Throughout all phases of the initiative, APRNs are being asked to document their integration into the nursing home setting; giving insight into challenges they faced when introducing advanced practice nursing into the nursing home setting. Major challenges include (a) building critical relationships with staff and management, (b) learning about the environment contemporaneous to changing the environment, (c) struggling for legitimacy, (d) changing the APRN's mindset from primary care to long term care, and (e) influencing change at the organization and resident level. Organizational structures that were identified as contributing to the APRNs early successes included: (a) a united and functional administrator and director of nursing dyad, (b) willingness of the home and their corporate structure to change, and (c) willingness of the nursing home and their corporate structure to consider solving problems in novel ways. APRNs have great potential to improve resident outcomes, however; nursing homes leaders must be willing to hire and support the development of these well-educated staff. Moreover, APRNs have the ability to influence positive change by supporting front-line nursing home staff to consider new ways to address resident problems.

**SUPPORTING AUTONOMY OF NURSING HOME RESIDENTS WITH DEMENTIA IN THE INFORMED CONSENT PROCESS**

E. Beattie<sup>1</sup>, D. Fetherstonhaugh<sup>4</sup>, M. O'Reilly<sup>1</sup>, W. Moyle<sup>2</sup>, L. Chenoweth<sup>3</sup>, E. Fielding<sup>1</sup>, A. Group<sup>5,6,1</sup>, *1. School of Nursing, Queensland University of Technology, Brisbane, Queensland, Australia, 2. Griffith University, Brisbane, Queensland, Australia, 3. University of Technology, Sydney, New South Wales, Australia, 4. LaTrobe University, Melbourne, Victoria, Australia, 5. Curtin University, Perth, Western Australia, Australia, 6. University of Tasmania, Hobart, Tasmania, Australia*

Proxy informed consent is commonly obtained in dementia research, although few researchers report undertaking formal assessment of the person with dementia's consent capacity. This paper reports on an Australian national study of quality of life of people with dementia living in nursing homes (n=442) in which the Evaluation to Sign Consent (ESC) measure (Resnick et al., 2007) was used to determine capacity to provide informed consent. The vast majority of legal proxies (91%) gave permission for the person with dementia to be evaluated. Of the 404 participants who were administered the ESC, 95 (23.5%) were judged as able to consent. This finding highlights the importance of giving people with dementia the opportunity to provide their own consent. Ability to consent, as expected, was highly associated with level of cognitive impairment (measured by SMMSE categories of unable to complete, less than 10/30, 10+/30;  $\chi^2$  =92.28, df=3,  $p$ <.001), but not associated with gender ( $\chi^2$ =0.91, df=1,  $p$ =.341), age (<80, 80-90, 90+ years;  $\chi^2$ =.772, df=2,  $p$ =.680) or level of education (less than 10 years, junior certificate, high school certificate, trade certificate/diploma, bachelor's degree;  $\chi^2$ =6.800, df=4,  $p$ =.147). The practical management of informed consent procedures involving evaluation of aspects of capacity with the person with dementia will also be discussed. Although a diagnosis or suspicion of dementia constitutes reasonable grounds for doubt concerning capacity, researchers need to consider

evaluating capacity with validated tools to ensure that the autonomy of potential participants is respected and not unduly diminished.

## SESSION 1435 (SYMPOSIUM)

### RESIDENTIAL CARE COMMUNITIES: THE EFFECT OF DEMENTIA ON HOSPITAL AND EMERGENCY DEPARTMENT USE, FACILITY CHARGES TO RESIDENTS FOR CARE, AND STAFFING

**Chair:** J. Wiener, *RTI International, Washington, District of Columbia*

**Discussant:** E. Rosenoff, *US DHHS, Washington, District of Columbia*

Residential care communities, including assisted living facilities, are an important component of long-term services and supports. In 2010, there were 31,100 facilities with 733,400 residents. This symposium presents analyses of the National Survey of Residential Care Facilities, the first nationally representative survey of residential care communities. Sponsored by the National Center for Health Statistics, the Office of the Assistant Secretary for Planning and Evaluation, and other federal agencies, this survey obtained responses from 2,302 communities and about 8,094 residents. The first presentation analyzes the effect of dementia on hospital and emergency department use. Although other studies found that older people age 65 and older in the community with dementia have much higher hospital and emergency department use than people without dementia, this is not the case for residents of residential care communities. The presentation also examines the effect of variables such as ownership type and staffing levels on use. The second paper analyzes residential care community charges for care. In 2010, communities charged residents an average of \$37,988 per year; average annual charges were higher for residents with cognitive impairment and for residents living in larger communities. The third paper analyzes staffing in residential care facilities. On average, residents receive slightly over 2 hours of total care per resident per day. Staffing hours for most staff types decrease significantly as the size of the community increases. Almost all residential care communities require training of personal care workers; the most common requirement is to require less than 75 hours of training.

### WORKFORCE IN RESIDENTIAL CARE: A NATIONAL PORTRAIT

G. Khatutsky<sup>2</sup>, C. Ormond<sup>2</sup>, J. Wiener<sup>1</sup>, A.M. Greene<sup>3</sup>, E. Jessup<sup>3</sup>, M. Sengupta<sup>4</sup>, C. Caffrey<sup>4</sup>, L. Harris-Kojetin<sup>4</sup>, *1. RTI International, Washington, District of Columbia, 2. RTI International, Waltham, Massachusetts, 3. RTI International, Research Triangle Park, North Carolina, 4. National Center for Health Statistics, Hyattsville, Maryland*

Residential care is an important component of long-term services and supports. This study, which analyzes the National Survey of Residential Care Facilities, provides a national picture of the residential care workforce. We report on types of staff employed in residential care setting, staffing ratios, and required training and fringe benefits offered to personal care aides. We also describe director background and qualifications and staff turnover. Approximately one-third of all communities have a registered nurse on site; almost all employ personal care aides or certified nursing assistants. Especially in many smaller communities, directors also provide hands-on personal assistance. On average, residents receive slightly over 2 hours of total care per resident per day—including nursing and personal care. Staffing hours for most staff types decrease significantly as the size of the community increases. Almost all residential care communities require training of personal care workers; the most common requirement is less than 75 hours of training.

### EFFECT OF DEMENTIA AND COGNITIVE IMPAIRMENT ON HOSPITAL AND EMERGENCY DEPARTMENT USE AMONG RESIDENTIAL CARE COMMUNITY RESIDENTS

Z. Feng<sup>2</sup>, J. Wiener<sup>1</sup>, L. Coots<sup>2</sup>, R.E. Johnson<sup>3</sup>, *1. RTI International, Washington, District of Columbia, 2. RTI International, Waltham, Massachusetts, 3. RTI International, Research Triangle Park, North Carolina*

Little is known about hospital and emergency department (ED) use among people living in residential care communities (RCC) and whether use differs by the presence of dementia or cognitive impairment. Our analysis indicates that among older RCC residents in 2010, approximately 51% of residents had dementia or cognitive impairment. Of all residents, 23% were hospitalized and 34% visited the ED during the past year. Preliminary results from multivariate logistic regression models suggests that dementia or cognitive impairment was not significantly associated with the odds of having a hospitalization (adjusted odds ratio [AOR]=0.94, p=0.48), after adjusting for residents' demographics, functional status, chronic conditions, and other health characteristics. Presence of dementia or cognitive impairment also did not affect ED use (AOR=0.93, p=0.34). Among the factors increasing the likelihood of hospitalization or ED use were congestive heart failure, COPD, depression, high blood pressure or hypertension, stroke, and limitations in activities of daily living.

### WHAT ACCOUNTS FOR VARIATION IN RESIDENTIAL CARE FACILITY CHARGES?

S. Karon<sup>2</sup>, J. Wiener<sup>1</sup>, G. Khatutsky<sup>3</sup>, A.M. Greene<sup>4</sup>, R.E. Johnson<sup>4</sup>, *1. RTI International, Washington, District of Columbia, 2. RTI International, Madison, Wisconsin, 3. RTI International, Waltham, Massachusetts, 4. RTI International, Research Triangle Park, Northern Mariana Islands*

In 2010, the average charge for residential care across the US was \$37,988 per year, much less than for nursing home care; average annual charges were higher for residents with cognitive impairment and for residents living in larger communities. Average charges vary widely, however, both when measured by the average facility level charge and when measured by the charge experienced by residents. Using data from the 2010 National Survey of Residential Care Facilities, we analyze sources of variation at both of these levels. Key sources of variation include facility characteristics, policies, and practices; rate structure; types of residents served; services provided; and market characteristics, including state Medicaid coverage. Implications for access to this important source of home and community-based care will be discussed.

## SESSION 1440 (SYMPOSIUM)

### STRATEGIES TO MOVE NURSING HOMES TO A QUALITY CULTURE AND A QUALITY SYSTEM: LESSONS FROM THE NATIONAL QAPI DEMONSTRATION

**Chair:** R.A. Kane, *Div Health Policy & Management, University of Minnesota School of Public Health, Minneapolis, Minnesota*

**Discussant:** R. Kane, *Div Health Policy & Management, University of Minnesota School of Public Health, Minneapolis, Minnesota*

The Affordable Care Act required Quality Assurance and Performance Improvement (QAPI) in nursing homes (NHs). The Centers for Medicare & Medicaid Services (CMS) was tasked to develop technical assistance and best practice information, and oversee a QAPI regulation. CMS enunciated a 5-element framework: i.e., design and scope; governance and leadership; feedback, data systems and monitoring; performance improvement projects (PIPs); and systematic analysis and systemic action. QAPI was intended to: be comprehensive and self-sustaining; be data-driven; use system approaches and root cause analysis; conduct structured PIPs to address data-driven quality priorities; and use an inclusionary approach to engage all staff in QAPI. This Symposium discusses lessons from the qualitative and quantitative

evaluation of a 2-year QAPI demonstration in 17 diverse NHs (about ½ within corporations). Demo NHs joined a Learning Collaborative with in-person and webinar meetings, and received and commented on draft training materials, resources, and QAPI tools. The individual papers in the Symposium reveal that implementing QAPI locally in the NHs was a “tall order,” requiring a major shift in work style and thinking. The demo NHs generally made progress in implementing QAPI, despite delays and derailments because of staff turnover and external stressors. Each presenter will highlight themes and lessons from the demo, leaving ample time for a panel and audience discussion of the timing and best strategies for making QAPI a reality in the nation’s NHs. The panel also discusses how QAPI can help NHs succeed in the new health care environment, a point supported by the demo.

#### **PUTTING QAPI IN PLACE: GETTING TOWARDS A PLAN AND A STRUCTURE**

R.A. Kane, *Div Health Policy & Management, University of Minnesota School of Public Health, Minneapolis, Minnesota*

Each NH needed to evaluate its own mission, goals and previous quality activities, invest resources in QAPI, and develop a leadership structure that broke down silos and reflected the full scope of QAPI. They were also tasked with engaging and training themselves, all department heads, and frontline staff. The demo NHs struggled with developing both breadth and depth of QAPI involvement, generating enthusiasm and trust, and encouraging the true cross-department and cross-discipline dialogue that would allow examination of system effects on quality. Success required investment of the attention of leaders and governing groups, but many models of leadership worked. Greatest challenges reported were: keeping a focus on QAPI; ensuring that QAPI’s scope included post-acute services as well as long-stay services; balancing safety goals with goals for resident choice and autonomy, and developing a climate that included both individual accountability and an openness to discuss quality issues without fear of retribution.

#### **DATA-DRIVEN MONITORING AND FEEDBACK AND PIPS IN THE QAPI DEMONSTRATION**

E.M. McCreedy, R.A. Kane, R. Kane, *University of Minnesota, Minneapolis, Minnesota*

QAPI Element 3 challenges NHs to develop, display, and use data in a way that crosses departmental and disciplinary lines, turning data into actionable information, and incorporating resident feedback as data. NHs needed to monitor quality metrics at the aggregate level, using a dashboard or similar mechanism, and prioritize quality problems to select PIP topics (Element 4). Most demo homes conducted at least one PIP; the 49 PIPs in the demo varied in focus (e.g., quality of care, quality of life, human resources, transitions), complexity, and significance. The PIP process can entail: creating a project charter with measurable objectives; commissioning project teams balanced by discipline and including front-line staff; using process flowcharting to identify quality breakdowns and interventions, doing small-scale intervention tests; applying all phases of the Plan-Do-Study-Act (PDSA) PI cycle, and documenting the process. Common pitfalls, dashboards, and summaries of successful PIPs will be distributed and discussed.

#### **BOTTOM-LINE: QUANTITATIVE ANALYSIS OF QAPI IMPLEMENTATION IN THE DEMONSTRATION, AND IMPLICATIONS FOR NATIONAL QAPI ROLLOUT**

R. Kane, *School of Public Health, University of Minnesota, Minneapolis, Minnesota*

All demo homes were rated on their implementation of each QAPI elements; the results were analyzed according to other parameters of each NH. Five-star ratings at baseline, corporate ownership or tax structure, rural location, and culture change experience were not associated with degree of implementation; leadership turnover and multiple

stresses reduced implementation. Overarching issues include: orchestrating a major shift starting with the comparatively low professional substrate and fragile ecosystems of NHs; melding a culture change to QAPI with the ongoing efforts at culture change towards individualized person-centered services; genuinely involving residents, including those with short stays, and family stakeholders; the large corporate advantage in mounting QAPI compared to a freestanding NH; the general role of regulatory mandates for an internally-driven QAPI process; and determining a realistic time-frame to create a context for sustainable QAPI in most NHs.

#### **DEVELOPING AND TESTING QAPI TOOLS, TRAINING, AND TECHNICAL ASSISTANCE**

J. Pederson, K. O’Neill, M. Reiersen, J.P. Lundblad, *Stratis Health, Bloomington, Minnesota*

Stratis Health (SH), a Quality Improvement Organization, performed a detailed analysis of objectives and tasks for any NH launching QAPI, and reviewed extant tools with potential to help NHs implement QAPI processes. Thirty-one QAPI Process Tools were drafted to test in the demo; most of these required substantial re-working for NHs. The NHs varied in the extent to which they adopted or adapted tools and their ratings of helpfulness. Tools for self-assessment, dashboard displays, prioritizing quality problems, structuring and conducting PIPs, and root-cause analysis were usually perceived positively but one size did not fit all. SH also led a structured Learning Collaborative with 3 in-person meetings and many webinars, some with “homework” and feedback. NHs appreciated the collaborative structure, the stimulation provided and even the deadlines. Based on demo home feedback, on-line learning sessions are under-development with exercises and instructor guides to tailor to individual audiences at multiple levels.

#### **SESSION 1445 (SYMPOSIUM)**

##### **INSIGHTS FROM THE NATIONAL HEALTH AND AGING TRENDS STUDY ON CAREGIVING AND UNMET NEED**

**Chair:** J. Kasper, *Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

**Discussant:** J. Haaga, *National Institute on Aging, Bethesda, Maryland*

NHATS was developed as a resource for the study of late life disability trends and dynamics in older people in the US. As a nationally representative study of Medicare beneficiaries ages 65 and older, NHATS provides data to inform policies and programs directed toward improving quality of life at older ages and addressing needs of older people experiencing declines in late life functioning. Papers in this session focus on caregiving to older adults with mobility, self-care and household activity limitations, the role dementia plays in functional limitations and caregiving, and unmet needs for assistance among older people with disabilities. National estimates on caregiving by family and friends, the main source of assistance for older adults with functional limitations, drawn from NHATS and the National Study of Caregiving will be presented. A second paper examines patterns of activity limitations among older persons with dementia and the types of assistance being provided to these individuals; implications of dementia caregiving in a national context are addressed. Availability of assistance to older adults also sometimes falls short, and a third paper provides national estimates on unmet need, defined by consequences of functional difficulties and lack of help. Objectives of this session are to provide new national estimates of caregiving and unmet need, and to highlight the role of dementia in caregiving. A brief overview of NHATS will be provided and a discussant will identify themes and promising future directions for research.

## INFORMAL CAREGIVING FOR OLDER AMERICANS: AN ANALYSIS OF THE 2011 NATIONAL SURVEY OF CAREGIVING

B. Spillman<sup>1</sup>, J. Wolff<sup>2</sup>, V.A. Freedman<sup>3</sup>, J. Kasper<sup>2</sup>, *1. Urban Institute, Washington, District of Columbia, 2. Johns Hopkins University, Baltimore, Maryland, 3. University of Michigan, Institute for Social Research, Ann Arbor, Michigan*

We examine informal caregivers' roles and experiences, using a new resource, the National Survey of Caregiving. The NSOC interviews all informal caregivers for a nationally representative sample of informal care recipients age 65+. Caregivers report on a broad range of assistance beyond traditional household/personal care tasks, from transportation to medical tasks, as well as reporting on their family, work, health, and caregiving experiences. In 2011, 18 million caregivers provided 1.3 billion care hours monthly to 9 million older adults. Substantial positive consequences of caregiving are common (68%), and substantial negative consequences are rare (10%), most often exhaustion, too much to do, and too little time for themselves. Our estimates substantiate that beyond supportive care, today's informal caregivers assist with a range of health tasks and help older recipients navigate the health system and represent an important component of the workforce for maintaining the well-being and health of the older population.

## DISABILITY AND CARE NEEDS OF OLDER AMERICANS BY DEMENTIA STATUS

J. Kasper<sup>1</sup>, B. Spillman<sup>2</sup>, V.A. Freedman<sup>3</sup>, *1. Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 2. Urban Institute, Washington, District of Columbia, 3. University of Michigan, Ann Arbor, Michigan*

Studies of the prevalence of dementia in the U.S. estimate that 14% of those over age 70 are affected, increasing to one quarter of persons over age 80. The implications of population aging for increases in older persons with dementia and the impact on families have been recognized worldwide in a 2012 World Health Organization report on Dementia as a Public Health Priority, and in the U.S. by the National Alzheimer's Project Act of 2012. Findings from the National Health and Aging Trends Study document the substantial role of dementia in late-life disability. Most (81%) older persons with dementia received assistance with self-care or mobility activities, or household activities for health or functioning reasons. Among all persons receiving this type of help, one-third had dementia. This paper reports on characteristics, residential settings, and aspects of caregiving for older persons with dementia.

## THE ADVERSE CONSEQUENCES OF UNMET NEED AMONG OLDER PERSONS IN THE COMMUNITY

V. Mor, S.M. Allen, *Brown University, Providence, Rhode Island*

NHATS allows a national profile of older persons who experience unmet need for assistance in daily activities. Persons receiving help or reporting difficulty were asked about adverse consequences (e.g. going without bathing or a hot meal) because no one was there to help or the task was too difficult. Over 2 million beneficiaries experienced an adverse consequence; 4% who needed help eating went without, 13% who needed help bathing went without, and 43% who needed help with toileting wet or soiled their clothes. For household activity assistance, 17% experienced a negative consequence (10% went without hot meals; 20% made mistakes in medication management). The risk of experiencing a negative consequence increased for unmarried persons, those with dementia, and dual eligibles. The prevalence of unmet need, underestimated using this approach, is high; should we use this as a measure formal and informal community care system adequacy?

## SESSION 1450 (SYMPOSIUM)

### MAKING CONNECTIONS ACROSS DISCIPLINES TO SUPPORT AGING IN PLACE

**Chair:** E.A. Greenfield, *School of Social Work, Rutgers University, New Brunswick, NJ*

**Discussant:** L.N. Gitlin, *Johns Hopkins, Baltimore, Maryland*

Despite people's overwhelming preference to remain in their own homes and communities throughout later life, there is growing recognition of limitations within housing, neighborhood design, public policies, and service delivery systems that challenge individuals' ability to age in place. As research to address these issues and explore solutions has grown within the past decade, there is increased need for integrative scholarship to advance cumulative knowledge building in this area. This symposium addresses this need by convening researchers from different disciplines who are conducting cutting-edge research on systematic efforts to promote aging in place. The first paper will showcase research led by nursing, presenting on CAPABLE, which is a multi-component, home-based intervention that addresses mobility, functionality, and optimizing the home environment. The second paper will focus on social work perspectives, providing an overview of research on NORC programs and Villages as community-based models that emphasize strengthening social relationships to promote older adults' ability to age in place. The third paper will describe strategies from a health policy perspective to conduct secondary data analysis on aging in place, using the examples of falls and residential relocations. The fourth paper will highlight research from urban studies that offers an exploration of the intersection between age-friendly and sustainable development initiatives, with a focus on studies involving city planners, designers, and developers. The discussant will identify themes across the presentations, raise critical questions for future research, and moderate a discussion among the presenters and attendees to advance transdisciplinary research that has high potential to inform policy and practice.

### A HOME-BASED, INTERDISCIPLINARY MODEL OF CARE FOR OLDER ADULTS: EARLY FINDINGS FROM CAPABLE

S. Szanton<sup>1,2</sup>, L.N. Gitlin<sup>1</sup>, B. Leff<sup>1</sup>, R. Thorpe<sup>2</sup>, J. Guralnik<sup>3</sup>, Q. Xue<sup>2</sup>, E. Tanner<sup>1</sup>, *1. Johns Hopkins University, Baltimore, Maryland, 2. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 3. University of Maryland, Baltimore, Maryland*

Nearly 40 percent of adults age 65 and over who live in the community report at least one functional impairment. Functional impairment can jeopardize ability to age in place especially when accompanied by multiple chronic morbidities (e.g., chronic pain and depression), inadequate supports, or precarious conditions within the home environment. Drawing on concepts from nursing, occupational therapy, and home repair and modification, this presentation will present research on CAPABLE (Community Aging in Place, Advancing Better Living for Elders), an interdisciplinary model of home visits by nursing, occupational therapy, and home repair to address functional needs as well the medical and environmental problems that limit function. Early findings from a randomized-control trial of CAPABLE with low-income older adults indicate the model's promise to reduce functional impairment, pain, and depression. These findings suggest the importance of multi-component, home-based, interdisciplinary models of care to support vulnerable older adults' ability to age in place.

## SOCIAL WORK RESEARCH ON COMMUNITY INITIATIVES, SOCIAL CAPITAL, AND AGING IN PLACE

E.A. Greenfield<sup>1</sup>, A.E. Scharlach<sup>2</sup>, J.K. Davitt<sup>3</sup>, A.J. Lehning<sup>3</sup>, C. Graham<sup>2</sup>, 1. *School of Social Work, Rutgers University, New Brunswick, NJ*, 2. *University of California, Berkeley, California, United Kingdom*, 3. *University of Maryland, Baltimore, Maryland*

Social work, as a profession and an academic discipline, has a long-standing focus on supporting people in their own homes and communities. Consistent with this tradition, social work research increasingly has addressed community aging initiatives, which are systematic and collaborative efforts within a local area that seek to transform social and physical environments to support older adults' aging in place, health, and well-being. Fitting with the discipline's attention to social relationships as vehicles for change, research from a social work perspective has focused on two models in particular—Villages and NORC programs. These models emphasize enhancing local networks of relationships that can promote aging in place, including those involving formal providers, as well as those concerning informal relationships among neighbors. The presentation will provide a summary of recent research on these models, including results from a national organizational survey, as well as studies of older adult participants in New York and California.

## RESEARCH APPROACHES FROM HEALTH POLICY TO IDENTIFY RISK AND PROTECTIVE FACTORS FOR AGING IN PLACE

E.J. Nicklett, *School of Social Work, University of Michigan, Ann Arbor, Michigan*

Policymakers and advocates at the state and federal levels are increasingly interested in efforts to avoid or postpone institutionalization and better support older adults in their own homes and communities. Research to inform public health policy on aging in place, however, lags behind, as there is surprisingly little systematic population research on the variety of risk and protective factors shaping opportunities for community-dwelling adults to age in place. This presentation will describe—from health policy perspective—results from research using national U.S. data from the Health and Retirement Study. Specifically, the presentation will focus on research examining (1) sociodemographic and contextual risk factors for falls among community-dwelling older adults and (2) sociodemographic and contextual risk factors for residential transitions in old age. The presentation will address how results from these analyses can inform efforts of policymakers and advocates to promote appropriate services and supports for aging in place.

## UNDERSTANDING THE INTERSECTION BETWEEN SUSTAINABLE AND AGE-FRIENDLY DEVELOPMENT

A. DeLaTorre, *Institute on Aging, Portland State University, Portland, Oregon*

Portland, Oregon has been considered an innovator in urban planning and sustainable development. Government agencies, nonprofit organizations, and businesses in Portland have engaged in policy creation and development practices aimed at creating a more sustainable city and region; however, little consideration regarding population aging has been made in the push for sustainable development, even though these practices maintain a focus on planning for “future generations.” This presentation explores the intersection between sustainable and age-friendly development based on key informant interviews with planning, development, and design professionals. The meaning of sustainable development for an aging population will be discussed and policies will be detailed that influence the ability of older adults to age in their homes and communities. Findings will detail how aging can be introduced into the sustainable development discourse, including the need for sustainable development practices to pay closer attention to social equity issues arising due to population aging.

## SESSION 1455 (SYMPOSIUM)

### IMPROVING THE TRANSITIONAL CARE PROCESS

**Chair:** A. Schwartz, *Duke University, Center for the Study of Aging and Human Development, Durham, North Carolina*

**Discussant:** T.A. Allison, *University of California, San Francisco; San Francisco VA Medical Center, San Francisco, California*

Transitional care occurs in a variety of settings, and there is no best practice to aid older adults and their families in this process. The transitional care process is both clinically important, and is also an area of concern in health care policy. This symposium is timely in light of the implementation of the Centers for Medicare and Medicaid Services Community-based Care Transitions Program (CTP), that focuses on the transitional care process across a variety of settings with the goal of reducing hospital readmissions. A variety of qualitative and mixed method approaches were utilized in the studies in this symposium in order to understand and improve the experiences of older adults and stakeholders during transitions in care. One presentation will present on the relationship between patient and hospital staff moods during the transition from hospital to nursing home. A second presentation will report case managers' processes of planning post-hospital transitions for Mexican American older adults in a “think aloud” study. A third study will present the importance of engaging stakeholders in the development of technology-based interventions to reduce nursing home resident emergency room visits. The final study will report case managers' views of the challenges in facilitating patients' access to services they require post-hospital discharge. Presenters will share the implications of their findings for clinical practice and health care policy. The discussant is an MD/PhD ethnographer and geriatric physician who builds clinical programs intended to keep older patients in their homes and return them home safely post-hospitalization.

### LIVING IN TRANSITION

A. Kydd, *Nursing, University of the West of Scotland, Hamilton, United Kingdom*

This qualitative study explored both the phenomenon of ‘delayed discharges’ or ‘bed blockers’ and the experience of the frail older people in hospital who could not go home and did not know which nursing home they would be transferred to, or when.. The study borrowed from ethnography, and in a participant/observer role, the researcher went into the hospital over time as a visitor and collected the narratives of the frail older people in transition. This paper focuses on one finding; that the patients' were resilient in their distress, but their moods were linked to the mood of the staff on the ward. This fact could only be seen after time spent on the ward. The mood of the patients was determined by the atmosphere on the ward, that is, when the staff were content, the patients were happy. When staff were tired or stressed custodial care was evident.

### COGNITIVE WORK ANALYSIS: TRANSITIONAL CARE FOR MEXICAN AMERICAN ELDERS

J.D. Crist, K.M. Koerner, A. Pasvogel, J.T. Hepworth, *Community and Systems Health Sciences Division, College of Nursing, The University of Arizona, Tucson, Arizona*

Effective transitional care results in cost savings and improved quality of life. Use of home health care services results in elders' improved health and functional ability, less depression, and fewer re-hospitalizations. Transitional care experts have studied how to improve the process; but they have not focused on Mexican American (MA) elders. Preliminary research found evidence of a non-systematic approach to transitional care. The proposed qualitative study was designed to discover whether transitional care planning for MA elders differs from planning for elders of non-Hispanic White elders. At two separate hospitals case managers were instructed to “think aloud” during their daily work tasks. All audible interactions were recorded. Transcripts and

field notes were content analyzed and plotted according to the Cognitive Work Analysis framework. Insurance coverage over-rode other possibilities for post-hospital care even before diagnosis, prognosis, or elder/family preferences were assessed. Findings can connect local interdisciplinary practice with broader policy.

#### **STAKEHOLDER PERSPECTIVES ON THE USE OF TECHNOLOGY TO REDUCE NURSING HOME RESIDENT ER TRANSFERS**

C. Stephens<sup>1</sup>, E. Halifax<sup>1</sup>, P. Govindarajan<sup>2</sup>, S. Lee<sup>3,4</sup>, C. Ritchie<sup>3,4</sup>, J. Shim<sup>5</sup>, 1. *University of California San Francisco School of Nursing, Dept. of Community Health Systems, San Francisco, California*, 2. *University of California San Francisco School of Medicine, Dept. of Emergency Medicine, San Francisco, California*, 3. *University of California San Francisco School of Medicine, Division of Geriatrics, San Francisco, California*, 4. *San Francisco VA Medical Center, Geriatrics, Palliative & Extended Care, San Francisco, California*, 5. *University of California San Francisco School of Nursing, Dept. of Social & Behavioral Sciences, San Francisco, California*

Transfers of frail nursing home (NH) residents to and from the emergency room (ER) are common, costly, and expose vulnerable residents to the well-documented risks associated with care transitions. Little is known about stakeholder perspectives on the use of emerging health technologies to help reduce these transfers and improve care coordination. We convened multiple stakeholder focus groups comprised of patient families, NH nurses, NH physicians/nurse practitioners, NH administrators and ER staff. Prior to the start of the focus group, participants completed a brief online survey regarding their background, experience and preferences related to technology and NH resident ER transfers. Focus group interviews were recorded and transcribed verbatim. Transcripts and field notes were analyzed using a Grounded Theory approach. Findings suggest that active engagement and input of key stakeholders is critical to the development, optimization and testing of technology-based interventions in vulnerable nursing home populations.

#### **FACILITATING ACCESS TO WRAP AROUND SERVICES AFTER HOSPITAL DISCHARGE: CARE MANAGERS' PERSPECTIVES**

R. Berman, M. Iris, C. Robinson, S. Dornberg-Lee, A. Loterstein, K. Newfeld, *CJE SeniorLife, Chicago, Illinois*

With the passage of the Affordable Care Act and efforts to contain health care costs, enhancing transitional care is seen as a promising strategy for reducing avoidable hospital readmissions. This paper focuses on an extended care management intervention to reduce hospital readmissions among Medicare-eligible patients at three Chicago-area hospitals. This intervention is one component of the Transitions Collaborative run by CJE SeniorLife, a partner in the Centers for Medicare and Medicaid Services' Community-based Care Transitions Program. Based on qualitative analysis of care manager documentation, meetings, and interviews, we describe how care managers use the results of risk assessments administered by nurse coaches to assist patients and their caregivers in need of wrap around services. We highlight factors affecting patients' access to and use of identified services that could enhance transitional care and discuss broader implications of using such approaches to realize the outcome of reduced hospital readmissions.

## **SESSION 1460 (SYMPOSIUM)**

### **POLICY SERIES: CONGRESSIONAL AGING ISSUES UPDATE**

**Chair:** B. Lindberg, *The Gerontological Society of America, Washington, District of Columbia*

This panel will present an update on aging and health legislation from the first session of the 114th Congress. Speakers will address key issues such as Social Security, Medicare, Medicaid, the Older Americans Act and more. The panel will also provide the audience a sense of what can be expected during the second session in 2015. Sponsored by GSA's Public Policy Committee.

## **SESSION 1465 (PAPER)**

### **STATE-LEVEL EFFORTS IN LONG TERM SERVICES AND SUPPORTS**

#### **EXAMINING STATES' EFFORTS IN ACHIEVING A PERSON-CENTERED, BALANCED LTSS SYSTEM**

S.A. Flanagan<sup>1</sup>, J. Howard<sup>1</sup>, K. Lida<sup>2</sup>, 1. *IMPAQ International, Washington, DC, District of Columbia*, 2. *Centers for Medicare and Medicaid Services, Baltimore, Maryland*

Federal mandates and initiatives (e.g., Americans with Disabilities Act, Olmstead Act) provide an impetus for states to pursue community integration for all individuals. As states continue to reform their long-term services and supports (LTSS) systems, there is growing interest in determining their success in providing LTSS systems that are person-centered and balanced between home and community-based and institutional-based LTSS. However, there is a gap in the availability of common indicators to examine states' efforts in achieving such a LTSS system. The Centers for Medicare and Medicaid Services (CMS) funded the National Balancing Indicators Project (NBIP or Phase II) from 2010-2014 to further refine and add to 18 "core" indicators and "short-term" developmental indicators developed under the CMS-funded National Balancing Indicators Contract (NBIC or Phase I) from 2007-2010. This paper will provide a brief overview of the approach used and the refined and expanded NBIP Principles and National Balancing Indicators (NBIs) and the State Self-assessment Survey instrument and Technical Assistance Guide for the NBIs developed; describe the key findings from the field testing of the State Self-assessment Survey instrument and NBIs conducted with seven State Profile Tool (SPT) grantees (ME, MA, MI, MN & KY) and the issues and challenges the grantees encountered in reporting the data needed to complete the State Self-assessment Survey instrument and implementing the NBIs; and discuss the challenges the federal government and states face in implementing a set of system-level NBIs and collecting the data necessary to implement them in a sustainable way.

#### **OHIO'S LONG-TERM CARE FACILITIES IN THE ECONOMIC DOWNTURN: HOW HAVE THEY ADJUSTED?**

P. Cummins<sup>1,2</sup>, R. Walker<sup>1</sup>, J. Straker<sup>2</sup>, 1. *Sociology & Gerontology, Miami University, Oxford, Ohio*, 2. *Scripps Gerontology Center, Oxford, Ohio*

The combination of the Great Recession, decreases in Medicaid and Medicare reimbursements, and a shift from institutional long-term care to home and community based services have created both challenges and opportunities for long-term care facilities. In recent years, long-term care facilities made a number of operational changes to improve their financial prospects. Data from Ohio's 2011 Biennial Survey of Long-Term Care Facilities – Nursing Homes and Residential Care Facilities (RCFs) were used in this research. The Biennial Survey is an internet survey of all nursing homes and RCFs in Ohio. A total of 584 RCFs and 921 nursing homes participated in the survey. For each of about 40 possible changes that could be made in response to changing eco-

conomic conditions, administrators were asked to report whether they had considered each practice and either rejected it, considered but not acted on it, implemented the change during 2011, or implemented prior to 2011. Nursing homes and RCFs both implemented policies to increase revenues; nursing homes implemented strategies to increase the number of Medicare residents and RCFs sought to increase the number of residents with Medicaid waivers. Both RCFs and nursing homes made adjustments to reduce costs and increase revenues; most strategies to increase revenues were implemented prior to 2011 whereas personnel cost reductions more often occurred in 2011. As the economy and labor markets improve, it may be difficult to maintain some of these changes, such as reduced employee costs and increased employee productivity, when workers have other choices for employment.

#### **A LIMITED LONG TERM SUPPORTS AND SERVICES FINANCING PACKAGE FOR HAWAII**

L.H. Nitz<sup>1</sup>, W.L. Lum<sup>2</sup>, J.C. Wilkin<sup>3</sup>, *1. Political Science, University of Hawaii at Manoa, Honolulu, Hawaii, 2. Director, Executive Office on Aging, Honolulu, Hawaii, 3. Actuarial Research Corporation, Columbia, Maryland*

The proposed Hawaii LTC Financing Program is a social insurance program. It contains some of the same elements as private insurance. Conditions of coverage, benefits, and financing will all be specified by law or regulation, in a manner similar to how insurance contracts specify benefits to which an insured policyholder is entitled. Individuals must earn coverage by making contributions to the program, just as private contracts require premium payments. Covered individuals have a statutory right to benefits without being subjected to a means test. In addition, the level of benefits is related to the number of years in which contributions have been made. As such, this is not a welfare program. Coverage is earned in the Hawaii LTC Financing Program through the payment of premiums. For each twelve (12) consecutive month period that a person pays the premium, the person shall earn one-tenth of the daily benefit amount. For each twelve consecutive months of nonpayment of the premium, the person shall forfeit one-tenth of the daily benefit amount. Vested (or insured) individuals become eligible for benefits under the program based on their inability to perform two or more Activities of Daily Living (ADLs) out of six or on cognitive impairment. Benefits under the Hawaii program are paid to the recipient of long-term care services as a reimbursement for long-term care expenditures. The benefits are primary to private insurance and Medicaid, but secondary to Medicare

#### **IMPLICATIONS OF NURSING HOME RESIDENT AND CAREGIVER CHARACTERISTICS ON POLICY EFFORTS TO PROMOTE COMMUNITY DISCHARGE: THE MINNESOTA RETURN TO COMMUNITY INITIATIVE**

K. Abrahamson<sup>1,2</sup>, K. Boston<sup>5</sup>, D. Buttke<sup>5</sup>, K. Glueckert<sup>5</sup>, G. Arling<sup>3,4</sup>, *1. School of Nursing, Purdue University, West Lafayette, Indiana, 2. Purdue University Center for Aging and the Life Course, West Lafayette, Indiana, 3. Indiana University Center for Aging Research, Indianapolis, Indiana, 4. Regenstrief Institute, Indianapolis, Indiana, 5. Minnesota Department of Human Services, St. Paul, Minnesota*

The Minnesota Return to Community Initiative (RTCI) is an innovative state-level intervention, administered by the Minnesota Board of Aging that promotes transition of nursing home (NH) residents to the community. The objectives of RTCI are to: re-balance long-term care (LTC) resources; employ LTC resources more efficiently; improve individual health and function; enhance consumer choice and quality of life; prevent or delay conversion to Medicaid. RTCI uses a data-driven approach to target private-pay residents who desire discharge, fit a discharge profile, and are early in their NH stay. We will discuss characteristics of the (>1,000) RTCI transitioned NH residents and caregivers in terms of function, cognition, health, service use, and well-being,

highlighting correlations between resident needs and characteristics, caregiver role, services used, and levels of caregiver burden. Most residents (78%) transitioned to a private residence, often alone (34%), and expressed a willingness to pay for necessary services (91%). Transitioned residents were generally cognitively intact (76%), confident in their decision-making ability (79%), and had low rates of depression and behavior problems. Transitioned residents required more IADL assistance than ADL assistance. Caregivers were primarily female and evenly distributed between spouses (44%) and adult children (43%). The inter-personal burden of caregiving appeared highest for spousal caregivers. Of the types of services available, caregivers expressed the greatest interest in information-related services and respite care. We will discuss the implications of resident and caregiver characteristics on RTCI efforts to effectively employ resources and anticipate the needs of transitioned residents and caregivers.

#### **SESSION 1470 (PAPER)**

#### **CIVIC ENGAGEMENT**

#### **EXPLORING THE CONNECTION BETWEEN PERSON-ENVIRONMENT FIT AND COMMUNITY ENGAGEMENT**

B.M. Elias<sup>1</sup>, S.L. Cook<sup>2</sup>, M. Ginsler<sup>2</sup>, *1. Family and Community Social Services, University of Guelph/Humber, Caledon, Ontario, Canada, 2. York University, Toronto, Ontario, Canada*

Abstract Findings from Year 2 of this research project will report on the physical, psychological, emotional and social responses of a diverse population with special needs as they transition from various residential settings to a new "Intentional Community with Supports". Methods Social participation is measured by examining emerging levels of activity in sports, recreation and leisure, volunteering and supported paid employment. Quantitative and qualitative methods were adopted in this longitudinal 5 year case study. Interview questions about the person-environment fit have now been administered 4 times: pre and post move, at year one and year two in September 2014 with 62 tenants. Findings A new definition of what life is like at the Reena Community Residence is emerging. Visitors, partners, staff and family members, volunteers, friends and caregivers make comments freely on this "unique phenomenon of how supportive an intentional community can be". It is fascinating to capture and document observations of the emerging social vision that focuses on the importance of living and sharing life together. Results describe the self-perceived responses of the tenants' lived experience. Early findings reveal highly positive views by the tenants about their new home and in establishing a great pride in their community while establishing new levels of social participation. Conclusion The person-environment fit theory (M. Powell Lawton, 1986) is relevant to this research which follows 62 individuals and their lived experience tracing successful aging, lifelong learning, health and wellbeing in an intentional community.

#### **ACTIVITY DISENGAGEMENT: UNDERSTANDING CHALLENGES AND OPPORTUNITIES FOR REENGAGEMENT**

N. Morrow-Howell, S. Herbers, K. Fox, P. Plathe, C. Baum, *Washington University in St. Louis, St. Louis, Missouri*

AIMS: Activity engagement has been associated with wellness outcomes in later life; and in this study, we aim to 1) understand activity disengagement among older adults; and 2) to identify the challenges and opportunities for re-engagement in the face of both individual and environmental limitations. METHODS: Fifty one older adults residing in a low-income senior housing facility completed the Activity Card Sort, where 89 activities (classified as low-demand leisure, high-demand leisure, instrumental, or social) were reviewed. We identified past and present levels of activity engagement, reasons for giving up or doing activities less, what it would take to re-engage in these activities,



and willingness to re-engage. We used descriptive statistics to address study aims. FINDINGS: Activities residents remained engaged in were instrumental (i.e. doctor visits, grocery shopping) and low-demand leisure (i.e. watching television, listening to music). Residents reported “do less” or “given up” most often for instrumental activities assumed by the housing facility (i.e. yard maintenance), and social activities (i.e. parties/picnics). The top ten activities residents would like to re-engage in were either low-demand leisure or social. “No opportunity” was identified by 94.1% of participants to be a barrier for at least one activity. Other common barriers included: “no interest”, “physically difficult”, and “no one to do it with”. The highest reported facilitator to activity engagement was “someone to do it with me” (80.4%). IMPLICATIONS: These findings suggest that assessments and interventions might be developed to re-engage older adults in valued activities that they have reduced or dropped.

#### **VOLUNTEERING AND ITS IMPACT ON SELF-IDENTITY: RESULTS FROM CHAOYANG DISTRICT IN BEIJING**

L. Xie, *Institute of Gerontology, Renmin University of China, Beijing, China*

Ageism has negative influence on older peoples’ self-identity and behavior, forming stereotypes of older population that further aggravate ageism. Volunteerism may reduce ageism by improving older adults’ self-identification. This study examined potential positive impact of volunteerism among Chinese older adults from Chaoyang District on self-identity using the empowerment perspective. Data were collected from 206 volunteers and 43 non-volunteers aged 50 and above from a regional sample. Logistic regression modeling was applied, controlling for demographic characteristics, financial security and self-rated health. High volunteerism was significantly associated with positive self-identity. Older Chinese volunteers have more positive attitudes towards themselves than non-volunteers and less likely to regard themselves as old. Findings suggest that a volunteer program may be an effective self-identification promotion intervention for Chinese older population. Ways of promoting volunteering at individual, organizational and societal levels are discussed as way of empowering and promoting older adults’ positive self-identity, and diminishing ageism.

#### **THE HEALTH EFFECTS OF LATER-LIFE EMPLOYMENT AND THE IMPORTANCE OF WORK QUALITY POST-RETIREMENT AGE**

K. Matthews, T. Chandola, J. Nazroo, N. Pendleton, *CCSR, University of Manchester, Manchester, United Kingdom*

Objective: With an ageing workforce and changes to normal retirement age, there is great importance in understanding how employment, and employment quality in later life affects health. This paper uses propensity score matching to account for selection biases in the effects of later life employment on health and well being. Methods: Caliper matching examines (i) the effects of working post-state pension age (65 for men and 60 for women) and (ii) the effects of the quality of this employment on depression, self-rated health and cognitive functioning. Robustness of results is further tested by sensitivity analysis using Rosenbaum bounds. Results: No significant differences in health remain between retirees and workers in general after accounting for selection bias. However, results show significant differences do exist when work is stratified by quality. Those working in high quality employment have significantly lower levels of depression and poor self-rated health than those in poor quality employment. Work stratified by its quality was also compared to retirement. Those in poor quality work had significantly higher levels of depression than those who had retired, and those in good quality work had significantly better self-rated health than those who had retired. Discussion: Significant differences in health between retirees and workers disappear when selection bias is accounted for, but findings also suggest that health after retirement age depends on employment characteristics beyond activity alone. The significant dif-

ference in health between those in high and poor quality employment demonstrates the importance of good workplace characteristics in later-life. Working past state pension age is good for health, but only for those in good quality work.

#### **PERCEIVED SENSE OF CONTROL, POWER, AND CAPACITY IN CIVIC PARTICIPATION OF AGING CHINESE IMMIGRANTS IN CALGARY, CANADA**

H. Tong, D. Lai, *Faculty of Social Work, University of Calgary, Calgary, Alberta, Canada*

Aging immigrants are often perceived as vulnerable or powerless due to their status as both immigrants and older persons. From a strengths-based perspective, participating in the community and having their voices heard is crucial to changing their vulnerable status, yet research on immigrant older adults’ perceptions of their own civic participation capacity is lacking. This qualitative research, based on constructivist grounded theory, explores older immigrants’ perceived sense of control, power, and capacity with respect to civic participation, focusing on aging Chinese immigrants in Calgary as a case example. 30 Chinese immigrants aged 65 and older were interviewed. Semi-structured in-depth personal interviews were conducted with 9 participants and 21 participated in two focus group discussions. The research results indicated that while most participants wished to participate in Canadian civic life and were concerned with events happening in Canada, opportunities for and level of civic participation were limited. Most participants described a lack of power and control, particularly in civic participation, and cultural bias, language barriers, transportation and technological challenges, and lack of support services limited engagement and civic participation capacity. This reflects a need for strategies to support immigrant older adults’ civic engagement and to enable their voices to be better heard, including the development of civic participation opportunities by professionals working with immigrant older adults.

#### **SESSION 1475 (SYMPOSIUM)**

##### **SEARCHING FOR DRUGS THAT SLOW AGING: PREDICTION, SCREENS, AND RODENT TESTS**

Chair: R. Miller, *University of Michigan, Ann Arbor, Michigan*

Have biogerontologists, at long last, found something useful to do? The poorly repressed secret hope of biological gerontologists, to find a way to slow aging and delay multiple forms of late-life disease and disabilities in people, is no longer merely a science fiction fantasy, but a plausible research goal likely to transform preventive medicine a couple of decades down the road. This session presents three kinds of studies which may contribute to this evolving story in complementary ways. Dr. Joseph Baur will talk about the strategies by which short term tests - in cells or in animals - may help to select drugs worth the expense of screening for health and lifespan effects in rodents. Dr. Monica Driscoll will talk about the newly-funded NIA initiative to use nematodes to find drugs with robust effects on longevity across many species, Dr. Richard A. Miller will present a summary of the accomplishments of the NIA Interventions Testing Program, the status of work in progress, and plans for future collaborative studies.

##### **DOES FINDING A LONGEVITY DRUG HAVE TO TAKE A LIFETIME?**

J. Baur, *Physiology, University of Pennsylvania, Philadelphia, Pennsylvania*

A drug that could extend the number of healthy years of human life would have enormous benefits for society – the so-called “longevity dividend”. However, testing large numbers of compounds for lifespan extension is impractical and expensive even in rodents, let alone humans. Although there have been some notable successes, the majority of potential longevity drugs that have been selected through candidate

approaches have failed, raising questions about what a life-extending drug should look like, and about the nature of the underlying aging process that we seek to delay. An interesting case-in-point is resveratrol, which displays many of the characteristics one might expect of a longevity drug, but does not extend life in healthy mice. In contrast, rapamycin appears to have a number of detrimental effects, yet ultimately extends murine lifespan. This talk will discuss the role that short-term assays might play in the search for a drug that can deliver the longevity dividend in rodents, as well as humans.

#### **NIA'S INTERVENTION TESTING PROGRAM: CURRENT STATUS AND FUTURE PLANS**

R. Miller, *University of Michigan, Ann Arbor, Michigan*

The NIA Intervention Testing Program (ITP) tests drugs, suggested by collaborators, for effects on lifespan of genetically heterogeneous mice, at each of three sites. Of the 18 agents for which full datasets have been produced, at least five have produced significant lifespan extension in one or both sexes. The strongest effects so far have been produced by rapamycin and acarbose (both sexes), and by the nordihydroguaiaretic acid (males only). Significant, but smaller, effects have been noted for aspirin and for 17-alpha-estradiol, with follow-up studies at higher doses now in progress. This talk will briefly review the published results, show interim results for drugs now under test, and discuss future growth of the program, opportunities for collaborations, and ideas for translational research based on ITP discoveries. Key collaborators: Dave Harrison, Nancy Nadon, Randy Strong. Support: National Institute on Aging.

#### **ITP FOR WORMS: PICKING AND PRIORITIZING DRUGS TO PROMOTE HEALTHY AGING**

M. Driscoll<sup>1</sup>, G.J. Lithgow<sup>2</sup>, P.C. Phillips<sup>3</sup>, M. Guo<sup>4</sup>, R.A. Kohanski<sup>4</sup>, 1. *Rutgers University, Piscataway, New Jersey*, 2. *The Buck Institute, Novato, California*, 3. *The University of Oregon, Eugene, Oregon*, 4. *National Institute on Aging, Bethesda, Maryland*

The NIA-funded Interventional Testing Program (ITP) seeks pharmacological interventions that enhance healthy human aging by testing compounds for longevity in the mouse following a standardized protocol at three research facilities. To rapidly identify compounds with broadly efficacious impact on lifespan and healthspan across a variety of genetic backgrounds, the *Caenorhabditis* Intervention Testing Program (CITP) was established. Three parallel CITP teams will test compounds (singly or in combination) suggested by the research community and vetted through an Access Panel. Compounds (at multiple doses) will be tested for longevity and healthspan effects in at least 8-10 *Caenorhabditis* strains. An additional goal is to increase the number of compounds that can be quickly and robustly analyzed. We will present a standardized protocol for *Caenorhabditis* survival assays with compounds, report on the natural variation among healthspan and lifespan indicators in a diverse collection of wild *Caenorhabditis* variants, and discuss our first compound intervention trials.

### **SESSION 1480 (SYMPOSIUM)**

#### **BRIDGING INFORMATION ACROSS RESEARCH ENTERPRISES: NOVEL APPLICATIONS OF INTEGRATIVE DATA ANALYSIS IN GERONTOLOGY**

**Chair:** A.L. Gross, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

**Discussant:** E.A. Stuart, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

From cognitive to physical functioning, synthesis of information from multiple sources is a pervasive challenge for all aspects of gerontologic research. Integrative data analysis (IDA) refers to the analysis of multiple datasets, together or in parallel, to address substantive research hypotheses. Presentations in this symposium highlight innovative appli-

cations of IDA in several aging-related areas of scientific inquiry, and address important methodological challenges. The first presentation by Hofer and colleagues highlights the importance of replicating and synthesizing results across longitudinal studies of aging and discusses the coordinated analysis approach used by the Integrative Analysis of Longitudinal Studies on Aging (IALSA) network. Gross and colleagues address a common challenge in IDA in which different amounts of information are available from different studies. They compare two approaches, equipercentile equating and factor analysis of item response data, for equating different versions of a neuropsychological test administered across 41 studies (N=106,612 older adults) into a common measure of mental status. Mehta and colleagues performed an exhaustive IDA of 17 prospective studies, representing N=144,716 white adults, to evaluate temporal trends over calendar time in the association of obesity to years of life lost. BMI and mortality data that spanned across different calendar periods. Different patterns were found for men and women. Finally, Varadhan and colleagues introduce an approach for combining prospective studies and randomized trials to obtain generalizable causal effects. They provide an empirical example involving congestive heart failure. Results demonstrate that treatment effects from non-representative clinical trials can be generalized to broad populations of interest.

#### **INTEGRATIVE ANALYSIS OF LONGITUDINAL STUDIES ON AGING (IALSA): ACHIEVING REPRODUCIBLE INTERNATIONAL RESEARCH THROUGH COORDINATED ANALYSIS**

S.M. Hofer<sup>1,2</sup>, A.M. Piccinin<sup>1</sup>, G. Muniz<sup>3</sup>, S. Clouston<sup>4</sup>, D. Mroczek<sup>5</sup>, J. Kaye<sup>2</sup>, D. Kuh<sup>3</sup>, 1. *University of Victoria, Victoria, British Columbia, Canada*, 2. *Oregon Health & Science University, Portland, Oregon*, 3. *MRC Unit for Lifelong Health & Aging, London, London, United Kingdom*, 4. *Stony Brook University, Stony Brook, New York*, 5. *Northwestern University, Evanston, Illinois*

The Integrative Analysis of Longitudinal Studies of Aging (IALSA; www.ialsa.org) research network (NIH/NIA P01AG043362) facilitates interdisciplinary, cross-national research on determinants and dynamics of within-person aging-related changes in cognitive and physical capabilities, health, personality, and well-being. A key feature of the IALSA network is the optimization and evaluation of the reproducibility of results from longitudinal and life course studies, achieved through a coordinated analysis approach based on comparable statistical models and measurement. Affiliated studies are catalogued on the IALSA Metadata and Harmonization Platform to permit the identification of studies for answering particular questions and measurement harmonization. Network activities encourage the examination of cross-cultural and cross-cohort effects and provide a strong basis for synthesizing evidence across longitudinal studies. Publicly available analysis scripts enable both replication and extension to new projects. We discuss the merits of a coordinated analysis approach and current challenges for quantitative harmonization using examples from longitudinal studies of aging.

#### **COMPARISON OF APPROACHES FOR HARMONIZING MENTAL STATUS ACROSS 41 INTERNATIONAL STUDIES**

A.L. Gross<sup>1</sup>, A.M. Kueider<sup>1,2</sup>, C. Sullivan<sup>2</sup>, D. Schretlen<sup>2</sup>, 1. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*, 2. *Johns Hopkins School of Medicine, Baltimore, Maryland*

Different epidemiologic studies around the world administer different versions of the Mini-Mental State Examination (MMSE), complicating international comparisons of mental status. We compared two approaches for deriving comparable scores across MMSE versions. We used data from N=106,612 persons aged 40-99 from 41 studies across 32 countries, collected through the International Neuropsychological Normative Database Initiative. We equated 14-item, 15-item, 18-item, 21-item, and 23-item versions to a 30-item version using equipercentile-equating stratified by age and education. For a subset of N=65,992

participants in which item-level data were available, we derived IRT-based scores using two-parameter graded-response models. Equipercentile-equating yielded scores on a 30-point scale for all participants with MMSE data, while more reliable IRT-derived MMSE scores could only be constructed with item-level data. The scores were highly correlated ( $r=0.92$ ). Bland-Altman plots revealed minimal bias. In conclusion, equipercentile-equating is more broadly applicable than IRT, and may facilitate comparisons of international norms for mental status.

### **OBESITY AND MORTALITY: ARE THE RISKS DECLINING? EVIDENCE FROM MULTIPLE PROSPECTIVE STUDIES IN THE U.S**

T. Mehta, S. Keith, N. Pajewski, G. de los Campos, S. Bangalore, A. Bartolucci, D.B. Allison, *University of Alabama, Birmingham, Alabama*

We evaluated whether the obesity associated years of life lost (YLL) have decreased over calendar time. Individual-level data from seventeen prospective studies, across different calendar times and with at least 2 assessments of BMI at different calendar years (2 waves), were pooled. We estimated median longevity by standard BMI categories within each study wave using a parametric survival model. For each BMI category, we then pooled the longevity in a weighted regression and estimated the change in YLL between 1970 and 1990 on 144,716 whites with BMI of 18.5 to <25 as a reference category. Grade 1 obesity's association with decreased longevity has reduced for older men but not for younger ages. For women, there is evidence of a decline in the association of obesity with decreased longevity across all ages; however some of the findings are sensitive to the assumption of linear change in YLL over time.

### **CROSS-DESIGN SYNTHESIS FOR EXTENDING THE APPLICABILITY OF TRIAL EVIDENCE WHEN TREATMENT EFFECT IS HETEROGENEOUS**

R. Varadhan<sup>1</sup>, C. Weiss<sup>2</sup>, *1. Johns Hopkins School of Medicine, Baltimore, Maryland, 2. Michigan State University, Grand Rapids, Michigan*

Randomized controlled trials (RCTs) provide reliable evidence for approval of new treatments, informing clinical practice, and coverage decisions. The participants in RCTs are often not a representative sample of the larger at-risk population. Hence the average treatment effect from the trial is not generalizable to the larger at-risk population. We present a new method to extrapolate the treatment effect from a trial to a target group that is inadequately represented in the trial. Our method integrates trial and observational data (cross-design synthesis). An essential component of the methodology is the estimation of calibration adjustments for unmeasured confounding in the observational sample. We demonstrate and validate the methodology in two clinical trials of Angiotensin-converting enzyme inhibitors for congestive heart failure, the Study of Left Ventricular Dysfunction (SOLVD), and an observational registry. Our results show that the method can validly estimate treatment effects for older women poorly represented in these trials.

## **SESSION 1485 (SYMPOSIUM)**

### **AGE DIFFERENCES IN DECISION MAKING: BALANCING AFFECT AND REASON IN FINANCIAL AND HEALTHCARE SETTINGS**

**Chair:** J. Strough, *West Virginia University, Morgantown, West Virginia*

**Co-Chair:** C.E. Loeckenhoff, *Cornell University, Ithaca, New York*  
**Discussant:** T.M. Hess, *North Carolina State University, Raleigh, North Carolina*

Over the last decade, research on age differences in decision making has moved beyond a predominant focus on cognitive abilities and deliberative processing to acknowledge motivation and affect. The presenta-

tions in this symposium explore the interplay among these factors in the decision domains of finances and healthcare which carry high personal relevance for older adults. Lemaster and Strough examine explanations for age decrements in risk tolerance. Findings suggest that age effects are due to perceived reductions in future opportunities, but not greater reliance on the affect heuristic, even though the affect heuristic predicts less risk tolerance. Hershey and Gerrans study age differences in anxiety about consulting with financial advisors in an Australian sample. Although adults aged 50 and over show higher financial literacy than younger groups, financial planning may be hampered by emotional concerns about working with a financial advisor. Reed, Sims, English, and Carstensen examine the implications of the age-related positivity effect for decision quality in healthcare scenarios. Findings suggest that, compared to younger adults, older adults are less likely to review negative as compared to positive information and this may impair decision quality when critical information is negatively valenced. Riffin, Pillemer, Reid, and Loeckenhoff present a qualitative analysis of joint decision making among individuals with chronic pain. Findings suggest that social goals and trade-offs between information acquisition and emotion-regulatory goals play a key role when seeking advice. Finally, Hess integrates these findings with the existing literature on judgment and decision making and discusses directions for future research.

### **UNDERSTANDING AGE DIFFERENCES IN FINANCIAL RISK TOLERANCE: TEMPORAL PERSPECTIVES AND AFFECT**

P. Lemaster, J. Strough, *Psychology, West Virginia University, Morgantown, West Virginia*

People are less tolerant of financial risk as they age, yet it is unclear why. We investigated two dimensions of future time perspective (opportunities, limitations) and reliance on the affect heuristic (i.e., perceiving that risks and benefits of hazards are inversely related) as mediators of age-related differences in financial risk tolerance. We administered a measure of financial risk tolerance that is widely used by financial planners to an adult life-span sample ( $N = 584$ , 53.6% female, 89.6% Caucasian;  $M$  age = 47.38,  $SD = 14.05$ , range = 25-89). With age, people viewed their futures as having fewer opportunities, and this fully explained why older age was associated with less risk tolerance. Use of the affect heuristic was not associated with age, but it was highly related to risk tolerance—people who viewed risks and benefits as inversely related were less risk tolerant. Focus on limitations was unrelated to risk tolerance. Findings suggest that shrinking time horizons focused on opportunities and greater reliance on the affect heuristic are important for understanding adults' tolerance for financial risk.

### **WHO'S AFRAID OF THE FINANCIAL PLANNER? DETERMINANTS OF ADVISOR ANXIETY AMONG WORKING ADULTS**

D.A. Hershey<sup>1</sup>, P. Gerrans<sup>2</sup>, *1. Psychology, Oklahoma State University, Stillwater, Oklahoma, 2. University of Western Australia, Perth, Western Australia, Australia*

The future financial security of older adults will be influenced by the effectiveness of their financial plans. Key to ensuring this goal is the financial literacy of workers and their access to appropriate professional financial advice. In this talk, the authors explore these two dimensions as determinants of success in relation to financial decision making. It is suggested that financial advisor anxiety can arise from people worrying about sharing personal financial information, or being negatively judged by a financial advisor. Results from a study of over 2,200 Australians (aged 40-74 years) reveal that financial literacy was highest among adults over the age of fifty. Moreover, 25 percent of respondents reported moderate to severe levels of anxiety when asked about the prospect of meeting a financial advisor. It is argued that public information campaigns could improve people's attitudes toward per-

sonal financial responsibility and help workers plan for their long-term financial security.

### THE AGE-RELATED POSITIVITY EFFECT IN DECISION MAKING: IMPLICATIONS FOR CHOICE QUALITY

A.E. Reed<sup>1</sup>, T. Sims<sup>1</sup>, T. English<sup>2</sup>, L.L. Carstensen<sup>1</sup>, *1. Department of Psychology, Stanford University, Stanford, California, 2. Washington University in St. Louis, St. Louis, Missouri*

Relative to younger adults, older adults pay greater attention to positive versus negative information when making decisions (e.g., Löckenhoff & Carstensen, 2007, 2008). The present study examined whether these age-related attentional preferences result in differential choice quality under various decision structures. Sixty-seven older adults (aged 60-90,  $M=70.0$ ) and 60 younger adults (aged 20-37,  $M=29.2$ ) made decisions among doctors and hospitals based on positive, negative, and neutral patient reviews. Optimal alternatives were differentiated by rigging the distribution of positive and negative reviews across options. Attentional preferences were surreptitiously measured via eye-tracking. As predicted, older versus younger adults paid more attention to positive reviews and less attention to negative reviews. Although younger adults made superior decisions when negative reviews differentiated optimal from suboptimal alternatives, no age differences emerged when alternatives varied based on positive reviews. Results indicate that age-related positivity may impair choice quality when optimal decisions require attention to negative information.

### SOCIAL PREFERENCES AND JOINT DECISION MAKING AMONG OLDER ADULTS WITH CHRONIC PAIN

C. Riffin<sup>1</sup>, K. Pillemer<sup>1</sup>, C. Reid<sup>2</sup>, C.E. Loeckenhoff<sup>1</sup>, *1. Cornell University, Ithaca, New York, 2. Weill Medical College, New York City, New York*

Lifespan theories of motivation and emotion predict age-related changes in social preferences and trade-offs between information acquisition and emotion-regulation, but little is known about how culturally diverse older adults navigate such trade-offs in the context of pain management. To explore these questions, semi-structured interviews were conducted with Hispanic and non-Hispanic White older adults with chronic pain ( $N=47$ ) recruited from one medical center and one senior center in NYC. Qualitative methods were used to identify themes related to participants' information-seeking and desire to involve others in treatment decisions. Consistent with developmental patterns of motivation, the oldest old ( $\geq 80$ ) sought social network members that supported emotional well-being, whereas younger participants chose social network members that facilitated information acquisition. For Hispanic participants, cultural empathy played a key role in advice-seeking and social selection. Overall, individuals who engaged in meaningful dialogues expressed high levels of treatment satisfaction, especially when there was agreement among stakeholders.

## SESSION 1490 (SYMPOSIUM)

### AFFECTIVE EXPERIENCES LINKED TO TIME USE AND ACTIVITIES: FINDINGS FROM HRS AND ELSA

**Chair:** J. Smith, *University of Michigan, Institute for Social Research, Ann Arbor, Michigan*

**Discussant:** L. Nielsen, *National Institute on Aging, Bethesda, Maryland*

The last decade has seen renewed impetus in research on subjective well-being. In parallel with the application of technological and statistical innovations to collect real-time data and model the dynamics of affective experience over time, survey researchers are exploring new ways to understand and monitor changes in population subjective well-being. In 2012, for example, the Health and Retirement Study (HRS) and the English Longitudinal Study of Ageing (ELSA) included a harmonized day reconstruction measure of well-being to comple-

ment the information gained in traditional survey measures, such as life satisfaction and depression. Participants recall the time they spent on targeted activities the prior day and rate how they felt during those activities (e.g., happy, frustrated). Speakers in this symposium use these HRS and ELSA data to examine questions about subjective well-being in midlife and old age. Steptoe finds that the time spent socializing with family and friends and the happiness associated with socializing decreases with age. Smith and colleagues report that although a restless night does not constrain the time spent on activities, poor sleep is associated with fewer activity-related positive and more activity-related negative experiences. Gonzalez and colleagues utilize longitudinal data from HRS to examine the sensitivity of the day reconstruction measure to work-retirement and marital status transitions. Vanhoutte and Nazroo report social inequalities in the patterns of activities and experiences reported by participants in ELSA. Nielsen concludes with an integrative discussion of current efforts to define, measure, and monitor subjective well-being in midlife and old age.

### SOCIAL ACTIVITY, AFFECT, AND TIME USE IN THE ENGLISH LONGITUDINAL STUDY OF AGEING

A. Steptoe, *Epidemiology and Public Health, University College London, London, United Kingdom*

There is growing enthusiasm for complementing questionnaire measures of affect and wellbeing in older people with more detailed assessments of mood and time use. We measured time spent in five common activities (eg watching TV, traveling), and two social settings (spending time with family and friends, and spending time alone), together with mood during these activities, in 8,905 participants (mean age  $66.3 \pm 9.7$ , range 50-90+ years) in the English Longitudinal Study of Ageing (ELSA). This presentation focuses on social settings. The amount of time spent with friends and family was negatively related to age, while the reverse was true for spending time alone. Ratings of happiness with friends and family decreased with age, even after controlling for global ratings of happiness yesterday, indicating that measuring affect in specific situations provides insight into the experience of older people that is not available from general measures of affect.

### ACTIVITIES AND WELL-BEING YESTERDAY: THE EFFECTS OF A RESTLESS NIGHT

J. Smith, L.H. Ryan, S. Becker, W.H. Wan, *University of Michigan, Institute for Social Research, Ann Arbor, Michigan*

Chronic sleep disorders severely impact well-being, but less is known about the acute influence of a restless night on older adults' activities and feelings the following day. In the context of a day reconstruction measure included in the 2012 wave of the Health and Retirement Study (HRS:  $N=6777$ ), 27% of participants aged 50 to 101 reported that they did not feel well-rested upon waking that day. On average, people who reported a poor sleep had also gone to sleep later the night before. Having had a restless night was not associated with time use or the number of activities reported but this was linked to lower activity-related positive affect and higher activity-related pain and negative affect. These findings remained after controls for age, marriage, work status, income, arthritis, disability, depression, and chronic sleep problems. Acute variations in sleep quality may play a critical role in experienced well-being in later life.

### MAJOR LIFE TRANSITIONS: IMPLICATIONS FOR ACTIVITY-BASED AFFECTIVE EXPERIENCES

R. Gonzalez, J. Smith, L.H. Ryan, *University of Michigan, Ann Arbor, Michigan*

This paper reports on the role of major life transitions (e.g., changes in work for pay status, changes in marital status) on the activities people choose to engage and their affect during those activities. We use a sample from the Health and Retirement Survey who were asked a set of activity-based questions both in 2009 and in 2012, allowing for

longitudinal analyses. Information about life transitions between 2009 and 2012 was collected from these longitudinal participants in the 2010 HRS wave and again in 2012. We show that while measures of affective experience, such as net affect and activity affect complexity (an index of the proportion of activities that include a mixture of positive and negative affect), are relatively stable at the level of means, there are changes in both the activities and their affective experiences when older adults undergo major life transitions.

### **THE SOCIAL DIMENSION OF TIME-USE AND ITS EFFECTS ON SUBJECTIVE WELLBEING IN LATER LIFE IN ENGLAND**

B. Vanhoutte, J. Nazroo, *CMIST - School of Social Sciences - University of Manchester, Manchester, United Kingdom*

This paper explores the influence of time-use on multiple measures of subjective wellbeing (affect, satisfaction and self-actualisation) among older adults using the English Longitudinal Study of Ageing (ELSA), with specific attention to social inequalities. Latent class analysis of time-use data reveals a limited number of patterns of how older people spend their day. Which pattern of activities people choose is strongly related to their background and living circumstances, but equally has substantial effects on their life satisfaction, their potential for self-actualisation as well as their emotions while engaged in specific activities. Interrelations between the different measures of wellbeing are discussed. This paper illustrates that how people use their time, and how they feel when doing specific activities is nested in social structure. Our findings suggest that small changes in how people spend their day could have substantial influences on both their evaluated and experienced wellbeing.

## **SESSION 1495 (SYMPOSIUM)**

### **THE SOCIAL NETWORKS, DIGITAL MEDIA USE, AND BARRIERS TO PARTICIPATION OF OLDER PEOPLE IN RURAL NEW ZEALAND: DIFFERENCES ACROSS REGIONS**

**Chair:** C. Stephens, *School of Psychology, Massey University, Palmerston North, New Zealand*

Aging in place policies pose particular difficulties for older people in rural areas. Although many may wish to remain 'in place' there are problems with access to services and the loss of younger cohorts from rural areas. However, not all rural situations are equal. Much research has treated rurality as a singly construct, whereas many rural areas have different issues or provisions. The aim of this study was to examine these differences. Older people (aged 59-74), living in different rural localities across New Zealand, were compared on some critical issues that support participation of elders: social networks and digital media use. The results showed that, there are significant differences in the use of technology and the quality of social support between localities in regard to the types of social networks and area socioeconomic status. Future research is needed to investigate the structural issues that support aging in place in rural areas.

### **THE ROLE OF GENERATIVITY IN SUCCESSFUL AGING FOR RURAL ALASKA NATIVE ELDERS**

J.P. Lewis, *School of Social Work, University of Washington, Seattle, Washington*

The concept of Generativity is important in Alaska Native (AN) cultures, that is, caring for the future, or Seventh, generation. Generativity is important to the Elders and a value associated with AN cultures and directly impacts the Elders' sense of feeling needed by their family and community. As our Elders continue to engage in their community, teach the youth, and serve as role models, it will be important to ensure they are supported and have opportunities to teach others. In this study, the Elders (n=26) discussed the importance of passing on their

knowledge to the youth and the importance of this role to their ability to age well. A majority of the communities in this study valued their Elders and understood the importance of their wisdom and experience, providing opportunities for them to participate and educate those who were interested.

### **COMMUNITY-BASED PARTNERSHIPS TO SUPPORT AGING IN PLACE FOR RURAL VETERANS**

B.L. Hicken<sup>1</sup>, R. Rupper<sup>1</sup>, K. Shay<sup>3</sup>, G. Sullivan<sup>2</sup>, C. Turner<sup>1</sup>, *1. VA Rural Health Resource Center- Western Region, VA Salt Lake City Health Care System, Salt Lake City, Utah, 2. National Hospice and Palliative Care Organization, Alexandria, Virginia, 3. VHA Office of Geriatrics and Extended Care, Ann Arbor, Michigan*

Nearly 9,000,000 US veterans are 65 years of age or older and a disproportionate number of these live in rural areas. Connecting with VA benefits and community resources to support aging in place can be especially problematic for older veterans living in rural communities. Veteran Community Partnerships (VCP) is a Veterans Health Administration (VHA) initiative to support local coalitions of VA and community organizations to help older veterans remain in their communities. VCPs are a coordinated effort to promote access to non-institutional extended care and support services from VA and community for older veterans and their caregivers. This presentation provides an overview of the VHA Veteran Community Partnership initiative and reports outcomes from various pilot implementations of Veteran Community Partnerships in rural communities throughout the US. These pilot implementations illustrate the benefits of public/private partnerships in supporting the diverse needs of all older adults living in urban and rural areas.

### **"I GO IN WITH HIM AND...ASK QUESTIONS": ADVOCATES' ROLE IN MEDICAL APPOINTMENTS WITH AFRICAN AMERICAN MALES IN THE RURAL SOUTH**

R.S. Allen, J.S. Oliver, L. Mieskowski, M.K. Eichorst, L. Tang, *Psychology/Center for Mental Health and Aging, The University of Alabama, Tuscaloosa, Alabama*

Thirty-three rural-dwelling African American men (mean age 54.6; SD = 8.3) and their primary "health care advocate" (mean age 54.5; SD = 10.4) were independently interviewed regarding communication about health concerns and primary health care appointments. Health care advocates were uniformly women and 55% were spouses/ partners. The analysis team independently coded transcripts for each dyad and developed themes using qualitative description. Emergent themes related to medical appointments included 1) shared communication and decisions; 2) disagreement about communication; and 3) talking with others. Subthemes within shared communication included reliance on advocates for communication with providers and advocates' promotion of positive health behaviors including good nutrition and exercise. One advocate stated, "he depends on me to take care of him, health-wise, from his teeth to his feet." Interventions designed to harness advocate support may improve rural AA men's communication with providers and reduce health disparities in the Deep South.

### **THE COMMUNITY, SOCIAL NETWORKS, AND HEALTH OF OLDER ADULTS IN RURAL AND REMOTE COMMUNITIES IN THE 21ST CENTURY**

C. Adams-Price, *Psychology, Mississippi State University, Mississippi State, Mississippi*

In rural and remote communities, older adults may be socially isolated, or they may be the elders, i.e., the wise center of the community. In this symposium, we will discuss older adults from both perspectives. We will also examine the diversity of rural and remote areas, and how that diversity affects the social support networks of older adults. The first speaker will be Christine Stephens, who will discuss the potential of social networks and digital media for increasing social cohesion among older adults in rural areas. She will also discuss the diversity of

rural communities in New Zealand in the use of new media, and barriers to participation. Jordan Lewis will discuss the role of older adults as elders in indigenous Alaskan communities. He will discuss the benefits of generativity (i.e., giving back to one's community) for health and well-being among older Alaska natives. Becky Allen and Joann Oliver will focus on older rural African American men, and family members who act as advocates for them in the prostate cancer screening process. They find that having a family member as advocates improves communication with health care providers, and increases the likelihood that the older adults will be screened in the future. Finally, Bret Hicken will address the benefits of partnerships between the community and aging rural veterans for health and well-being of those veterans.

## SESSION 1500 (SYMPOSIUM)

### CULTURE AND LONGEVITY: FINDINGS FROM FOUR CENTENARIAN STUDIES

**Chair:** P. Martin, *Iowa State University, Ames, Iowa*

**Co-Chair:** Y. Gondo, *Osaka University, Osaka, Japan*

**Discussant:** L. Poon, *University of Georgia, Athens, Georgia*

Although quite a few studies have investigated aspects of longevity, cultural correlates of longevity have not been comprehensively explored. The purpose of this symposium is to investigate cultural components of longevity in Japan and the United States by highlighting findings from four centenarian studies: The Okinawa Centenarian Study, the Osaka SONIC Study, the Fordham Centenarian Study, and the Georgia Centenarian Study. Cultural components include broad environmental factors, family and community support, health behavior patterns, and the relative importance of autonomy and dependence among centenarians. Each project will highlight a specific culturally relevant theme. The Okinawa study is known for its emphasis on diet and eating behaviors. The current presentation will focus on the importance of culturally unique dietary patterns and healthy aging characteristic for centenarians in Okinawa. The second Japanese study is focusing on specific environmental and personality factors related to longevity by comparing urban and rural centenarians in Japan. The third study, conducted in New York, emphasizes family and community care issues relevant to centenarians living in a large metropolitan area. The final presentation will feature aspects of autonomy that are typical for North American centenarians. Taken together, this symposium will summarize key cultural components contributing to longevity in different regions and countries.

### REGIONAL DIFFERENCES IN ENVIRONMENT AND PERSONALITY PROFILES OF CENTENARIAN

Y. Gondo, T. Nakagawa, Y. Tatuhiro, M. Kozono, *Human sciences, Osaka University, Suita, Japan*

Psychosocial studies of aging have focused on clarifying common factors for longevity that could be attributed to individual characteristics. For example, the personality trait "conscientiousness" is a typical example repeatedly reported in different centenarian studies as a longevity trait. However, not consistently observed factors might also be important, because the basic make-up of broad environmental factors such as climate or social capital are different in studies on older adults, and these variables are thought to interact with individual characteristics. To consider this type of interaction, this study compared personality profiles of centenarians living in two regions with different social capital levels (rural vs. urban) in Japan. Consistent with previous reports, centenarians in urban areas showed higher extraversion, openness, and conscientiousness. Centenarians in rural areas showed higher agreeableness in addition to the three traits. Higher agreeableness might contribute to survival in economically disadvantaged regions but enrich the social relationship environment.

### WHO HELPS CENTENARIANS LIVING IN NEW YORK CITY: FINDINGS FROM THE FORDHAM CENTENARIAN STUDY

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Who helps centenarians in everyday life, when they live in large cities, such as New York, which offer substantial professional service structures, but also requires enhanced flexibility from its residents? This question was investigated in the Fordham Centenarian Study (N = 119, Mage = 99.25; range = 95-107 years). Findings indicate that despite high prevalence of health issues, over 70% of the centenarians lived in the community. Although the majority of centenarians with living children had a child who lives nearby, about one third did not, reflecting potential elder care challenges of spread out families. That only 43% of the centenarians reported daily help from children points to this interpretation. Overall, centenarian without children received significantly less daily help (informal and formal). Daily help from relatives and friends was also very limited. Explanations for and implications of shortages in informal day-to-day care options for New York centenarians will be discussed.

### AUTONOMY AMONG CENTENARIANS: "I JUDGE MYSELF WHAT IS IMPORTANT"

P. Martin<sup>1</sup>, L. Poon<sup>2</sup>, *1. Iowa State University, Ames, Iowa, 2. University of Georgia, Athens, Georgia*

For older adults in the United States, a feeling of autonomy is an important aspect of overall psychological well-being. This is particularly true for oldest-old adults who are often confronted with physical, functional, and mental health challenges. This presentation highlights the importance of autonomy among centenarians. One hundred and thirty seven participants of the Georgia Centenarian Study were assessed on personality, autonomy, cognitive functioning, depression, subjective health, activities of daily living, and life satisfaction. Descriptive analyses, multiple regression analyses and structural equation modeling were computed assessing the relationship between personality and autonomy, and between autonomy and function. The results indicate that neuroticism was negatively and extraversion positively related to autonomy. Autonomy in turn was negatively associated with depression and positively associated with subjective health and life satisfaction. We conclude that in the United States autonomy plays an important role in the well-being of centenarians and is predicted by personality traits.

### DIETARY PATTERNS AND LONGEVITY IN BIO-CULTURAL PERSPECTIVE: UNPACKING THE OKINAWAN DIET

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This presentation will explore the traditional Okinawan diet. Defined by staple root vegetables such as sweet potatoes and taro, green and yellow vegetables, soybean-based foods, marine foods, lean meats and medicinal spices it is a distinct culinary pattern that shares many characteristics with other healthy dietary patterns, including the DASH diet and Portfolio diet. All these dietary patterns are associated with reduced risk for age-associated diseases. The lower caloric density of plant-rich diets results in lower caloric intake with concomitant high intake of phytonutrients and antioxidants. Other shared features include low glycemic load, less inflammation and oxidative stress, and potential modulation of aging-related biological pathways. Unlike the DASH or Portfolio diets, which were designed by researchers to lower risk for chronic diseases such as hypertension or hypercholesterolemia, the traditional Okinawan diet represents a real-world cultural, dietary pattern that may promote healthy aging and longevity.

## SESSION 1505 (SYMPOSIUM)

### HYPERGLYCEMIA IN OLDER AUTOLOGOUS HEMATOPOIETIC CELL TRANSPLANTATION RECIPIENTS

**Chair:** M.J. Hammer, *College of Nursing, New York University, New York, New York*

Patients with cancer are at risk for hyperglycemia which may further compromise an already impaired immune system, leaving the patient highly susceptible to adverse events including infections. Understanding the contributors to hyperglycemia and associated consequences in relation to immune integrity can lead to novel interventions for improved outcomes. A prospective pilot study investigating glycemic status, immune biomarkers, patient factors, and infections in patients without pre-existing diabetes undergoing treatment for hematological malignancies with autologous hematopoietic cell transplantation (HCT) was conducted. Pearson correlations were used to evaluate associations between factors. Among 33 older adult patients enrolled, the mean age was 62.7 years. Fasting blood glucose (BG) was associated with BMI ( $r=.225$ ;  $p<.001$ ), leukocyte nadir ( $r=-.160$ ;  $p<.001$ ), glucocorticoid dose ( $r=.126$ ;  $p=.010$ ), and infection occurrence ( $r=.146$ ;  $p<.001$ ). Infections occurred in 64% of patients. Further research and interventions to better control BG in older adult autologous HCT recipients are warranted.

### GLUCOSE CHALLENGES IN OLDER ADULTS WITH CANCER

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Individuals > 65 years old boast the highest rates of cancer diagnosis. In addition, 23% of older adults have diabetes (defined by hyperglycemia) compared to 11.3% in the general population. Independent of diabetes, all patients with cancer are at risk for hyperglycemia due to multiple factors including the malignancy itself, treatments (steroids and certain chemotherapies), nutritional imbalances, physical inactivity, stress, and infections. Older adults, in particular, are at risk for hyperglycemia during cancer therapies due to cellular- and immunosenescence. In turn, hyperglycemia further compromises an already impaired immune system leaving the host susceptible to further infections that can lead to sepsis, other clinical consequences, and even non-cancer related death. With an expected 2 billion older adults by 2050, the challenges of hyperglycemia related to cancer will be tremendous. In this symposium we present three pilot studies that evaluated glucose challenges in patients with cancer. Dr. Hammer investigated contributors to hyperglycemic events, immune integrity, and infection occurrences in autologous hematopoietic cell transplantation recipients. Dr. Hershey analyzed symptom clusters and factors that may predict symptom changes over time related to glycemic control in patients with solid tumor cancers. As part of a preliminary pilot study, Ms. Storey evaluated elderly hospitalized patients with leukemia and the impact of hyperglycemic events to days of neutropenia, length of stay, and infection rates. In each of these studies, hyperglycemia was associated with deleterious findings in the older adult patients. Further investigation and tailored interventions for optimizing glycemic control in older adults with cancer are greatly needed.

### HYPERGLYCEMIA IN HOSPITALIZED ELDERLY PATIENTS WITH LEUKEMIA: A PILOT ANALYSIS

S. Storey<sup>1,2</sup>, D. Von Ah<sup>1</sup>, *1. Indiana University School of Nursing, Indianapolis, Indiana, 2. St. Vincent Hospital, Indianapolis, Indiana*

Increased age and hyperglycemia combined with a diagnosis of leukemia may place a patient at high risk for immune compromise and subsequent infections resulting in longer hospital length of stay (HLOS). Retrospective data of 14 patients were analyzed to examine the impact of hyperglycemia in hospitalized leukemia patient's  $\geq 65$  years of age. 36% experienced hyperglycemia during hospitalization. Fishers exact

test demonstrated patients with hyperglycemia were 2.5 times (OR 2.5; 95% CI; 0.86, 7.31;  $p=0.027$ ) more likely to develop neutropenia than those without hyperglycemia. Kaplan-Meier test was used to examine the relationship between hospital length of stay and hyperglycemia. Results indicate a longer length of stay in patients with hyperglycemia when compared to those without ( $p=0.039$ ). However, no significant difference was noted in infection between groups ( $p=0.58$ ). While these findings are preliminary, they suggest more research is needed to explore the impact of hyperglycemia in elderly cancer patients.

### IDENTIFYING GROUPS WITH DIFFERENT LONGITUDINAL SYMPTOM EXPERIENCES AMONG OLDER ADULTS WITH TYPE 2 DIABETES AND CANCER

D.S. Hershey<sup>1</sup>, S.J. Pierce<sup>2</sup>, *1. College of Nursing, Michigan State University, East Lansing, Michigan, 2. Michigan State University, East Lansing, Michigan*

Diabetes and cancer are chronic conditions that produce symptoms, some unique to each condition and others common to (e.g. fatigue, numbness and tingling, nausea, and changes in appetite). Despite extensive research on both symptom clusters and changes in individual symptoms over time, few studies have examined symptom clustering from a longitudinal perspective. This study demonstrates a way to identify subgroups of patients who share distinct multivariate, longitudinal profiles with respect to how symptom severity changed over time for five symptoms. Using baseline and 8 week data, model-based cluster analysis with Bayesian regularization found 2 subgroups in this sample of 43 individuals with diabetes and a solid tumor cancer undergoing chemotherapy. Group 1 experienced mild symptoms that changed very little except for the appearance of mild appetite changes at 8 weeks, group 2 experienced mild to moderate symptom severity, with small increases in fatigue, nausea, and numbness and tingling.

## SESSION 1510 (SYMPOSIUM)

### THE INTERPLAY OF LEVEL AND CHANGE IN PERCEIVED CONTROL WITH HEALTH, WELL-BEING, AND SOCIAL RESOURCES IN MIDLIFE AND OLD AGE

**Chair:** F.J. Infurna, *Psychology, Arizona State University, Tempe, Arizona*

Perceived control is interrelated with health, well-being, and social resources across adulthood and old age. We used 16-year longitudinal data from the Americans' Changing Lives Study (N = 2,540; Mage=62.85, SD=12.15; 65% Women) to examine health, well-being, and social antecedents of rates of change in perceived control and whether rates of change in perceived control reduce mortality risk for individuals low in health, well-being, and social resources. Results indicated that more functional limitations and depressive symptoms and less emotional support were each associated with stronger declines in perceived control over time. Contrary to the buffering hypothesis, more positive rates of change in perceived control protected against mortality risk for those with fewer functional limitations and depressive symptoms, and more emotional support. Our discussion focuses on the interrelated and multi-directional nature of levels and rates of change in perceived control, role of age, and the implications of our findings for interventions.

### CANCER-RELATED AND NON-CANCER ILLNESS FACTORS AS PREDICTORS OF HEALTH QUALITY OF LIFE AMONG OLDER ADULT, LONG-TERM CANCER SURVIVORS

G. Deimling, H.T. Renzhofer, N. Mallick, *Case Western Reserve University, Cleveland, Ohio*

As older adult cancer survivors continue to age they face the dual vulnerability of cancer and aging. This paper examines the relative impact of cancer-related and non-cancer illness factors such as co-mor-

bilities and symptoms on functioning, perceptions of disability and self-rated health among older adult survivors. Specific attention will be paid on the role that advancing age and temporal distance from treatment play in mediating these relationships. Data from an NCI funded, ten year longitudinal study of 471 survivors will be used to examine these issues. Results of descriptive and multi-variate analyses indicate that with advancing age and increased temporal distance from treatment co-morbidities began to displace cancer-related treatment and illness factors as the determinants of functioning and disability. Implications for primary care and oncology care practitioners will be discussed

#### **BEYOND GRIP STRENGTH: ASSOCIATIONS BETWEEN FINE MOTOR ADL PERFORMANCE AND COGNITIVE ABILITY IN A NON-DEMENTED SAMPLE OF OLDER ADULTS**

E.B. Fauth<sup>1</sup>, S.Y. Schaefer<sup>1</sup>, S.H. Zari<sup>2</sup>, M. Ernsth-Bravell<sup>3</sup>, B. Johansson<sup>4</sup>, 1. *Family, Consumer, and Human Development, Utah State University, Logan, Utah*, 2. *Penn State University, State College, Pennsylvania*, 3. *Jönköping University, Jönköping, Sweden*, 4. *University of Gothenburg, Gothenburg, Sweden*

Many ADLs require fine motor ability (FMA), however function is often evaluated via gross motor assessment (grip strength). We hypothesize that in a non-demented sample, cognition explains significant additional variance in FMA. OCTO-Twin participants (n=218), aged 80+ (dementia, stroke or Parkinson's disease excluded) were assessed via self-rated health, depressive symptoms (CES-D), a cognitive battery, grip strength, and timed FMA. FMA did not differ by gender, was not correlated significantly with self-rated health or depressive symptoms, but was associated with grip strength ( $r=0.346$ ;  $p<0.01$ ). Correlations between cognitive tests and FMA ranged from  $-0.263$  to  $-0.452$  ( $p<0.01$ ). A linear regression model with grip strength had  $R^2=0.087$ . Adding cognitive tests increased the  $R^2$  to  $0.318$  ( $R^2$  change  $p<0.001$ ). Grip strength and object recall remained significant predictors. In a non-demented sample, cognitive performance predicted FMA after controlling for gross motor ability. Cognitive ability may underlie a significant portion of FMA and related disablement.

#### **DISABLEMENT PROCESS: RECENT FINDINGS AND FUTURE DIRECTION**

J. Lee, *Case Western Reserve University, Cleveland, Ohio*

With increasing age older adults are likely to develop chronic illnesses that often result in disabilities. Following Verbrugge & Jette's (1994) seminal work on the disablement process, subsequent theories and researchers have made significant advances in definitions, approaches, and methodologies on this subject. In particular, some of the antecedents, moderators, and outcomes of disablement process have captured the attention of many researchers as they offer practical implications for successful aging in the adulthood. Guided by the Disablement Process Model (Verbrugge & Jette, 1994), the proposed symposium, will highlight five distinct studies. Each paper will address patterns of change in disability as well as predictors of functional disability. The specific studies utilize diverse statistical methods that can shed light on complexities processes involved in the disablement process. G. Deimling will explore the disablement process from the perspectives of elderly cancer survivors. J. E. Lee will present data on multiple trajectories of disability using data from a 10 year longitudinal study. E. Fauth will examine the disablement process and its antecedents. K. Kim will discuss social supports associated with disability trajectory in late life. F. Infurna will discuss the moderating effects of locus of control in the disablement process. While each presentation will capture a unique perspective on disability process, discussant E. Kahana will highlight and integrate cross-cutting issues in conceptualizing life course influences on disability in late adulthood, while also underscoring important future directions for disability research.

#### **TRAJECTORIES OF DISABILITIES IN LATE LIFE: LINKING WITH MORTALITY**

J. Lee<sup>1</sup>, E. Kahana<sup>1</sup>, B. Kahana<sup>3</sup>, K. Barnes<sup>1</sup>, M.J. Rovine<sup>2</sup>, 1. *Case Western Reserve University, Cleveland, Ohio*, 2. *Penn State University, State College, Pennsylvania*, 3. *Cleveland State University, Cleveland, Ohio*

Prior studies have examined the various patterns of functional decline in the final years of life, but few empirical studies have tested these patterns in mental and physical domains and linked them to mortality. Using a longitudinal panel study (N=890; Mean Age: 81.38, SD=5.745), we examined trajectories of physical functional limitations and mortality among older adults who are age 70 and older. Longitudinal data from 3 waves of the Successful Aging survey are analyzed. To describe the end of life trajectories of disabilities, data are analyzed from the dates of death and extending backward. Using growth mixture modeling, we identified both common and multiple trajectories in several functional declines (e.g., ADL, PADL, and cognitive functioning). Results suggest that trajectories of functional decline near the end of life are quite variable. This analysis also advances understanding of late life functioning by identifying the heterogeneity of functional limitation experiences.

#### **WITHIN-PERSON ASSOCIATIONS BETWEEN FUNCTIONAL DISABILITIES AND DEPRESSIVE SYMPTOMS IN LATE LIFE AND EFFECTS OF SOCIAL SUPPORT**

K. Kim<sup>1</sup>, J. Lee<sup>2</sup>, E. Kahana<sup>2</sup>, B. Kahana<sup>3</sup>, 1. *Human Development and Family Sciences, The University of Texas at Austin, Austin, Texas*, 2. *Case Western Reserve University, Cleveland, Ohio*, 3. *Cleveland State University, Cleveland, Ohio*

Research has shown positive associations between functional disability and depressive symptoms in late life. Drawing on longitudinal data from the Florida Retirement Study which interviewed people annually over an 8-year period (up to 9 waves), this study examined (1) age-related changes of functional limitations and depressive symptoms among retirement community-dwelling older adults (aged 70+) and (2) within-person associations between functional limitations and depressive symptoms across time points. Focusing on social support as a protective factor in the disablement process, this study also examined how different types of social support affect within-person associations between functional limitations and depressive symptoms. Our findings showed that both functional limitations and depressive symptoms increased over time. After controlling for the linear time trends in these variables, we still found significant positive within-person associations between functional limitations and depressive symptoms and the within-person associations differed by the levels of social support that older adults perceive.

#### **SESSION 1515 (SYMPOSIUM)**

##### **FAMILY CAREGIVING: REPORTING ON CLINICAL TRIALS IN NURSING HOMES AND HOME HOSPICE**

**Chair:** G. Demiris, *University of Washington, Seattle, Washington*

**Discussant:** B.A. Given, *Michigan State University, East Lansing, Michigan*

This symposium will present findings from three federally funded clinical trials exploring ways to support family caregivers in various settings of care. The first study is a clinical trial examining the use of video to engage hospice caregivers as virtual team members of the hospice interdisciplinary team meetings in order to improve pain management and communication between families and health care providers. The second study is a clinical trial examining the effect of a problem solving therapy intervention on family caregivers of home hospice patients. The intervention is tested in its delivery both face to face and via video. Finally, a clinical trial examining ways to support family caregivers of



loved ones in nursing homes will be presented. The three presentations will highlight current evidence, practical and ethical challenges and lessons learned from the design and implementation of these trials. Furthermore, strategies to address translation of effective interventions into practice will be discussed in the context of implementation science.

#### **A PSYCHOSOCIAL INTERVENTION FOR CAREGIVERS OF RECENTLY PLACED NURSING HOME RESIDENTS: A RANDOMIZED CONTROLLED TRIAL**

R. Schulz, *U. of Pittsburgh, Pittsburgh, Pennsylvania*

We report the results of a psychosocial intervention for informal caregivers who recently placed their care recipient in a long-term care facility. The intervention, modeled after Resources for Enhancing Alzheimer's Caregiver Health (REACH) (Belle et al., 2006), used multiple treatment modalities and a range of strategies and techniques to address three characteristic needs of family caregivers who recently placed their relative: (1) knowledge about the nature of long-term care procedures and resident trajectories; (2) advanced and end-of-life care planning for the institutionalized relative; and (3) caregiver emotional problems, particularly depression and anxiety which are common among caregivers who recently placed their relative. The intervention was delivered during the 6 month period following baseline assessment. Follow-up assessments were carried out at 6, 12, and 18 months. Primary outcomes were caregiver depression, anxiety, burden, and complicated grief. Significant time effects were found for three of the four primary outcomes showing that caregiver depression, anxiety, and burden improved over time. No treatment effects were found for these outcomes. However, at 12 months, complicated grief was significantly lower for caregivers in the treatment condition.

#### **ASSESSING CAREGIVERS FOR TEAM INTERVENTION VIA VIDEO ENCOUNTERS (ACTIVE): RESULTS OF A FOUR YEAR RANDOMIZED CLINICAL TRIAL IN US HOSPICES**

D. Parker Oliver<sup>1</sup>, G. Demiris<sup>2</sup>, K.T. Washington<sup>1</sup>, D.L. Albright<sup>1</sup>, *1. University of Missouri, Columbia, Missouri, 2. University of Washington, Seattle, Washington*

This randomized controlled trial aimed to strengthen home hospice by enabling informal caregiver participation in care plan meetings using web-based conferencing. A mixed methods approach with 450 hospice caregivers explored the impact of the intervention on caregiver pain management, anxiety, depression, social support, and quality of life. Participation in meetings answered caregiver questions on pain, lowered anxiety and depression. Caregivers expressed the need for additional support and information. Hospice staff reported benefits of the intervention however, the time required was burdensome. It was concluded that while successful, ACTIVE would be strengthened with social media tools for caregiver social support and information. Numerous lessons were learned while implementing this trial. Issues related to protocol development, recruitment, retention, fidelity, and translation will be shared.

#### **THE PISCES INTERVENTION: A CLINICAL TRIAL EXAMINING A PROBLEM SOLVING THERAPY INTERVENTION FOR HOSPICE CAREGIVERS**

G. Demiris<sup>1</sup>, D. Parker Oliver<sup>2</sup>, K.T. Washington<sup>2</sup>, K.C. Pike<sup>1</sup>, *1. University of Washington, Seattle, Washington, 2. University of Missouri, Columbia, Missouri*

Informal caregivers of hospice patients play a key role to the delivery of palliative services to patients at the end of life. The caregiving experience can be a fulfilling one but at the same time caregivers report feeling anxious, overwhelmed and often isolated. This presentation describes an ongoing four year clinical trial examining a problem solving therapy intervention for hospice caregivers called PISCES (Problem solving Intervention to Support Caregivers in End of life care Settings). Study

participants are caregivers randomly assigned to an attention control group, or the intervention group where they participate in PST sessions with a therapist in person (intervention group 1) or via video (intervention group 2). We have recruited more than 450 subjects to date and will present findings on the impact of the intervention on caregiver outcomes such as quality of life and anxiety, discuss lessons learned and strategies to ensure the intervention can be easily implemented in practice.

#### **SESSION 1520 (SYMPOSIUM)**

#### **A CONSUMER PERSPECTIVE ON DEMENTIA BIOMARKERS, ON-LINE DEMENTIA RESOURCES, AND DEMENTIA LITERACY**

**Chair:** B.D. Carpenter, *Psychology, Washington University, St. Louis, Missouri*

**Discussant:** S.R. Sabat, *Georgetown University, Washington, District of Columbia*

Technological and biological advances are shifting how people learn about dementia and how dementia is diagnosed. This symposium addresses some of those changes and how they are affecting consumers. The first presentation addresses the emerging issue of biomarkers for early dementia detection. As biomarkers become more widely implemented, it is important to consider the extent to which people comprehend the implications of those biomarkers and their preferences regarding biomarker disclosure. This presentation provides empirical data on the consumer perspective in this area. The second presentation also adopts a person-centered approach and in this case examines how older adults react to a publicly available on-line dementia screening tool. Little is known about the psychological and behavioral impact of at-home screening for dementia, and this study provides data that could guide recommendations for these new screening approaches. The third presentation uses an innovative on-line recruitment strategy to investigate how knowledge about Alzheimer's disease changes when people undertake a brief visit to the website of the Alzheimer's Association. The fourth and final presentation takes an international perspective and examines knowledge about Alzheimer's disease in contemporary Japan. The symposium closes with integrative comments from a discussant with a long-standing person-centered approach to understanding the psychological and social ramifications of a dementia diagnosis.

#### **DISCLOSURE OF BIOMARKER TEST RESULTS TO COGNITIVELY NORMAL RESEARCH PARTICIPANTS**

J. Gooblar, *Psychology Department, Washington University in St. Louis, St. Louis, Missouri*

Biological indicators (biomarkers) can identify preclinical Alzheimer disease (AD) years prior to the appearance of overt symptoms. As biomarkers become more reliable and predictive of disease progression, it is important to understand the practical implications and psychological effects of biomarker disclosure. Cognitively normal older adults (N=103) at an Alzheimer Disease Research Center were surveyed on attitudes and knowledge about biomarker disclosure. Whereas most participants (97%) expressed a desire to learn their biomarker results, fewer (55%) reported having sufficient information to make an informed decision about disclosure. Most reported reluctance to share risk information with insurers and employers (76% and 77%). Few thought life would not be worth living if biomarkers indicated they had high risk of developing AD (M = 1.6). These results highlight the practical and ethical considerations in biomarker disclosure. Future research should identify effective education interventions and policy changes to address these considerations.

## PSYCHOLOGICAL EFFECTS OF ONLINE SCREENING FOR DEMENTIA RISK

C. Merz, B.D. Carpenter, *Psychology, Washington University in St. Louis, St. Louis, Missouri*

The Dementia Risk Assessment (DRA) is an online screening tool for dementia risk factors that provides users with an individualized risk report. The purpose of the current study was to investigate the psychological impact of using the DRA. The sample included 74 community dwelling older adults, mean age = 71.7 years (SD = 9.7), 62% female. On average, participants rated their risk of developing dementia as higher after they completed online screening,  $t(64) = -2.71$ ,  $p < .01$ . Fear of developing dementia also increased,  $t(73) = -2.99$ ,  $p < .01$ . The majority of participants (58%) reported an intention to change health behaviors as a result of reading their risk report. Completing unsupervised online screening for dementia may have psychological consequences that suggest the importance for follow-up counseling.

## THE ALZHEIMER'S ASSOCIATION WEBSITE IMPROVES KNOWLEDGE OF ALZHEIMER'S DISEASE IN A NATIONAL SAMPLE

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Alzheimer's disease (AD) will affect nearly everyone at some point in their lives, either directly or indirectly. When this happens, many people will search for answers on the Internet. The purpose of the current study was to investigate whether the Alzheimer's Association website is effective at increasing an individual's knowledge of AD. A total of 552 participants were randomly assigned to two groups. One group visited on the Alzheimer's Association website (alz.org), while a control group did not visit the website. Both groups were then given the AD Knowledge Scale to assess their knowledge of AD. The brief exposure to this informational website worked. Participants who visited alz.org scored significantly higher on the ADKS than the control group. Participants who were non-AD health care workers benefited especially. Results suggest that the alz.org is effective at increasing people's knowledge of AD, and that it is especially helpful for healthcare workers.

## MEASURING KNOWLEDGE ABOUT ALZHEIMER'S DISEASE IN JAPAN

T. Amano<sup>1</sup>, K. Yamanaka<sup>2</sup>, B.D. Carpenter<sup>3</sup>, *1. Keio University, Shinjuku, Tokyo, Japan, 2. University of Tsukuba, Tsukuba, Ibaraki, Japan, 3. Washington University in St. Louis, St. Louis, Missouri*

It is said that knowledge about dementia is essential to provide good quality of care for people with dementia. However, there are no existing scales in Japanese that can be used to measure knowledge about dementia and thus evaluate the effectiveness of educational programs. The objectives of this study were to create a Japanese version of the Alzheimer's Disease Knowledge Scale (J-ADKS) and measure knowledge about Alzheimer's disease among Japanese people. The J-ADKS was administered to a total of 217 people including college students, community dwelling elderly people, family caregivers, health professionals, and social workers. Reliability and validity for the J-ADKS are good. Although knowledge about dementia is good in some domains, that knowledge varies across subsamples and differs from knowledge gaps in other international samples. Results from this study can guide the development of more targeted educational programs about dementia in Japan.

## SESSION 1525 (PAPER)

### DISCOVERY EXCHANGE: TRANSPORTATION AND AGING SUPPORTED BY THE TRANSPORTATION AND AGING INTEREST GROUP

#### "IT'S IN HOW YOU PRESENT THE QUESTION:" SCREENING OLDER DRIVERS IN PRIMARY CARE SETTINGS

M.E. Betz<sup>1</sup>, J. Jones<sup>2</sup>, E. Genco<sup>1</sup>, D.B. Carr<sup>3</sup>, C. DiGuseppi<sup>4</sup>, R. Schwartz<sup>5</sup>, *1. Emergency Medicine, University of Colorado School of Medicine, Aurora, Colorado, 2. University of Colorado College of Nursing, Aurora, Colorado, 3. Washington University School of Medicine, St. Louis, Missouri, 4. Colorado School of Public Health, Aurora, Colorado, 5. University of Colorado School of Medicine - Division of Geriatric Medicine, Aurora, Colorado*

Objective: Widespread screening of older drivers, with in-depth evaluation only of those who screen positive ("tiered assessment"), might efficiently balance driver safety and mobility. To inform program development, we sought to use qualitative methods to explore more deeply the perspectives of older drivers and clinicians on the concept of tiered assessment in primary care settings. Design and Methods: We held iterative focus groups and interviews with 23 community-dwelling current drivers aged  $\geq 65$  years and eight primary care providers from an academic medical center. We used inductive and deductive theme analysis to explore driver and clinician perspectives and to identify barriers and facilitators to establishing tiered older driver assessment programs in primary care settings. Results: Four dominant themes emerged. Two addressed the overall concept: (1) general receptiveness to tiered older driver assessment; and (2) concerns about the consequences of older driver assessment (e.g., driving retirement) and how these could affect program viability. Two themes addressed screening: (3) the tension inherent in using a generalized approach to the highly individualized issue of driving; and (4) logistical considerations for screening in primary care settings (e.g., having a medical assistant administer part of the screening). Conclusions: Standardized older driver screening and referral might improve clinician-driver communication, but screening should occur in a context that includes mobility counseling and anticipatory communication about future driving retirement.

#### ASSOCIATIONS BETWEEN THE ATTENTION NETWORK TEST AND OTHER MEASURES OF COGNITION: RESULTS FROM THE CANDRIVE COHORT

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The Attention Network Test (ANT) is increasingly used to examine cognitive processes in humans. One of the ANT's strengths is the underlying theoretical model and evidence supporting it. Yet, little research has been conducted to examine how the ANT relates to abilities supporting safe driving in seniors. Two years ago we presented preliminary correlations between the ANT and other tests of cognition often used in driving assessment. We now present an update using data from 451 older drivers enrolled in the Candrive cohort research study. The data come from the third of five annual assessments. All participants were aged  $>70$ . Correlations were computed between several ANT measures and the Montreal Cognitive Assessment (MoCA), Mini Mental State Exam (MMSE), Motor-Free Visual Perception Test (MVPT-3), Trail Making Tests A and B (TMT), the Demtect, the SIMARD-MD, the Digit Span (forward and backward), and a "road sign recognition test". The ANT (median response time) was statistically associated with both tests measuring some form of visual attention (e.g., MVPT-3 [r

= .235, 95% CI = .146, .321,  $p < .001$ ] and more general measures of cognition (e.g., MoCA [-.179, 95% CI = -.266, -.088,  $p < .001$ ]) but all correlations were very modest. There were no meaningful associations between the three network scores (alerting, orienting, executive function), suggesting that the three remain independent in seniors. These results strengthen our previous findings suggesting that the ANT may provide a unique window into important cognitive processes supporting safe driving that are not examined with other tests.

### HOW DO BABY BOOMERS' MOBILITY PATTERNS CHANGE WITH RETIREMENT? EVIDENCE FROM DENMARK

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Baby boomers will comprise a considerable percentage of tomorrow's older population. Previous scholarship has indicated higher travel activity and car use among baby boomers compared to older cohorts. However, there is little systematic evidence on the effects of boomers' ageing on the transport system. To analyse how retirement affects baby boomers' travel patterns and the related future travel demand, three groups of Danish baby boomers, distinguished by working status, were compared. Data were collected via standardized telephone interviews in 2009 and in 2012. We found a clear tendency to reduce the overall level of car use and mileage over time and as a consequence of retirement. By contrast, car use for leisure purposes increased after retirement. Retirement was found to have a bigger impact on men's than on women's car use. However, those women who continued working had a high car reliance that did not show decline over time. The present study suggests that retirement is a transition point that decreases car use. Hence, the population ageing is likely to have a decreasing effect on transport demand. However, the emergence of leisure and consumption as major cultural and social frameworks of the third age, prolonged careers and atypical working life, informal care giving, and boomer women's changing professional roles are likely to make this transition different than observed in previous cohorts.

### EVALUATING THE USE OF AN INTERACTIVE DRIVING SIMULATOR BY OLDER ADULTS FOR INDIVIDUALS WITH MEDICAL CONDITIONS

A. Dickerson, A. Schwarga, C. Wetherington, *Occupational Therapy, East Carolina University, Greenville, North Carolina*

As a valued activity needed to keep older adults healthy and participating in their community, it is critical to keep persons driving as long as they are able. When an individual recovers from medical condition, such as a stroke, there should always be a discussion about fitness to drive. In many cases, evaluation or intervention is needed. The technology of driving simulators has become affordable for rehab centers and as such, may be valuable tools for evaluation and intervention in an effort to assist individuals return to driving. This study asked 31 older adults to "drive" the simulator (45 minutes) and evaluate its face validity as an evaluation and/or intervention tool. Likert scale questions (1 as low, 10 as high) and interviews were used to collect the data. Results from the participants indicated the simulator was not seen as the same as a motor vehicle ( $M=5.3$ ). Interestingly, most comments were in relation to the "operational" factors (Michon, 1985) (e.g., steering wheel, brakes). However, most participants felt the simulator was acceptable and realistic to use to identify risk for someone with a significant medical condition affects driving ( $M=8.1$ ) and the feedback information from the program accurately reported performance ( $M=8.0$ ). A summary of the results, with the qualitative feedback will be highlighted; recommendations for protocols for use and implications for evaluation and intervention will be discussed.

### A LONGITUDINAL STUDY OF THE IMPACT OF SPOUSAL DRIVING CESSATION ON BODY MASS INDEX

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We used data from 6 waves (2000-2010) of the Health and Retirement Study (HRS) to examine whether patterns of driving cessation within couples predicted changes in Body Mass Index (BMI) in adults aged 65 years and older. Driving cessation has been shown to impact productive and social engagement (Curl, Stowe, Cooney, & Proulx, 2013), and driving cessation may also negatively impact other active forms of engagement that are related to weight maintenance in adulthood. Older adults in the United States are quite dependent on automobile transportation (Rosenbloom & Herbel, 2009), and it is unlikely that walking—an active form of transportation—will replace driving after cessation. Understanding whether driving cessation affects BMI may highlight additional needs for intervention post-cessation, such as programs targeting maintenance of physical activity or healthy weight. The analytic sample includes 1,844 married couples. Multilevel models controlled for age, race, ethnicity, education, IADLs, depressive symptoms, household income, household wealth, and couple ownership of a motorized vehicle. Results indicate that BMI decreases for both spouses when the husband is no longer able to drive but the wife is still driving. However, BMI is not affected when only the wife has stopped driving. These results highlight the importance of husbands' ability to drive on couples' health via changes in body mass index, and demonstrate the need to find ways for couples to maintain weight when husbands can no longer drive.

### SESSION 1530 (PAPER)

#### TECHNOLOGY AND AGING I

### REMOTE PATIENT MONITORING AMONG LOW INCOME COMMUNITY DWELLING OLDER ADULTS RESIDING IN A RURAL STATE: TECHNOLOGY ACCEPTANCE AND TIME TRENDS

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**Aim of the Study:** Despite the growing literature on older adult acceptance of remote patient monitoring technology (RPMT), no known research has specifically investigated acceptance among low-income, community-dwelling older adults residing in a rural region. The purpose of this study was to investigate rural older adults' acceptance of the Honeywell HomMed Genesis Touch over time. **Method:** We conducted a pilot study in a low income, independent living residential facility in a rural, upper Midwestern state. Honeywell technology was installed in the homes of 10 participants, largely female (80%), with a mean age of 73.90 ( $SD = 6.05$ ). GLM repeated measures and trend analyses were conducted to determine if Honeywell acceptance means differed across five assessments over 13 weeks and showed time trends. **Results:** Participants accepted and intended to use the technology in the future. Differences in behavioral intention, usefulness, and ease variables were not significant over time. However, there was a significant effect of time on social influence,  $F(5, 40) = 4.14, p = .004, ES = .34$ , resulting in a significant linear,  $F(1, 8) = 6.92, p = .03, ES = .47$ , and cubic trends,  $F(1, 8) = 5.46, p = .048, ES = .41$ . **Conclusions:** The findings show rural, low-income community-dwelling older adults accept RPMT, and the longer participants had access to the technology, the more they

believed those important to them would want them to use the technology. Implications of these findings are considered along with directions for future research.

### SLEEP SENSORS FOR OLDER ADULTS RESIDING IN A DEMENTIA SPECIAL CARE UNIT: FEASIBILITY AND PRELIMINARY EFFICACY

J. Giger<sup>1</sup>, W. Schweinle<sup>2</sup>, S. Smallfield<sup>3</sup>, 1. *Social Work, University of South Dakota, Sioux Falls, South Dakota*, 2. *University of South Dakota-Physician Assistant Studies, Vermillion, South Dakota*, 3. *University of South Dakota-Occupational Therapy, Vermillion, South Dakota*

**Objective:** Sleep problems among older adults in dementia special care units (DSCU) are common but challenging to measure due to the frequent concurrence of neuropsychiatric symptomology, e.g. agitation and aggression. This study investigated the feasibility and preliminary efficacy of passive and unobtrusive sleep sensor systems in the bedrooms of older adults with moderate to severe dementia [Functional Assessment Staging Test (FAST) 5 ≤]. **Method:** We conducted a pilot study in a DSCU in an upper Midwestern state and used modern resampling statistics (1,000 resamples) to provide robust parameter estimates. The HealthSense® Wellaware® Non-invasive Analysis of Physiological Signals (NAPS) system was installed in the bedrooms of 10 participants with a mean age of 84.30 (SD = 8.58). Sensor and clinical data from a 9-week period and from a largely female sample (90%) with AD were retrospectively analyzed. **Results:** Negligible technical and human factor concerns were observed. There was one instance of system-wide equipment issues, a power outage, over the course of the study. Monthly participant subjective sleep/wake assessments by staff were approximately accurate but significantly different from sensor data. Bootstrapped Spearman correlation analyses revealed significant relationships between sleep continuity variability and cognitive impairment as assessed by BMS,  $r = -.67$ , BCa CI = [-.07, -.98] and sleep continuity variability and participant weight as measured by BMI,  $r = .83$ , BCa CI = [.39, .99]. **Conclusion:** Findings support the practicality of passive and unobtrusive sleep pattern assessment for DSCU residents and suggest sleep continuity variability is a potential direction for future research.

### TOWARDS GUIDELINES FOR OLDER ADULTS INTERACTIONS WITH TOUCHSCREEN-BASED MOBILE DEVICES

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**Objective:** This study aimed to detect usability problems in interactions with touchscreen-based mobile devices for users over 40 years old. **Method:** It was conducted an exploratory qualitative study. An interview was applied to gather data in order to identify guidelines for interaction, by older adults, with touchscreen-based devices. For this study, only tablets were adopted as practical devices. Firstly, a content analysis was carried out by two experts in Gerontology. Then, the semantic analysis was performed with one volunteer from each age group: 40-49, 50-59, 60-70, 71-80, > 80 years old. Each volunteer was asked to perform 6 tasks on the tablet: turn on and off, make a call, use email, access a webpage, play games and take pictures. **Results:** The younger respondents (45, 55 and 67 years old) reported to have access to the Internet and previous experience with touchscreen-based devices. Older users (73 and 87 years) have had no experience with the use of the devices nor Internet, however they were able to open the phone, email, play games and take pictures. They answered that tablet was easy to use. The main difficulties were concerned to: the small font sizes, screen navigation, to find desired apps, alternate between programs, to find the keyboard, non-intuitive commands that have to be learned, the fat finger

problem and excessive force. **Conclusions:** The data indicate the need of interviewing more people to establish new indicators and usability guidelines for designing haptic interfaces for touchscreen-based devices in web applications designed to senescent.

### CROSS CULTURAL DIFFERENCES IN SPONTANEOUS HUMAN-ROBOT INTERACTIONS

W. Chang, L. Huber, S. Sabanovic, *Indiana University, Bloomington, Indiana*

The social shaping of technology framework suggests that people's response to technology is not a singular, logical inner product, but instead the result of social interactions relating to the creation and use of the technology (Williams & Edge, 1996). "Interpretive flexibility," a key construct of the social shaping of technology framework, suggests that different groups make their own meanings about technology (MacKenzie & Wajcman, 1999). In prior Japanese studies (Wada, Shibata, Saito, & Tanie, 2003), the spontaneous interactions of older adults with the socially assistive robot PARO are usually group oriented, intensive, and consistent. In this cross-cultural comparative study of acceptance and use of social robots, we put PARO in an open space in a long term care facility and observed spontaneous interactions for one hour periods over three months. To allow for interpretive flexibility, older adults with and without dementia were not given any information or instruction about interacting with the robot. Interaction type and frequency were coded. Four primary themes emerged: 1) US older adult need more guidance than Japanese older adults to develop interactive, sustained rapport with PARO; 2) Extended exposure to robots in open spaces in the U.S. may develop more advanced interpretations of possible uses for human-robot interaction; 3) Qualitative research is critical for these early U.S. studies to capture the nuanced complexity of human-robot interactions, not just frequency; 4) Use of social robots in the U.S. is dependent on expected and appropriate robot response to the social norms and social cues of this country.

### USE AND DISUSE OF ASSISTIVE TECHNOLOGY DEVICES IN OLDER CAREGIVING DYADS

A.J. Harrill<sup>1,2,3</sup>, J.A. Sanford<sup>1,3</sup>, P.C. Griffiths<sup>1,3,4</sup>, 1. *Atlanta VA Medical Center, Decatur, Georgia*, 2. *Georgia State University, Atlanta, Georgia*, 3. *Georgia Institute of Technology, Atlanta, Georgia*, 4. *Emory University, Atlanta, Georgia*

The *CareGiver Assessment of Skill Sets and Individualized Support thru Training (CG ASSIST)* program is a pilot study that targeted caregivers of older Veterans dependent in ADLs for (1) an assessment of current assistive technology (AT) needs and environmental features in the home and (2) an individualized, hands on skills training program for the dyad on AT provided as part of the intervention. Reported data on the origin or source in addition to the use and disuse of AT devices were collected as part of the comprehensive baseline assessments by the clinical experts. The sample was comprised of female, spousal caregivers who ranged in age from 50-86 years ( $M=71\pm9.7$ ) and were caring for Veterans who ranged in age from 66-94 ( $M=80\pm6.9$ ). Caregivers reported owning between one and eight devices ( $M=5\pm2$ ). On average 4±1 devices were currently in use whereas 2±1 were reported as having been abandoned. The origin of existing AT in regards to procurement varied by device and dyad and fell into two categories. "Physician's orders" and "the pharmacy" were coded as examples of *conventional* sources of AT whereas "my deceased neighbor" and the "church yard sale" were designated as *unconventional*. Dyads obtained 4±2 devices from conventional sources and 2±1 devices from unconventional sources (range=1-7). AT source was unrelated to abandonment but was related to the clinical expert's assessment of environmental features and safety for specific ADL tasks. Results are discussed in terms of implications for assessment of ADL performance and assistive technology needs of older adults.

**LONG-TERM CARE****UNDERSTANDING ADULT FOSTER CARE PROVIDER EXPERIENCES IN NORTH CAROLINA**

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We explored Adult Foster Care (AFC) as a small-setting option for community-based long-term care. This option varies widely in accessibility and structure among states; thus, this initial research effort focused on AFC provider experiences in North Carolina. As of 2013, there were 632 AFC facilities in North Carolina, which state policy refers to as “family care homes” (NC DHHS, 2013). Family care homes are licensed by the state and allow service for 2-6 residents per home (Mollica et al., 2009). We conducted semi-structured, guided interviews with 26 providers. As a context for grounded theory data analysis, we relied on reflexive material stemming from Munly’s positionality as a care worker. Emergent themes related to issues of the providers’ motivation to provide care; likelihood to stay in the profession of family care provider; personal and professional role of the provider; the spectrum of AFC culture that ranged from more business-like to more family-like; provider perspectives about their care recipients; resident opportunity for choice; and family care provider values. Interview narratives revealed specific contexts related to provider financial struggle and success, as well as contexts related to models of hierarchy and caring between providers and residents. Findings shed light on state and organizational dedication to the AFC system, and policy context for provider-resident relationships.

**WAIVER CLIENT CHARACTERISTICS SIGNIFICANTLY ASSOCIATED WITH PERMANENT NURSING HOME PLACEMENT**

C.W. Given, H. An, K. Oberst, *College of Human Medicine, Michigan State University, East Lansing, Michigan*

Home and community based waiver (HCBW) programs (1915c) allow Medicaid eligible persons who qualify for nursing homes to receive services at home. However, as medical problems progress and functional capacity and cognition decline, patients enter nursing homes. This research describes how client and family factors predict transitions from waiver program participation to permanent nursing home residence. The eligible waiver population included 9,273 clients who had at least one MDS assessment during 2011 and 2012; of these approximately 12% transferred permanently to a nursing home. Medicaid/Medicare paid claims, RUGs score, age, caregiver availability, number of hospitalizations in prior three months, and post-discharge location were assessed for relationship to permanent nursing home placement. This research suggests permanent transfers from waiver programs to nursing homes are associated with at least one hospitalization versus no hospital admission. Among admissions, those clients discharged to skilled or custodial facilities had a greater likelihood of a permanent transfer. Caregiver characteristics contributed to explaining the differences among patient transfers. Further examination of hospital rates prior to and following the permanent transfer to nursing homes remained relatively unchanged suggesting that patient problems rather than setting explain continued hospitalization.

**DOES STATE SPENDING FOR COMMUNITY-BASED CARE AFFECT INSTITUTIONALIZATION RISK AFTER HIP FRACTURE?**

J. Blackburn<sup>1</sup>, M.A. Morrissey<sup>1</sup>, J.L. Locher<sup>2</sup>, D.J. Becker<sup>1</sup>, E.S. Delzell<sup>3</sup>, M. Kilgore<sup>1</sup>, *1. Health Care Organization and Policy, UAB School of Public Health, Birmingham, Alabama, 2. UAB School of Medicine, Birmingham, Alabama, 3. Epidemiology, UAB School of Public Health, Birmingham, Alabama*

Objective: To estimate the effect of state-level spending for home and community-based services (HCBS) on the likelihood of nursing home placement using state- and year-level fixed effects models. Data source: We used data on Medicaid long-term care expenditures devoted to HCBS and Title III spending by state and year from 2006–2010 combined with Medicare claims data from the 5% sample of beneficiaries covering the time period of 2005 through 2010. Study Design: We measured nursing home placement within 1 year within a cohort of 34,894 Medicare beneficiaries aged  $\geq 65$  years with incident hip fractures. We used two logistic model specifications, a naïve maximum likelihood estimate regression and a model including state and year fixed effects, to estimate the effect of state-level spending on nursing home placement. Principal Findings: The naïve logistic regression showed state HCBS spending reduced the absolute risk of nursing home admission by 15.8 percentage points ( $p < 0.01$ ) after controlling for Title III spending and other factors. However, the preferred model specification which accounted for unobserved state heterogeneity and controlled for time found no association. Conclusions: There appear to be non-uniform determinants of nursing home placement by states that vary over time. Examples may include other forms of state social support which are not captured in Medicaid spending and unobserved in our study.

**SHIFTING THE PARADIGM FOR BABY BOOMERS FROM LONG-TERM CARE TO LONG-TERM LIVING!**

J.G. D’Ambrosio, A.C. Faul, *University of Louisville, Louisville, Kentucky*

Current levels of long-term care for older adults do not assure quality of life. Moving from home to assisted living, then to a nursing home, is a journey dreaded by many. In a study of 564 baby-boomers (Boomers), none wanted to end up in a nursing home, with only one percent willing to live in assisted living facilities (Roberts, 2007). Another study of Boomers (D’Ambrosio & Faul, 2013) provides clear direction as to how Boomers want to change the current long-term care paradigm. Boomers want “Livable Aging” that includes a livable environment (shelter, safety, food, basic care), life-ability of the person (physical and mental health of older adults and health care workers), utility of life (perceived value of life for older adults and health care workers by those who create health environments), and appreciation of life (subjective evaluation of life satisfaction by older adults and health care workers) (Adapted from Veenhoven, 2000). Shifting to a new paradigm of long-term LIVING requires a vision focused on compassionate love of one another, not the profit motive generally used to create healthcare systems. In this presentation participants will be exposed to alternative ways to create livable communities including livable environments where life-ability of the person is central and where the utility of older adult life is prominent. These examples will challenge the stereotypes of aging and guide us to develop systems that value the status and prestige older adults bring to society. Data will be presented on what Boomers want as they age.

**SOCIAL SECURITY INEQUALITY AMONG ELDERLY CHINESE PERSONS**

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This paper examines social security provision which includes pension and medical insurance coverage for elderly people in contemporary

China. It also considers the subjective effectiveness of social security provision of the elderly population, which refers to the perceived financial security and adequacy of medical care. Using data from the Chinese Longitudinal Healthy Longevity Survey (CLHLS) in 2008 focusing on those aged above 60, we employed multivariate multilevel models to estimate simultaneously the differentials between individual and between provinces. The results show that substantial differences exist by the respondents' former occupation. Those who were state-own institution employees are more likely to have a pension and medical insurance than those who are non-state-own employees. While, those elderly people with formal education and living in rural areas have higher odds of having medical insurance. In terms of the subjective effectiveness of social security provision of the elderly population, elderly people who are in a low income families and without social security are the most vulnerable in terms of their perceived social security adequacy. Apart from the inequality between individuals with different characteristics, there are also substantial inequalities between provinces. These placed-based differences are important in policy terms and are likely to be exacerbated as China continues to develop economically, and younger members of households migrate away from rural areas and can no longer play a key familial role in filling the gap between poor provision and effective social security.

## SESSION 1540 (PAPER)

### MENTAL HEALTH AND DIVERSE POPULATIONS

#### DEVELOPMENT AND VALIDATION OF A TYPOLOGY OF RISK PROFILES FOR OLDER HOMELESS VETERANS

J. Schinka<sup>1,2</sup>, R. Casey<sup>1,2</sup>, W. Kaspro<sup>3,4</sup>, 1. *VA National Center for Homelessness Among Veterans, Tampa, Florida*, 2. *University of South Florida, Tampa, Florida*, 3. *VA Northeast Program Evaluation Center, West Haven, Connecticut*, 4. *Yale University, New Haven, Connecticut*

The characteristics of the homeless population have changed substantially in this millennium, with notable increases in the number of women, young veterans, adolescents, the elderly, and families joining the ranks of those without housing. In this study we examined the characteristics of older homeless veterans by applying a multi-stage clustering procedure to records in a large national database. Data were extracted from the program entry/exit records of homeless veterans age 55 or older who had participated in a national VA housing program in 20011-2013. An initial cluster solution was developed on a sample of 2,637 records. This solution was then validated on an independent sample of 2,490 records. An initial six-cluster solution resulted from examination of 26 clustering variables tapping risk characteristics such as substance abuse history, work status, and number of homeless episodes. The risk profile clusters were titled Working for Pay, Minimal Problem, Substance Abuse, Long-term Unemployed, Elderly, and Medical Problem. The profile seeds for these initial clusters were then used to classify cases in the validation sample. Approximately 86% of the validation sample cases were matched to one of the six profile clusters. The validity of the six-cluster typology was supported by results showing significant differences among the profiles on outcome variables such as program completion, residence status, and employment. Use of the typology should allow more refined intervention planning efforts. Future attempts to develop homeless typologies will be facilitated by the inclusion of clustering variables tapping psychiatric diagnoses and personality characteristics.

#### BURDEN OF LATE-LIFE DEPRESSIVE SYMPTOMS AND RISK OF LONG-TERM CARE PLACEMENT IN OLDER WOMEN

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**Introduction:** Little is known about long-term care needs associated with late-life depressive symptoms. Thus, we examined the influence of depressive symptoms on transition from community-living to long-term care among elderly women followed for nearly 20 years. **Methods:** We evaluated data on 4,039 elderly (age  $\geq 65$  years), mostly white, community-dwelling women enrolled in an ongoing prospective cohort study. The Geriatric Depression Scale (GDS) short form (range: 0-15) was used to assess depressive symptoms repeatedly over follow-up. We used a Poisson model with random slopes to determine GDS trajectories and then estimated depressive symptom burden based on area under the curve and corresponding quartiles (quartile 1 to 4=minimal to high burden). We lagged values of GDS burden by 3 years. Using Cox proportional hazards analyses, we examined association between cumulative depressive symptom burden and risk of long-term care over 18 years. **Results:** 16.5% of older women had long-term nursing home placement during follow-up. After adjusting for demographic variables (education, marital and living status), risk of nursing home placement was increased by over 3-fold for quartile 4 (high GDS burden) compared with quartile 1 (minimal burden) (hazard ratio [HR]: 3.27, 95% CI: 1.74-6.14). Upon additional adjustment of comorbidities and functional impairment, the association attenuated but remained high and statistically significant (HR: 2.50, 95% CI: 1.27-4.90). Further adjustment for lifestyle factors and antidepressant use showed similar results. **Conclusions:** Long-term depressive symptom burden was associated with greater risk of long-term care. Early intervention and monitoring may delay placement in a long-term nursing home facility.

#### FACTORS ASSOCIATED WITH SUICIDAL IDEATION IN OLDER INMATES

L.C. Barry<sup>1</sup>, R.L. Trestman<sup>2</sup>, D.B. Wakefield<sup>1</sup>, K. Sullivan<sup>1</sup>, Y. Conwell<sup>3</sup>, 1. *UCONN Center on Aging, Farmington, Connecticut*, 2. *UCONN Correctional Managed Health Care, Farmington, Connecticut*, 3. *University of Rochester, Rochester, New York*

Inmates age  $\geq 50$  (older inmates) are the fastest growing segment of the prison population and have high suicide rates. Yet, knowledge regarding suicidal ideation (SI) in older inmates, a risk factor for suicide, is essentially non-existent. We sought to determine if demographic (age, race, sex, education), prison-related (sentence length, time until release, number of incarcerations), and/or health-related factors (self-rated health [SRH], vision/hearing loss, total chronic conditions) were associated with SI in older inmates after considering "typical" risk factors for suicide and SI (past suicide attempt, depression). From September 2012-October 2013, we conducted chart reviews and face-to-face interviews with 83 inmates (71% male) age  $\geq 50$  from 3 Connecticut prisons. Past suicide attempt (yes/no) and SI severity were assessed using the Geriatric Suicide Ideation Scale (GSIS); higher scores indicated increasing severity (range 31-165). SRH was assessed by asking, "How would you rate your overall health?"; responses were categorized as Excellent/Very Good/Good and Fair/Poor. Depression was assessed using the PHQ-9; scores  $>15$  indicated likely clinical depression. Mean GSIS

score was 61.5±26.1 (range 34-137). Thirty(36%) participants reported a prior suicide attempt and 19(23%) were depressed. Variables significant at  $p < 0.10$  in bivariate analyses were entered into a linear regression model. In addition to past suicide attempt ( $\beta = 22.8 \pm 5.9$ ;  $p < 0.001$ ) and clinical depression ( $\beta = 23.0 \pm 5.6$ ;  $p < 0.001$ ), SI severity was higher among those with longer time until release ( $\beta = 0.46 \pm 0.20$ ;  $p = 0.02$ ) and fair/poor SRH ( $\beta = 15.5 \pm 6.7$ ;  $p = 0.02$ ). This work suggests that variables beyond “typical” risk factors for suicide and SI may contribute to understanding which older inmates may be more likely to experience increased SI severity.

### PSYCHOSOCIAL INTERVENTIONS FOR MEN OVER 55: A CRITICAL REVIEW

E.C. Price, A. Fiske, B. Edelstein, *Department of Psychology, West Virginia University, Morgantown, West Virginia*

There is a paucity of research, and little consensus, addressing the efficacy and effectiveness of psychosocial interventions for middle-aged and older men. Middle-aged and older men are less likely than women of similar age to present for psychological treatment, which may lead to their underrepresentation in clinical trials. For this critical review, fifteen studies were identified within the broad categories of depressive symptoms and disorders, anxiety disorders and stress, substance abuse and dependence, and mixed outcomes. Ten studies compared treatment efficacy or effectiveness in men and women over age 55. Five additional studies reported statistically significant treatment effects in groups of exclusively male participants over 55. The preponderance of the evidence suggests that psychosocial treatments are associated with similar outcomes in men and women or that men may actually benefit more than women. In some settings, men may begin treatment with more impairment than women. Cognitive and behavioral therapies were the most frequently tested. Common themes and methodological problems inherent in the literature are summarized. Research examining psychotherapy outcomes in middle-old (70+) and old-old men (85+) is extremely limited, as is research assessing outcomes in older men of color. Treatments that address suicide risk are needed because this group has very high rates of death by suicide. Overall, it is crucial to include older men in carefully controlled experimental studies that examine clinically significant change.

### INTERNALIZED GAY AGEISM AND DEPRESSIVE SYMPTOMS AMONG MIDLIFE AND OLDER GAY-IDENTIFIED MEN

R.G. Wight<sup>1</sup>, A.J. LeBlanc<sup>2</sup>, I.H. Meyer<sup>3</sup>, *1. Department of Community Health Sciences, UCLA Fielding School of Public Health, Los Angeles, California, 2. Health Equity Institute, San Francisco State University, San Francisco, California, 3. The Williams Institute, UCLA School of Law, Los Angeles, California*

Background: Midlife and older gay-identified men (hereafter, gay men) are subject to aging difficulties that all persons must deal with but they also may be subject to additional strains associated with being a member of a social group known for placing a disproportionate amount of emphasis on youth and appearance. Objectives: We examine the relationship between a newly developed scale, “internalized gay ageism,” and depressive symptoms among midlife and older gay men, controlling for 28-year depressive symptom trajectories, which increases explanatory power. We also examine the stress mediating effects of “mattering,” or the belief that one is important to others. Methods: Data are from the UCLA site of the Multicenter AIDS Cohort Study (ongoing since 1984) and the accompanying 2013 Aging, Stress, and Health among Gay Men study. The analytic sample is comprised of gay men ( $N = 312$ ) with a mean age of 60.63 years (range=45-78); 38.78% are HIV-positive. Depressive symptoms are measured with the Center for Epidemiologic Studies-Depression scale. Multivariate regression models include HIV status and sociodemographic characteristics. Results: Net of all control variables, internalized gay ageism was positively

associated with depressive symptoms ( $p < 0.001$ ). This relationship was mediated ( $p < 0.001$ ) by mattering, a significant ( $p < 0.001$ ) predictor of depressive symptoms. Conclusions: Among these aging gay men, internalized gay ageism is a powerful source of stress that is harmful to mental health, above and beyond the influence of depressive symptom histories. Mattering may alleviate the psychological distress associated with aging in a youth oriented context.

## SESSION 1545 (SYMPOSIUM)

### FEDERAL AGING RESEARCH AND FUNDING OPPORTUNITIES: NIA AT 40 YEARS

**Chair:** M. Bernard, *National Institute on Aging, Bethesda, Maryland*  
**Discussant:** R.A. Barr, *National Institute on Aging, Bethesda, Maryland*  
**Discussant:** R. Hodes, *National Institute on Aging, Bethesda, Maryland*

Since 1974 the National Institute on Aging (NIA) at the National Institutes of Health, Department of Health and Human Services has supported biomedical and behavioral research with a focus on understanding basic processes of aging, improving prevention and treatment of diseases and conditions common in later years, and improving the health of older persons. The NIA also supports the training and career development of scientists focusing on aging research and the development of research resources. The symposium, meant for junior faculty and emerging scholars, provides an update on some of the latest research findings from the NIA, presented by the Institute Director, followed by a brief update on funding mechanisms. An opportunity is provided to meet and consult with representatives from the Office of the Director and extramural staff from the divisions of Extramural Activities, Geriatrics and Clinical Gerontology (GCG), Behavioral and Social Research (BSR), Aging Biology (DAB) and Neuroscience (DN). Learning objectives: 1) describe recent research findings from projects funded by NIA; 2) describe the NIA mission and extramural divisions supporting clinical, biomedical, behavioral and social research; 3) discuss recent policy changes which affect the funding environment; and 4) meet with representatives of NIA, including Sue Ziemann (GCG), Felipe Sierra (DAB), Creighton Phelps (DN), Ramesh Vemuri (Review Branch), Chyren Hunter (Training Officer), and Carl Hill (Director, Office of Special Populations).

### A RUN THROUGH NIA FUNDING MECHANISMS

M. Bernard, R.A. Barr, *National Institute on Aging, Bethesda, Maryland*

This presentation will discuss the current funding environment at NIA and steps NIA and NIH are taking to maintain a reasonable climate of funding opportunity for students, postdoctoral trainees and early stage investigators. The presentation will include discussion of particular programs and strategies designed for these groups of students and investigators. Current announcements for funding will be highlighted (Requests for Applications and Program Announcements with set-asides). The final theme of the talk will be the new tools of communication NIA is using to keep the community informed. These include the videocast and archiving of the National Advisory Council on Aging open session meetings and a weekly blog post – with the opportunity for comments - on the NIA website.

### CURRENT NIA RESEARCH

M. Bernard, R. Hodes, *National Institute on Aging, Bethesda, Maryland*

The National Institute on Aging of the National Institutes of Health is focused on aging research, the development of aging research resources, Alzheimer’s disease, and the dissemination of research outcomes. Dr. Richard Hodes, the NIA Director, will provide an overview of recent research outcomes from each of the primary extramural NIA divisions

## SESSION 1550 (SYMPOSIUM)

### RISK FACTORS FOR DECLINE IN MUSCULOSKELETAL HEALTH IN MEN: THE BACH/BONE STUDY

**Chair:** B. Bartali, *New England Research Institute, Watertown, Massachusetts*

**Discussant:** L. Ferrucci, *NIA-NIH, Bethesda, Maryland*

The underlying mechanisms contributing to age-related decline in musculoskeletal health are not well understood. This symposium examines the relation of changes in body composition, genetic ancestry and air pollution to changes in muscle strength, bone loss or bone microarchitecture in the Boston Area Community Health/Bone (BACH/Bone) Survey. BACH/Bone is a longitudinal study on factors contributing to decline in musculoskeletal health including 1,219 racially/ethnically diverse men aged 29-80 years. The baseline assessments were conducted in 2002-2005 and the follow-up in 2010-2012. Bone mineral density, fat and lean mass were assessed using dual-energy X-ray absorptiometry (DXA); bone microarchitecture using high-resolution peripheral quantitative computed tomography (HR-pQCT) and muscle strength using hand-held dynamometer. During this symposium, Dr. Bartali, PhD, will show the relationship between changes in fat and lean mass and decline in muscle strength in this racial/ethnic diverse population of men. Ms. Suarez, MPH, will present findings on the relationship between genetic ancestry and bone microarchitecture; Ms. Tinsley, MPH, will show the contribution of changes in lean and fat mass on changes in bone mineral density. In the final presentation, Dr. Prada, MD, PhD will present data on the relationship between air pollution (black carbon) and decline in bone mineral density. The discussion will focus on the importance of investigating the relation of these risk factors with musculoskeletal health and will propose future research directions.

### CHANGES IN BODY COMPOSITION AND DECLINE IN MUSCLE STRENGTH

B. Bartali<sup>1</sup>, N. Dagnicourt<sup>1</sup>, T. Curto<sup>1</sup>, A. Araujo<sup>2</sup>, *1. Epidemiology, New England Research Institute, Watertown, Massachusetts, 2. Eli Lilly, Indianapolis, Indiana*

Decline in muscle strength (MS) is a risk factor for disability in older persons. The role of changes in body composition on MS decline is unclear. We examined the relationship between changes in lean mass (LM) and fat mass (FM) on decline in MS during 8-y follow-up in 692 men aged 30-80y. There was a significant difference in change in MS in men who declined in FM compared to those who did not decline ( $p=.009$ ; mean change, no decline=-.06; 95%CI:-.24,0.12; mean change, decline=-.47, 95%CI:-.72,-.22). Differences in MS were not significant for decline in LM ( $p=.26$ ; mean change, no decline=-.17; 95%CI:-.38,.04; mean change, decline=-.34; 95%CI:-.55,-.12). The results did not substantially change after mutual adjustment for FM and LM. In men, decline in FM contributes to decline in MS independently of LM. These results suggest that adipose tissue-related factors (e.g. endocrine function) may play a role on muscle strength decline with aging.

### CHANGES IN BODY COMPOSITION AND BONE LOSS IN MEN

L. Tinsley<sup>1</sup>, R. Piccolo<sup>1</sup>, N.N. Maserejian<sup>1</sup>, J. Zmuda<sup>2</sup>, M.F. Holick<sup>4</sup>, M.L. Bouxsein<sup>3</sup>, A. Araujo<sup>5</sup>, B. Bartali<sup>1</sup>, *1. Epidemiology, New England Research Institute, Watertown, Massachusetts, 2. University of Pittsburgh, Pittsburgh, Pennsylvania, 3. Harvard Medical School, Department of Orthopedic Surgery, Boston, Massachusetts, 4. Boston University School of Medicine, Boston, Massachusetts, 5. Eli Lilly, Indianapolis, Indiana*

The role of changes in body composition on bone loss is unclear. We examined the relationship between longitudinal changes in fat or lean mass and decline in bone mineral density (BMD) in 692 racially/ethnically diverse men aged 30-79y. After adjustment for age, race, income, height, health and lifestyle characteristics, declines in lean mass were significantly associated with change in BMD at the total hip, femoral neck, trochanter and ultradistal radius. For example, each unit decrease in lean mass was associated with a decline per year in BMD at the total hip (0.05%, 95% CI: 0.02-0.07%), femoral neck (0.03%; 95%CI: 0.007-0.05%) ultradistal radius (0.03%, 95% CI: 0.006-0.06%). No significant associations were observed for changes in fat mass and BMD. In conclusion, decline in lean mass was significantly associated with greater bone loss in men. These findings may help identify preventive efforts to reduce bone loss with aging.

### THE INFLUENCE OF GENETIC ANCESTRY ON BONE MICROARCHITECTURE IN MEN

E. Suarez<sup>1</sup>, R. Piccolo<sup>1</sup>, A. Araujo<sup>2</sup>, J. Zmuda<sup>5</sup>, M.F. Holick<sup>3</sup>, M.L. Bouxsein<sup>4</sup>, B. Bartali<sup>1</sup>, *1. Epidemiology, New England Research Institute, Watertown, Massachusetts, 2. Eli Lilly, Indianapolis, Indiana, 3. Boston University School of Medicine, Boston, Massachusetts, 4. Harvard Medical School, Department of Orthopedic Surgery, Boston, Massachusetts, 5. University of Pittsburgh, Pittsburgh, Pennsylvania*

Racial differences in fracture rates and bone mineral density (BMD) are well established. However, little is known about the influence of genetic ancestry on bone microarchitecture. A panel of 63 single nucleotide polymorphisms were selected and genotyped based on their ability to estimate percent West African, Native American, and European ancestry in admixed populations. Bone microarchitecture was measured among 650 men aged 37-87y. After adjustment for socio-demographic, health, and lifestyle characteristics, a 10% increase in West African ancestry was associated with 0.72% higher trabecular volumetric BMD (vBMD), 0.69% higher trabecular thickness, and 1.16% higher total area at the radius. At the tibia, a 10% increase in West African ancestry was associated with 0.30% higher cortical vBMD and 0.78% higher total area. In conclusion, West African genetic ancestry has an independent positive association with bone microarchitecture, and racial/ethnic differences in bone microarchitecture may be, at least in part, genetically determined.

### BLACK CARBON EXPOSURE IS ASSOCIATED WITH HIGHER RATES OF BONE LOSS IN MEN

D. Prada<sup>2</sup>, A. Baccarelli<sup>2</sup>, T. Curto<sup>1</sup>, A. Araujo<sup>3</sup>, M.F. Holick<sup>4</sup>, J. Zmuda<sup>5</sup>, B. Bartali<sup>1</sup>, *1. Epidemiology, New England Research Institute, Watertown, Massachusetts, 2. Harvard School of Public Health, Boston, Massachusetts, 3. Eli Lilly, Indianapolis, Indiana, 4. Boston University School of Medicine, Boston, Massachusetts, 5. University of Pittsburgh, Pittsburgh, Pennsylvania*

Air pollution increases systemic oxidative damage, induces inflammation and affects vitamin D metabolism, which are known risk factors for bone loss. However, it is unknown if air pollution contributes to bone loss. We examined the association of exposure to particulate air pollution from traffic, as traced by ambient black carbon (BC) levels, on longitudinal changes in bone mineral density (BMD) in 692 men aged 30-79 years, participating in BACH/Bone. Baseline BC levels (1-year



average) were estimated using a validated spatiotemporal land-use model. For a 1-unit ( $\mu\text{g}/\text{m}^3$ ) increase in BC concentration, femoral neck BMD decreased 0.73%/year in BMD (95%CI -1.3to-0.19;  $p=0.008$ ) and ultradistal radius BMD decreased by 0.58%/year (95%CI -1.12to-0.03;  $p=0.04$ ) after adjustment for age, race, height, smoking, physical activity, caffeine consumption, household income, weight and serum 25(OH) D. In conclusion, air pollution was associated with increased bone loss. If confirmed in other studies, these results may have important public health implications.

## SESSION 1555 (SYMPOSIUM)

### MULTIDISCIPLINARY TRENDS, ASSOCIATIONS, AND OUTCOMES IN AGING, ALCOHOL, AND MEDICATION

**Chair:** F. Zanjani, *BCH, University of Maryland, College Park, Maryland*

**Discussant:** A.A. Moore, *UCLA, Los Angeles, California*

Alcohol consumption and prescription medication, both common in old age, can have positive and negative outcomes on successful aging and health status. While over half of older adults consume alcohol (25% consume more than a single drink/day) and most older adults take medications (60% of adults over 60 years old use prescription drugs, nearing 90% of adults by the age of 80 years), abusive or hazardous consumption of alcohol and medication can lead to falls/injuries, hospitalizations, neurodegeneration, medication interactions, thwarted drug effectiveness, and liver disease. There is also increasing evidence that moderate levels of alcohol consumption (approximately 1 drink/day) and consuming medications responsibly and as medically advised, leads to cognitive, social, mental, physiological, and behavioral benefits. To explore the duality of alcohol and medication use and aging, several large-scale studies explore epidemiological rates and trends, psychological/neurological inspection of cognition, public health investigation of hospitalizations, and psychiatric understanding of sleep and falls. Specifically rates of low risk, at-risk drinking, and binge drinking (+5 drinks) is examined in National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) and National Longitudinal Alcohol Epidemiologic Survey (NLAES). Using the Seattle Longitudinal and the Framingham Heart Study, cognitive abilities and indicators are explored with relation to alcohol consumption levels. Thereafter hazardous outcomes are explored using the Kentucky State emergency room hospitalization data and the Health and Retirement Study (HRS) and Prescription Drug Study (PDS; nested within HRS) on sleep-medications and falls. Altogether aging related conclusions and implications will be made about safe alcohol and medication use.

### SECULAR TRENDS IN AT-RISK AND BINGE DRINKING AMONG ADULTS OVER 50: 1991 AND 2001

P. Sacco<sup>1</sup>, K. Burruss<sup>1</sup>, A. Kuerbis<sup>2</sup>, 1. *Social Work, University of Maryland, Baltimore, Maryland*, 2. *Columbia University, New York, New York*

At-risk and binge drinking are a threat to public health due to alcohol related-illness and injury. With changing demographics of older adults, rates and profiles of drinking may be evolving over time. We characterized rates of low risk (<2 drinks per day) at-risk drinking (average +2 drinks per day) and binge drinking (+5 drinks) from two national surveys: NLAES (1991-2002) and NESARC (2001-2002). Past-year low-risk drinking and modest increases in rates of at-risk drinking were present from NLAES to NESARC, but binge drinking rates were stable. For men and women, higher education and income, White race, tobacco use, and lifetime alcohol use disorder were associated with low-risk use and at-risk consumption. Past-year nonmedical use of drugs was also a predictor of low-risk and at-risk drinking. Findings suggest that rates of low-risk and at-risk use have increased, but that correlates of low-risk, at-risk and binge drinking over 50 were stable.

### ALCOHOL CONSUMPTION ASSOCIATED WITH HIGHER COGNITION AND REDUCED INTRAINDIVIDUAL VARIABILITY

J. Blaskewicz Boron<sup>1</sup>, F. Zanjani<sup>2</sup>, S.L. Willis<sup>3</sup>, K. Schae<sup>3</sup>, 1. *Psychology, Youngstown State University, Youngstown, Ohio*, 2. *University of Maryland, College Park, Maryland*, 3. *University of Washington, Seattle, Washington*

Prior research has suggested low to moderate alcohol consumption may be protective to cognitive function; however, the focus has been on global cognition and group differences in mean level. We investigated the association of intraindividual variability (IIV), a measure sensitive to cognitive risk and impairment, and alcohol consumption in a Seattle Longitudinal Study sample in 2005 (N=999; Mage=65.78, SD=14.19; Meduc=15.75, SD=2.55). ANCOVA results ( $F(2,994)=3.51$ ,  $p<.05$ ) indicated those drinking 8+ drinks/week had significantly lower IIV in cognition compared to abstainers; younger age was also associated with less variability. Analyses on a subsample (n=141) with cognitive data in 2005 and 2008, indicated a lack of concurrent relationships; however, alcohol consumption in 2005 was predictive of level of numerical ability and word fluency in 2008, again with alcohol consumers scoring higher than abstainers. Findings extend prior research by examining consumption as a 3-year predictor of cognition and identifying specific ability relationships.

### EFFECTS OF LATE LIFE ALCOHOL CONSUMPTION AND APOE E4 ALLELE STATUS ON REGIONAL BRAIN VOLUMES AMONG OLDER ADULTS

B. Downer<sup>1</sup>, Y. Jiang<sup>2,5</sup>, F. Zanjani<sup>3</sup>, D. Fardo<sup>4,5</sup>, 1. *University of Kentucky, Graduate Center for Gerontology, Lexington, Kentucky*, 2. *University of Kentucky, Department of Behavioral Science, Lexington, Kentucky*, 3. *University of Maryland, SPHL-Behavioral & Community Health, Baltimore, Maryland*, 4. *University of Kentucky, Department of Biostatistics, Lexington, Kentucky*, 5. *University of Kentucky, Sanders-Brown Center on Aging, Lexington, Kentucky*

Background: Several explanations have been proposed for the observed benefits of moderate alcohol consumption for cognitive functioning later in life. This study examined the hypothesis that moderate alcohol consumption contributes to preserved regional brain volumes, specifically the hippocampus and frontal lobe, which are two important brain regions underlying cognition. Methods: This was a secondary analysis of data from the Framingham Heart Study Offspring Cohort. Results: Compared to late life abstainers, subjects who were moderate alcohol consumers during late life had larger hippocampal volume ( $P=0.004$ ), but not frontal lobe volume. When subjects were stratified by APOE e4 allele status (e4+ / e4-), APOE e4- moderate consumers had larger hippocampal volume compared to APOE e4- abstainers ( $P=0.009$ ). There was insufficient evidence for differences in hippocampal volume among APOE e4+ subjects. Conclusion: Larger hippocampal volume may contribute to higher cognitive functioning among older adults who are moderate alcohol consumers during late life.

### COMORBID ALCOHOL AND MEDICATION HOSPITALIZATION TRENDS IN OLDER KENTUCKIANS

F. Zanjani<sup>1</sup>, R.V. Smith<sup>2</sup>, R. Clayton<sup>2</sup>, C. Martin<sup>2</sup>, N.E. Schoenberg<sup>2</sup>, 1. *BCH, University of Maryland, College Park, Maryland*, 2. *University of Kentucky, Lexington, Kentucky*

To better understand alcohol and medication interactions hospitalization data from Kentucky was analyzed. Comorbid diagnosis of drug poisoning (ICD-9 960-979) {excluding poisoning by illicit drugs (ICD-9 965.00, 965.01, 968.51, 969.6)} and a diagnosis of toxic effect of ethyl alcohol (ICD-9 980.0) were examined. Current findings indicate that there is an approximate 80% increase in alcohol and medication related hospitalization among older adults (aged 50+) in Kentucky, from 2001-2011. The increase was seen in all age groups, except for the oldest old (85+ years), with greatest increase (138%) seen in the

50-59 year age group. The characteristics of the hospitalizations were primary unintentional, followed by suicidal intent, with drug poisoning as the primary diagnosis. Interestingly, if the primary diagnosis was not drug poisoning, it was most often mental disorders, followed by respiratory or circulatory system diseases. In conclusion, comorbid alcohol and medication problems are increasing and need increased public health attention.

#### **ASSOCIATION BETWEEN USE OF SLEEP-AIDS AND FALLS IN A POPULATION BASED SAMPLE OF MIDDLE AGED AND OLDER ADULTS**

C.N. Kaufmann, S.L. Canham, R. Mojtabai, G. Alexander, K. Bandeen-Roche, L. Rutkow, A.P. Spira, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Research has shown an association between use of sleep-aid medications and falls among older adults. Few studies have examined this association in a population-based cohort of community-dwelling seniors. We examined the association between sleep-aid use and falls among a nationally representative sample of adults age 50+. Data were from the Health and Retirement Study (HRS) and the Prescription Drug Study (PDS; nested within HRS). In 2005, PDS participants reported medications used; benzodiazepines and non-benzodiazepine sedative hypnotic drugs were considered "sleep-aids." In HRS 2008, participants reported whether or not they had fallen. In 2005, 8.8% of participants were sleep-aid users. Compared to non-users, sleep-aid users had 45% greater odds of reporting falls in 2008 (95% CI=1.09-1.93,  $p=0.012$ ) after controlling for demographic, health and insomnia variables. Findings reveal that older adults taking sleep-aids were at risk for falls. Non-pharmacological treatment of sleep disorders may reduce rates of falls related to sleep-aid use.

#### **SESSION 1560 (SYMPOSIUM)**

##### **NEUROMUSCULAR IMPAIRMENTS CONTRIBUTING TO MOBILITY DECLINE AND DISABILITY: NEW FINDINGS FROM BOSTON RISE**

**Chair:** J.F. Bean, *PM&R, Spaulding Rehabilitation Hospital, Cambridge, Massachusetts, Harvard Medical School, Boston, Massachusetts*

**Discussant:** J. Guralnik, *University of Maryland, Baltimore, Maryland*

Mobility problems are prevalent among older adults and can lead to subsequent disability. While there is ample evidence identifying chronic conditions and health problems leading to mobility decline, there is insufficient evidence guiding rehabilitative care. To fill this knowledge gap, in 2009 we initiated the Boston Rehabilitative Impairment Study of the Elderly (Boston RISE), a longitudinal cohort study of 430 older primary care patients in greater Boston, with annual follow-up for mobility decline over 2 years. A battery of 11 neuromuscular attributes (rehabilitative impairments) linked to mobility decline and treatable within the context of rehabilitative care has been evaluated in order to understand which impairments are most responsible for changes in mobility and disability. At enrollment, participants were 68% female, aged 76.5 years on average and manifested pre-clinical disability. This symposium will provide 5 presentations. First, we will review the study rationale, its conceptual model, its methods and summarize previously reported findings from baseline analyses. Second, we will show that our primary outcome, the Late-Life Function and Disability Instrument, has high predictive validity for adverse outcomes at 2 years, and is responsive to change. Third, we will describe predominant patterns of change in mobility and disability over time and report differences among demographic and health characteristics based on each pattern of change. Finally, through two separate presentations evaluating changes in mobility and disability respectively, we will identify the subset of

rehabilitative impairments most strongly associated with changes in these outcomes.

##### **CREATING AN EVIDENCE BASE FOR MOBILITY REHABILITATION: THE BOSTON REHABILITATIVE IMPAIRMENT STUDY OF THE ELDERLY**

J.F. Bean<sup>1,2</sup>, N.E. Holt<sup>3</sup>, L.A. Kurlinski<sup>1</sup>, S. Percac-Lima<sup>3</sup>, N. Latham<sup>4</sup>, S.G. Leveille<sup>5</sup>, A. Jette<sup>4</sup>, *1. Spaulding Rehabilitation Hospital, Boston, Massachusetts, 2. Department of PM&R, Harvard Medical School, Boston, Massachusetts, 3. Department of Medicine, Massachusetts General Hospital, Boston, Massachusetts, 4. Health and Disability Research Institute, Boston University School of Health, Boston, Massachusetts, 5. College of Nursing and Health Sciences, University of Massachusetts Boston, Boston, Massachusetts*

Despite advances in mobility research, there are still significant knowledge gaps with regard to the body system impairments that should be targeted in rehabilitative care. The Boston Rehabilitative Impairment Study of the Elderly (Boston RISE) was designed to address these knowledge gaps. Among a demographically representative sample of 430 primary care patients with preclinical disability (mean age 76.5, 68% female), 11 neuromuscular attributes were evaluated for their respective association with changes in mobility and disability over 2 years. Boston RISE is unique in that it includes a battery of neuromuscular attributes (rehabilitative impairments) that are amenable to rehabilitative treatment and is methodologically based within primary and rehabilitative care. At 2 years, 86% (N=369) participants completed the study, 3% (N=15) participants died, 9% (n=37) dropped out for health or personal reasons and 2% (N=9) were lost to follow up. These results will be compared to other cohort studies addressing mobility outcomes.

##### **PSYCHOMETRIC PROPERTIES OF THE LATE-LIFE FUNCTION AND DISABILITY INSTRUMENT IN PRIMARY CARE PATIENTS**

M.K. Beauchamp<sup>1,2</sup>, R. Ward<sup>1,2</sup>, L.A. Kurlinski<sup>1</sup>, A. Jette<sup>2</sup>, J.F. Bean<sup>1</sup>, *1. Physical Medicine and Rehabilitation, Harvard University, Spaulding Rehabilitation Hospital, Cambridge, Massachusetts, 2. Health and Disability Research Institute, Boston University, Boston, Massachusetts*

The Late Life Function and Disability Instrument (LLFDI) is a widely used patient-reported measure designed for older adults. While there is strong data to support its construct validity, few studies have examined the LLFDI's predictive validity and responsiveness. We analyzed data over 2 years of follow-up from Boston RISE (n=430) to examine the predictive validity and responsiveness of the LLFDI Function compared with commonly used performance-based measures, including the Short Physical Performance Battery (SPPB) and 400-meter walk. The LLFDI, SPPB and 400-meter walk showed similarly high predictive validity for low self-rated health and hospitalizations; only the LLFDI overall function subscale predicted falls. From baseline to 2 years, the proportion of subjects that experienced a decline exceeding the minimal detectable change was greater for the LLFDI compared to performance-based measures (31-36% vs. 7-23%). These results support the use of the LLFDI as a primary outcome in studies of community-dwelling older adults.

##### **CHARACTERIZING MOBILITY CHANGE GROUPS IN BOSTON RISE**

R. Ward<sup>1,2,3</sup>, P. Ni<sup>3</sup>, M.K. Beauchamp<sup>1,2</sup>, N. Latham<sup>3</sup>, R. Goldstein<sup>1,2</sup>, A. Jette<sup>3</sup>, J.F. Bean<sup>1,2</sup>, *1. Physical Medicine and Rehabilitation, Spaulding Hospital, Cambridge, Massachusetts, 2. Department of PM&R, Harvard Medical School, Cambridge, Massachusetts, 3. Health and Disability Research Institute, Boston University School of Health, Boston, Massachusetts*

To investigate mobility decline within Boston RISE, we defined three patterns of change over two years with the Late-Life Function

and Disability Instrument (LLFDI): 1) Favorable change - improving  $\geq 0.5$  SD or maintaining the best function/disability quartile; 2) No change - maintaining the middle two function/disability quartiles; and 3) Unfavorable change - declining  $\geq 0.5$  SD or maintaining the worst function/disability quartile. We sought to characterize these change groups through demographics, physical impairments, and health status. ANOVA and Chi-squared tests were used to examine differences across groups. Age, BMI, leg strength, velocity and asymmetry, trunk extensor endurance, knee flexion range, reaction time, chronic disease score, depression and cognition varied across some groups. Gait speed, balance and executive function varied across all groups. Unfavorable change groups were older, had higher BMI, worse impairment and function, poorer cognition and more comorbidity. These findings may inform prevention and intervention strategies targeting mobility decline.

#### NEUROMUSCULAR ATTRIBUTES CONTRIBUTING TO MOBILITY DECLINE: NEW FINDINGS INFORMING THE REHAB PRESCRIPTION

J.F. Bean<sup>1,2</sup>, N. Latham<sup>3</sup>, R. Ward<sup>1,2,3</sup>, L.A. Kurlinski<sup>1</sup>, P. Ni<sup>3</sup>, S.G. Leveille<sup>4</sup>, A. Jette<sup>3</sup>, 1. *Spaulding Rehabilitation Hospital, Boston, Massachusetts*, 2. *Department of PM&R, Harvard Medical School, Boston, Massachusetts*, 3. *Health and Disability Research Institute, Boston University School of Health, Boston, Massachusetts*, 4. *College of Nursing and Health Sciences, University of Massachusetts Boston, Boston, Massachusetts*

While rehabilitation is prescribed commonly for older adults with mobility problems, there is insufficient evidence guiding this aspect of care. The Boston RISE study was designed to evaluate which of 11 neuromuscular attributes (rehabilitative impairments) are most responsible for mobility decline over 2 years of follow up. Among the 430 primary care patients enrolled in the Boston RISE longitudinal cohort study, 42% and 47% had an unfavorable change (decline 0.5 SD or remained in lowest quartile) in basic- and advanced-lower extremity function respectively over 2 years of follow up. Through multivariable multinomial analyses, that considered clinically and statistically important adjustment variables, baseline leg strength, leg speed, trunk extensor muscle endurance and ankle range of motion contributing significantly to changes in both basic and advanced mobility as measured by the Late Life Function and Disability Instrument. The relevance of these findings for mobility care will be discussed.

#### CHANGES IN DISABILITY OVER TWO YEARS IN OLDER PRIMARY CARE PATIENTS: FINDINGS FROM BOSTON RISE

N. Latham<sup>1</sup>, A. Jette<sup>1</sup>, P. Ni<sup>1</sup>, S.G. Leveille<sup>2</sup>, J.F. Bean<sup>3,4</sup>, 1. *Health and Disability Research Institute, Boston University School of Public Health, Boston, Massachusetts*, 2. *College of Nursing and Health Sciences, University of Massachusetts Boston, Boston, Massachusetts*, 3. *Spaulding Rehabilitation Hospital, Boston, Massachusetts*, 4. *Department of PM&R, Harvard Medical School, Boston, MA, Massachusetts*

Changes in disability and factors that contribute to these changes are not well understood in older primary care patients. Boston RISE evaluated changes in disability over two years in 430 older adults recruited from primary care. The Late Life Function and Disability Instrument (LLFDI) measured self-reported disability in two domains: Limitations in activities and Frequency of performing activities. Participants were categorized as having Favorable, No change or Unfavorable outcomes, based on maintenance of high or low levels of disability, or experiencing  $>0.5$ SD change from baseline LLFDI score during follow-up. Differences were found in disability outcomes between the Limitation and Frequency domains: Unfavorable outcome occurred in 52% of subjects for Frequency domain and 44% for Limitation domain, while Favorable outcome occurred in 22% of subjects for Frequency and 35% for Limitation. Among predictors of disability, including 11 rehabilitative

impairments, some were consistent between the two domains, but differences were also observed.

## SESSION 1565 (SYMPOSIUM)

### THE ROLE OF DIET AND NUTRITIONAL STATUS IN PHYSICAL FUNCTION AND FRACTURE RISK

**Chair:** M. Visser, *Health Sciences, VU University Amsterdam, Amsterdam, Netherlands, VU Medical Center, Amsterdam, Netherlands*

**Co-Chair:** D.K. Houston, *Wake Forest School of Medicine, Winston-Salem, North Carolina*

**Discussant:** S.B. Kritchevsky, *Wake Forest School of Medicine, Winston-Salem, North Carolina*

A healthy lifestyle is an important determinant of successful aging. A diet that meets the dietary recommendations is known to reduce the risk of chronic diseases and early mortality. However, less is known about the contribution of a healthy diet in old age to physical function. This symposium will specifically focus on a range of nutritional factors using data from three established aging cohort studies based in the USA (Health ABC), Iceland (AGES-Reykjavik Study) and the Netherlands (Longitudinal Aging Study Amsterdam or LASA). The first speaker, Coosje Dijkstra, will describe the motivations to eat a healthy diet in LASA participants and the differences in motivations among specific subgroups of older adults (e.g. based on health status). Two presentations will follow on the relationship of plasma polyunsaturated fatty acids with physical function and fracture risk in AGES. Ilse Reinders will discuss the role of these fatty acids in incident mobility disability and gait speed decline over 5 years of follow-up, after which Rachel Murphy will discuss their potential role in predicting osteoporotic fractures. Kyla Shea will discuss plasma vitamin K status in relation to lower extremity physical function using data from the Health ABC knee osteoarthritis sub-study. The final presentation by Denise Houston will discuss the relationship of dietary protein intake with lower extremity physical function and strength over 4 years of follow-up in Health ABC. Together, these presentations support the important role of diet and nutritional status in the maintenance of physical function and prevention of fractures in older adults.

### WHY DO OLDER DUTCH ADULTS EAT HEALTHILY?

S. Dijkstra<sup>1</sup>, J.E. Neter<sup>1</sup>, I.A. Brouwer<sup>1</sup>, M. Huisman<sup>2,3,4</sup>, M. Visser<sup>1,2</sup>, 1. *Department of Health Sciences and the EMGO Institute for Health and Care Research, Faculty of Earth and Life Sciences, VU University, Amsterdam, Netherlands*, 2. *Department of Epidemiology and Biostatistics, VU University Medical Center and the EMGO institute for Health and Care Research, Amsterdam, Netherlands*, 3. *Department of Sociology, VU University, Amsterdam, Netherlands*, 4. *Department of Psychiatry, VU University Medical Center, Amsterdam, Netherlands*

This study identifies motivations to eat healthily in older adults and investigates if these motivations are associated with socioeconomic position (SEP), demographic, lifestyle and health variables. We used data of 1,050 older Dutch adults (65-80 year, independently living, good cognition). Motivations to eat healthily were measured with a self-reported questionnaire. The most reported motivations were: feeling fit (51.7%), people's current health (49.7%) and body weight (39.2%). Lower SEP groups were less likely to report "prevention of disease" and those with obesity were less likely to report "current health". Those with health problems were more likely to report "current disease" as motivations to eat healthily. This study indicates that reported motivations largely depend on the characteristics of older adults. Those with health problems seem to be aware of the link between their disease and nutrition. Attention should be paid towards lower SEP groups and obese people and their disease-nutrition knowledge.

## POLYUNSATURATED FATTY ACIDS AND FISH OIL CONSUMPTION IN RELATION TO MOBILITY DISABILITY AND GAIT SPEED DECLINE

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Background: Long chain polyunsaturated fatty acids (PUFAs) are associated with physical function, however, prospective studies of circulating PUFAs are scarce. Methods: Data are from the AGES-Reykjavik study (n=557, age 75.1±5.0 years). Plasma phospholipids PUFAs were assessed with gas chromatography. Fish oil consumption across the lifetime was assessed by questionnaire. Incident mobility disability and gait speed decline (decline ≥ 0.1 m/s) after 5 years of follow-up was determined. Odds ratios (and 95% confidence intervals) adjusted for demographics, risk factors and serum vitamin D were estimated by logistic regression. Results: In women, per SD increment of total n-3 PUFAs and docosahexaenoic acid, lower mobility disability risk was observed; 0.50 (0.26; 0.96) and 0.45 (0.24; 0.85), respectively. There were no associations with gait speed decline or for fish oil consumption in any life period and physical function. Conclusions: Higher concentrations of n-3 PUFAs were associated with lower incident mobility disability risk in women.

## PLASMA FATTY ACIDS AND FISH OIL INTAKE IN RELATION TO OSTEOPOROTIC FRACTURE RISK AMONG OLDER ADULTS

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A limited number of studies suggest polyunsaturated fatty acids (PUFA) may be important for fracture. We examined associations between plasma fatty acids measured in late life and fish oil consumption reported for early, mid and late life with osteoporotic fracture risk in a case (n=540) cohort (n=898) study of older adults followed for 5-9 years. In men hazard ratios (95% confidence interval) for tertile 3 of PUFA, n-3 and eicosapentaenoic acid were 0.60 (0.41,0.89), 0.66 (0.45,0.95) and 0.59 (0.41,0.86). In women PUFA was inversely associated with fracture risk (P-trend=0.03), while tertile 2 of n-6 and arachidonic acid were associated with greater fracture risk, 1.43 (1.10,1.85) and 1.42 (1.09,1.85). Daily fish oil consumption in late life in men and midlife in women were associated with lower fracture risk, 0.64 (0.45, 0.91) and 0.75 (0.58,0.98). Our results suggest a role of fatty acids in fracture, particularly PUFA and marine n-3 fatty acids.

## VITAMIN K STATUS AND LOWER-EXTREMITY FUNCTION IN OLDER ADULTS: THE HEALTH ABC STUDY

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Knee osteoarthritis (OA) is the leading cause of lower-extremity disability in adults. Vitamin K (VK) insufficiency has been associated with greater knee OA progression, but it is unknown if VK status is relevant to functional consequences of knee OA. We analyzed the cross-sectional association between VK status and lower-extremity function in older adults with symptoms of knee OA (n=702; mean(SD) age=75(3) years, 60% female, 45% black). VK status measures included plasma VK and uncarboxylated matrix gla-protein (ucMGP, a functional VK biomarker). Participants with insufficient plasma VK (<1.0nmol/L) had worse physical function scores and slower gait speed [p-trend<0.01, 0.04 respectively, adjusted for demographics, lifestyle characteristics and co-morbidities]. Participants in the highest ucMGP tertile (reflecting lower VK status) had worse physical function scores, worse leg strength and slower gait speed [p-trend=0.01, <0.01, 0.04 respectively, fully-adjusted]. These findings suggest improving VK status may lead to improved lower-extremity function related to knee OA.

Background: Long chain polyunsaturated fatty acids (PUFAs) are associated with physical function, however, prospective studies of circulating PUFAs are scarce. Methods: Data are from the AGES-Reykjavik study (n=557, age 75.1±5.0 years). Plasma phospholipids PUFAs were assessed with gas chromatography. Fish oil consumption across the lifetime was assessed by questionnaire. Incident mobility disability and gait speed decline (decline ≥ 0.1 m/s) after 5 years of follow-up was determined. Odds ratios (and 95% confidence intervals) adjusted for demographics, risk factors and serum vitamin D were estimated by logistic regression. Results: In women, per SD increment of total n-3 PUFAs and docosahexaenoic acid, lower mobility disability risk was observed; 0.50 (0.26; 0.96) and 0.45 (0.24; 0.85), respectively. There were no associations with gait speed decline or for fish oil consumption in any life period and physical function. Conclusions: Higher concentrations of n-3 PUFAs were associated with lower incident mobility disability risk in women.

## PROTEIN INTAKE AND LOWER EXTREMITY PHYSICAL PERFORMANCE IN OLDER ADULTS: THE HEALTH ABC STUDY

D.K. Houston<sup>1</sup>, J. Tooze<sup>1</sup>, K.R. Garcia<sup>1</sup>, M. Visser<sup>2</sup>, F.A. Tyllavsky<sup>3</sup>, A.B. Newman<sup>4</sup>, T.B. Harris<sup>5</sup>, S.B. Kritchevsky<sup>1</sup>, 1. *Wake Forest School of Medicine, Winston Salem, North Carolina*, 2. *Vrije Universiteit, Amsterdam, Netherlands*, 3. *University of Tennessee Health Science Center, Memphis, Tennessee*, 4. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 5. *National Institute on Aging, Bethesda, Maryland*

Current protein recommendations (0.8 g/kg body weight/d) may underestimate the intake needed to optimally preserve physical function in older adults. We examined the association between baseline protein intake and lower extremity physical performance (physical performance battery (PPB), gait speed, and leg strength) in 2,164 Health ABC participants (36% black, 53% female, mean age 74.6) with at least one follow-up exam over 4 years. Whites in the highest protein intake tertile (>1.0 g/kg) had higher PPB scores, faster gait speed, and greater leg strength at baseline, 2- and 4-years compared to those in the lowest tertile (<0.7 g/kg; all p<0.01). In blacks, higher protein intake was associated with greater leg strength at baseline, 2- and 4-years (p<0.05). In general, protein intake was not associated with the rate of decline in lower extremity physical performance. Dietary protein should be studied further as a modifiable risk factor for impaired lower extremity physical performance.

## SESSION 1570 (SYMPOSIUM)

### UNDERSTANDING AGING PROCESSES THROUGH BED REST?

**Chair:** M. Heer, *Nutritional Sciences, Profil, Neuss, Germany, University of Bonn, Bonn, Germany*

**Discussant:** J. Vernikos, *Thirdage llc, Culpeper, Virginia*

The course of Aging is determined by both genetic and epigenetic influences and though little can be done at this time to alter genetic factors, but a great deal can be achieved by understanding and testing the contribution of lifetime habits. This requires a reliable and tested translational model. Extreme sedentary lifestyle such as in bed rest leads to marked deconditioning in several physiological systems even in young, healthy people. Studies have shown that even short periods of bed rest and reduced mobility have significant effects on human physiology. These may range from metabolic changes such as decreased glucose tolerance and insulin resistance, reduced metabolic flexibility in general, to reduced cardio cardiovascular fitness, deconditioning of the musculoskeletal system and balance disorders. It has been suggested that not only the symptoms but also that the mechanisms are similar to some extent to those of aging. Moreover, younger people tend to recover their health and functional status sooner after discharge, while in older persons the recovery is slower and often incomplete. The main premise of this symposium is that bed rest provides a unique tool and model to induce aspects of aging and their recovery. This model may also support a better understanding of the recovery processes after immobilization,

such as after falls, illness or surgery in the elderly. To address this topic, this symposium will focus on physiological systems that are known to be directly affected by aging as well as by bed rest, including metabolic, endocrine, cardiovascular, musculoskeletal and balance systems. New approaches to improve health and mobility recovery after immobilization and hospitalization will be specifically addressed.

#### **PARALLEL CARDIOVASCULAR CHANGES IN AGING AND BED REST**

R. Hughson, *Schlegel-University of Waterloo Research Institute for Aging, Waterloo, Ontario, Canada*

Bed rest imposed in research studies of young healthy men and women is an extreme form of sedentary lifestyle that accelerates cardiovascular deconditioning with parallels to the aging process. Impaired regulation of arterial blood pressure on return to the upright posture occurs after as little as 4h bed rest. Similar problems of blood pressure regulation occur with increased risk of falls when older individuals rise from bed at night or early morning. Vascular aging, characterized by increased arterial stiffness, shares some common mechanisms in bed rest and aging related to nervous activity, hormonal balance and interplay between oxidative stress and anti-oxidants in arterial smooth muscle. Physical inactivity of bed rest increases formation of advanced glycation end-products that could contribute to vascular wall changes and arteriosclerosis. Bed rest provides an ideal model to test interventions with outcomes making a strong case for the promotion of healthy aging.

#### **PHYSICAL INACTIVITY-INDUCED METABOLIC ADAPTATIONS SIMILAR TO AGING : EVIDENCES FROM BED REST**

S. Blanc, *CNRS, Strasbourg, France*

Metabolic adaptations to spaceflight ie muscle atrophy, bone demineralization, cardiovascular deconditioning, motor coordination or development of an insulin resistance, mirror aging on Earth. Some recent evidences based on simulated weightlessness in humans through bed rest suggest that physical inactivity is in part associated with the physiological changes attributed to aging per se. We will present evidences on the metabolic side and suggest countermeasures that may be applied in humans to improve healthy years of living. The strength of the space field applied to aging is the study of adaptation on healthy subjects that will recover. The mechanisms of rehabilitation can be therefore be studied as well as the adaptation per se.

#### **MUSCLE LOSS, AGING AND INACTIVITY: IS 50 THE NEW 70?**

D. Paddon-Jones, K.L. English, *Nutrition and Metabolism, University of Texas Medical Branch, Galveston, Texas*

The progression of sarcopenia and the disparate musculoskeletal and metabolic consequences of bed rest in young and older adults suggest that the debilitating effects of physical inactivity increase progressively with age. Middle age adults (45-60 y) are comparatively underrepresented in research, falling between the typical age based group assignments of: "young" (20-40y) or "elderly" (65y +). While they often display "youthful" physiological responses during acute, metabolism studies, emerging research suggests that middle-aged adults may be as vulnerable to the deleterious effects of physical inactivity as their older counterparts. Metabolic perturbations, such as bed rest induce anabolic resistance, increase the rate of loss of muscle mass and strength and promote an aging phenotype. Strategies to prevent or reduce inactivity-induced muscle and strength loss should not focus exclusively on older adults, but should be implemented early to establish healthful practices in early adult life.

#### **IMPACT OF AGEING AND INACTIVITY ON MUSCULOSKELETAL HEALTH**

M.V. Narici, *University of Nottingham, Nottingham, United Kingdom*

One of the major consequences of chronic inactivity is muscle loss which, in older people, exacerbates sarcopenia, leading to physical frailty, loss of balance, increased risk of falls, greater morbidity and mortality. Hence understanding the mechanisms responsible for the loss of muscle mass due to ageing and inactivity is crucial for preserving musculoskeletal health and independence. Chronic inactivity models such as unilateral lower limb suspension (ULLS) and bed rest (BR) afford important insights into these mechanisms. Using stable isotopes, we have shown that the decrease in muscle mass with BR and ULLS is mostly due to a fall in protein synthesis of about 50% of basal rate within just 10 days of unloading. Also 10 day of inactivity are sufficient for developing insulin resistance. Unfortunately, because anabolically resistant, older people are more affected by inactivity as their recovery even with exercise and amino acid feeding is much slower than that of young people.

#### **SESSION 1575 (PAPER)**

#### **PHYSICAL ACTIVITY & EXERCISE**

#### **TESTING ACUTE CARDIOVASCULAR RESPONSE TO SIGN CHI DO**

C.E. Rogers, K. Garver, A. Gardner, J. Carlson, A. Ramey, *Nursing, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma*

Older adults with sedentary lifestyles are at increased risk for functional decline and disability. Sedentary older adults are recommended to begin with low intensity exercise to build endurance. Sign Chi Do (SCD) is a low intensity exercise that engages the activation of large muscle groups using sign gestures and transitional leg movements. Studies show that SCD can improve fitness outcomes in sedentary older adults. There is no evidence reporting acute cardiovascular (CV) response to SCD. The purpose of this study was to evaluate the acute CV response of older adults participating in a single 10 minute bout of SCD. Methods: Participants were 34 sedentary or active older adults, aged  $64.03 \pm 7.28$  years, recruited from the community. After 10 minutes of SCD exercise Blood pressure and heart rate (HR) were assessed at 0, 5, and 10 minutes of SCD and after 10 minutes of rest following the completion of SCD. An unpaired t-test was used to examine the differences in CV response between sedentary and active participants. Results: All participants remained at or below 180/90 BP or 40% of their estimated VO<sub>2</sub>max. There was no difference between groups in baseline or maximum systolic blood pressure (SBP) or HR maximum during SCD or change in SBP or HR. Conclusions: These findings show that SCD is indeed a safe exercise for healthy sedentary and active older adults. Future research is required to determine the CV response to chronic practice which has the potential to improve health and function.

#### **META-ANALYSIS OF PHYSICAL ACTIVITY INTERVENTIONS AMONG OLDER ADULTS**

J.D. Chase, L.J. Phillips, T. Ruppert, V.S. Conn, *University of Missouri-Columbia, Columbia, Missouri*

**PURPOSE:** To determine the overall effectiveness of interventions designed to increase physical activity (PA) behavior among community-dwelling older adults. **METHOD:** Extensive literature searching identified eligible published or unpublished studies 1) from 1960-2013; 2) written in English; 3) testing interventions to increase PA behavior; 4) among community-dwelling adults age 65 and older. Diverse study characteristics were extracted. Outcome data were duplicate coded. Overall mean effect sizes (d, ESs) were synthesized using a random-effects model. Heterogeneity of effects was analyzed using Q

and I2 statistics. Exploratory moderator analyses were conducted using meta-regression and subgroup analysis for continuous and dichotomous variables, respectively. RESULTS: Of 13,527 citations reviewed, 53 two-group and 48 single-group design studies were eligible. ESs were calculated from 13,829 total primary study subjects. The overall mean ES for two-group posttest comparisons was 0.18 (95% CI 0.10-0.26,  $p < 0.001$ ), representing a difference of 620 steps/day or 73 minutes of PA/week between treatment and control groups. Significant moderators included the use of theory ( $d = 0.28$ ), behavioral strategies ( $d = 0.24$ ), barriers management ( $d = 0.30$ ), and problem solving ( $d = 0.30$ ). Non-significant moderators included the interventionist type, delivery setting, and intervention dose. CONCLUSION: PA interventions modestly improved PA behavior among community-dwelling older adults. Moderator analyses findings identified effective PA intervention characteristics. Future PA intervention research could test and compare combinations of behavioral strategies more effective in improving PA behavior. The specific dose of PA intervention needed to change PA behavior in this population is not yet clear. Future studies might also consider comparing the effectiveness of specific PA intervention doses.

### **PARTICIPATION LIMITATIONS AND THEIR IMPACT ON THE HEALTH OF OLDER PEOPLE WITH FUNCTIONAL VISION IMPAIRMENT**

B.A. Steinman, J.E. Mutchler, *Center for Social and Demographic Research on Aging, University of Massachusetts, Boston, Boston, Massachusetts*

Previous research has linked both vision impairment and participation restrictions with relatively poorer health. Such studies reiterate the importance of remaining engaged with life via participation in community-based activities to achieve optimal health in old age. Nevertheless, older adults with vision impairments are often at a distinct disadvantage with respect to remaining actively engaged in their communities, and this disadvantage may play a role in explaining health disparities often reported in this population. The purpose of this study is to assess whether effects of functional vision impairment on new physician-diagnosed chronic disease is mediated by participation restrictions. We analyzed data from two rounds of the National Health and Aging Trends Study (NHATS; 2011-2012), an annual longitudinal survey of Medicare beneficiaries, ages 65 and older. When weighted, the baseline sample of NHATS ( $N = 8245$ ) is nationally (U.S.) representative of the Medicare population. Key analytical variables in our analyses included functional vision status, participation restrictions, physician-diagnosed chronic conditions, as well as covariates such as household activity limitations, functional impairments, environmental factors, and demographic control variables. We conducted a series of ordinary least squares regression analyses to test mediation of the effect of self-reported vision status on new diagnosed chronic disease, via measures of participation. Limited evidence was found for a partially mediating effect of participation on vision impairment with respect to chronic conditions. Implications of these findings are discussed including the need for prioritizing improved strategies for facilitating community inclusion of older adults with poor vision as a preventive measure against disease.

### **PROMOTING PHYSICAL ACTIVITY AMONGST OLDER ADULTS: WHAT IF WE ASKED THEM WHAT THEY WANT?**

E.R. Boulton<sup>1</sup>, M. Horne<sup>2</sup>, C. Todd<sup>1</sup>, *1. Nursing, Midwifery & Social Work, University of Manchester, Manchester, United Kingdom, 2. University of Bradford, Bradford, United Kingdom*

A two-phase PhD research project is presented, considering the effects of involving older adults in developing and promoting physical activity interventions. In Phase One, 11 focus groups and 12 interviews were carried out with 61 community-dwelling older adults in the north of England. Participants were asked what attracted them to participate in physical activities, or what might do so. Core results include some

essential characteristics and preconditions for engagement in physical activities. The top six ingredients for success were that activities must be enjoyable; sociable; affordable; flexible, seasonal and have pleasant surroundings. The health benefits of physical activity held far less importance for participants. In Phase Two, these results were used in a participatory research study to promote existing community-based physical activity sessions. Six older adults running community groups, 2 community development workers and the researcher collaborated to identify problems and develop 17 actions. Visually appealing promotional literature was developed, which focused on enjoyment, fun, social opportunities, affordability and easy access. Residential properties where people over 50 years were known to live, GP surgeries and chemists were targeted to receive leaflets and posters. Follow up questionnaires were distributed to the residential properties to ascertain views on the activities promoted. Results included an increase in attendance at activity sessions although feedback indicated that people were attracted to specific activities, rather than to sessions defined by age. The 'Over 50s' label deterred some older adults. Men were not attracted to the sessions on offer and further research with this demographic is required.

### **PORTUGUESE VALIDATION OF THE YPAS – A PHYSICAL ACTIVITY SURVEY FOR OLDER PEOPLE**

M. Machado<sup>1,2</sup>, C. Tavares<sup>2</sup>, F. Carmide<sup>1,2</sup>, H. André<sup>1,2</sup>, V. Moniz-Pereira<sup>1,2</sup>, F. Ramalho<sup>2</sup>, A. Veloso<sup>1,2</sup>, *1. Universidade de Lisboa, Faculdade de Motricidade Humana, Lisboa, Portugal, 2. Neuromechanics Research Group, CIPER, LBMF, Lisboa, Portugal*

PURPOSE: To translate and adapt the YPAS (Dipietro, 1993) to Portuguese cultural and linguistic issues in order to assess the level of physical activity in a European country with one of the world highest percentage of senior citizens. METHODS: After the author's permission, the translation was performed in accordance with WHO guidelines. The reconciliation version was tested and solved by an expert committee in health and sports sciences. The study included 471 older adults (70.3% women;  $74.9 \pm 6.5$  years), and covers the following steps: (1) Content Validation – Criterion Validity through Spearman's rho, with a cross-reference standard, by accelerometry with 96 subjects (64.6% women;  $75.2 \pm 7.1$  years); (2) Reliability – (2.1) Internal Consistency through Cronback's  $\alpha$  with 471 subjects (70.3% women;  $74.9 \pm 6.5$  years), (2.2) Temporal Stability through ICC involving 30 subjects (43.3% women;  $71.9 \pm 3.9$  years); (3) Responsiveness – through Standardized Effect Sized including 39 subjects (87.2% women;  $71.9 \pm 5.2$  years 1st moment and,  $72.7 \pm 6.2$  years, after 5 months of an aquatic exercise program). RESULTS: The Portuguese YPAS version was perceived as suitable and relevant, showing moderate levels for all psychometric parameters, i.e. significant correlations ( $\rho$ ) were found for all variables with accelerometer data ranging from 0.201 to 0.452 ( $p < 0.001$ ). Reliability was guaranteed with  $\alpha \geq 0.835$  value of Internal consistency and temporal stability value of  $ICC > 0.75$ . Responsiveness was satisfactory:  $d \geq 0.20$  in three Physical Activity dimensions and  $d \geq 0.80$  in the other two. CONCLUSION: The Portuguese YPAS version seems a valid instrument to assess the physical activity patterns of elderly Portuguese both in the research and social interventions field.

## MODELS OF CARE

**COST OUTCOMES OF PARTNERS IN DEMENTIA CARE**

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We examined whether “Partners in Dementia Care” (PDC), a telephone-based care-coordination and support-service for veterans with dementia and their caregivers that is delivered through partnerships between Veterans Administration (VA) medical centers and local Alzheimer’s Association (AA) chapters, reduced direct VA health care costs compared to usual care. Veterans (N=434) and their caregivers were recruited over a 30 month period from VA medical centers (two intervention [N=269] and three comparison sites [N=165]). We tested for differences in total VA health care costs, including hospital, emergency department, nursing home, outpatient, and pharmacy costs, as well as program costs for intervention participants. Covariates included caregiver reports of veterans’ cognitive impairment, behavior problems, and personal care dependencies. We used OLS regression to model change in log total cost over a one-year follow-up period post-baseline. Intervention participants showed higher VHA costs than comparison participants before and after the intervention, but did not differ significantly in change in log-costs from the pre- to post-baseline periods. Pre-baseline log cost ( $p \leq .001$ ), baseline cognitive impairment ( $p \leq .01$ ), the number of personal care dependencies ( $p \leq .01$ ), and VA service priority ( $p \leq .01$ ) all predicted change in log total cost. Prior work has shown that PDC addresses unmet needs and improves psychosocial outcomes and satisfaction with care. These analyses show that it meets veterans’ needs without increasing VHA health care costs. PDC addresses the care-coordination priority area in the National Plan to Address Alzheimer’s Disease, offering a low-cost, structured, protocol-driven, evidence-based method for effectively delivering care coordination.

**COLLABORATION BETWEEN VA AND INDIAN HEALTH SERVICE: NEW MODELS OF HOME BASED PRIMARY CARE**

B. Kramer<sup>1,2</sup>, B. Creekmur<sup>1</sup>, S. Cote<sup>1</sup>, M.L. Katz<sup>1</sup>, B.D. Kraus<sup>1</sup>, 1. *VA Greater Los Angeles Healthcare System, Los Angeles, California*, 2. *David Geffen School of Medicine at UCLA, Los Angeles, California*

Background: Veteran Health Administration (VA) funded 14 VA medical centers (VAMC) to deliver Home Based Primary Care (HBPC) on American Indian reservations in collaboration with Indian Health Service (IHS). Our study aimed to identify emerging models of collaboration or co-management and to identify barriers and facilitators to successful implementation. Methods: A mixed methods design was used to identify program- and organizational-level characteristics. Key respondent interviews were conducted using a semi-structured interview guide informed by the Consolidated Framework for Implementation Research. Transcribed interviews were analyzed using summaries and matrices for cross-case comparisons. Secondary data included the organizational culture-items from the VA All Employee Survey, that were analyzed using exact logistic regression and publicly available descriptions of VA, IHS and Tribe’s medical facilities that were sum-

marized into site abstracts. Results: All VAMCs were represented by key respondents (n=37). In addition to the traditional interdisciplinary HBPC program, non-traditional models emerged: 1) streamlined VA staffing and 2) VA-IHS partnership. VA organizational culture differs significantly between traditional and non-traditional models with higher entrepreneurial and team subscale ratings for the traditional programs. Identified challenges included distrust in federal institutions by individuals and Tribes, and difficulties with efficient clinical coordination in the absence of shared medical records. Successful implementation was often facilitated by active involvement of a VA leader or VA staff who were experienced in working in native communities. Conclusion: These evolving collaborations present new models for delivery of patient-centered care in rural areas as well as opportunities to coordinate clinical care between federal healthcare organizations.

**EVALUATION OF A NURSE-LED SPECIALIST DEPARTMENT FOR PALLIATIVE HOME CARE**

L.B. Imhof, V. Waldboth, S. Kipfer, *Institute of Nursing, Zurich University of Applied Sciences, Winterthur, Switzerland*

Due to complex conditions of palliative patients dwelling at home community nursing services often lack resources and skills to meet patients’ needs. Therefore, a specialist department led by Clinical Nurse Specialists (CNS) for palliative care was implemented. In order to evaluate these services a mixed methods study was pursued. Semi-structured interviews were conducted with staff, physicians and family members and analyzed with a grounded theory approach. (n=41). In addition, a questionnaire assessing quality of interdisciplinary collaboration was distributed. The nurse-led specialist department has been identified as a competence center with low-threshold access for patients, families and professionals. Referrals to the nurse-led service occurred when the patients and families insisted to dwell at home despite of deteriorating end-of life conditions. In addition to providing services to the patients and families at home, the CNS had leadership and case management roles, and collaborated closely with physicians, community nurses, and pharmacists. The coordination by the CNS led to feelings of empowerment in all parties involved. Family members felt less anxious and more competent in caregiving due to the collaboration with the CNS. Physicians and community nurses felt confident to provide best care to patients due to the coordination of the CNS. All stressed that continuity of care had improved, that emergency situations had dropped and that there were less unplanned hospital admissions. The study showed that a nurse-led specialist department for palliative care can benefit patients and families, but also health care professionals. The pivotal components of such services will be discussed.

**EXERCISE PROGRAM FOR CHRONICALLY ILL AND MOBILITY-LIMITED ELDERLY IN PRIMARY HEALTH CARE: AN RCT**

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**Background** Chronically ill and mobility-limited elderly are difficult to reach for exercise interventions when they live in their own homes. A pilot study showed good feasibility of a home-based exercise program that is delivered to this target group through cooperation between general practitioners (GPs) and exercise therapists. The

present study evaluated effects of this program on physical function, physical activity, quality of life, fall-related and exercise self-efficacy. **Methods** Two-hundred-nine chronically ill and mobility-limited patients  $\geq 70$  years were recruited for an RCT (HOMEfit; Registration ISRCTN17727272) in 15 GP practices (2011-2012). The experimental intervention (duration 12 weeks) – a multidimensional home-based exercise program integrating behavioral strategies – was delivered by an exercise therapist in individual counseling sessions at the GP’s practice and on the telephone. The control intervention focused on promoting light-intensity activities of daily life. Primary outcome was functional lower body strength (chair rise test). Secondary outcomes were physical function (motor tests), physical activity (step count), health-related quality of life (SF-8), fall-related (FES-I) and exercise self-efficacy (SSA-Scale). Post-interventional differences between the groups were tested with ANCOVA (adjusted for baseline value and GP practice; level of significance  $p \leq 0.05$ ). **Results** Participants were aged  $80 \pm 5$  years (74% female; 64% with  $\geq 4$  chronic diseases; 54% using a walking aid). The drop-out rate was 22% in the experimental and 14% in the control group. Intention-to-treat analysis showed no significant differences between the groups. **Conclusions** The program was ineffective in the target population. Possibilities to improve the concept will have to be evaluated. (*Research cooperation PRISCUS, Funding: BMBF 01ET1005A*)

#### INFORMAL CAREGIVERS’ ATTITUDES TOWARDS NEW KITCHEN AND PERSONAL CARE TECHNOLOGY TO SUPPORT CAREGIVING

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We report results of a survey designed to assess informal caregiver likelihood of use and perceived benefits/barriers of emerging kitchen and personal care technologies to aid caregiving. A national web panel of 512 adults (18 to 64) caring for parents (79%), spouses (10%) or other relatives (11%) with a variety of health conditions participated. Multivariate ordered logistic regression models for likelihood of use were examined with the following predictors: socio-demographics, caregiving context variables, general technology attitudes/usage, and use of currently available technologies for caregiving. Caregivers’ were generally accepting of both new kitchen (27% very likely to use, 26% somewhat likely) and personal care (26%, 28%) technologies to aid caregiving. Multivariate models showed that caregivers with the following characteristics had higher likelihood of use for new kitchen technology: African-American, Hispanic, age 18 to 44 (vs. 55-64), more positive general technology attitudes, use more everyday technologies, use the internet “often” to find caregiving information, and currently using more available technology for caregiving. Significant predictors of likelihood of use of new personal care technology included age 18 to 54, caregiver lives with care recipient, more positive general technology attitudes, and use the internet “often” to find caregiving information. Follow-up analyses of perceived benefits/barriers of these technologies showed that caregivers with more positive general technology attitudes, and those who are currently using more caregiving technologies were more likely to perceive both benefits and barriers, suggesting that in addition to being more receptive to emerging technologies, they may also hold more complex attitudes towards them.

## SESSION 1585 (SYMPOSIUM)

#### SAFETY AND THE PERCEIVED NEED FOR 24-HOUR CARE ARE POWERFUL DETERRENTS TO ENCOURAGING COMMUNITY CARE: RE-ENVISIONING AND REINFORCING A REASONABLE SAFETY STANDARD

**Chair:** R.A. Kane, *Div Health Policy & Management, University of Minnesota School of Public Health, Minneapolis, Minnesota*

Qualitative interviews are replete with references to the need for 24-hour care as a barrier to affordable, safe discharge unless family or friends are continuously regularly. Different informants have different thresholds for what they consider safe and different triggers to action in the face of what they consider risky. Some study participants believe that the ultimate choice is the resident’s and professionals should shore up the resident’s preferred plan; others believe they have professional responsibility to advise consumers that if they leave against medical advice (AMA), adult protective services will be notified and they will receive no further assistance or even discharge orders. The AMA discharge was sometimes used as a “club” to change the resident’s mind. Possible correctives for this stance would include team discharge decisions to cushion sense of responsibility, further training and discussion of what 24-hour care actually means, and deeper understanding that safety is an unachievable ideal even in nursing homes, and that reasonable safety is what is required under the Minnesota Vulnerable Adults act.

#### RETURNING TO THE COMMUNITY FROM NURSING HOMES: NEW PARTNERSHIPS, ROLES, CHALLENGES AND POSSIBILITIES IDENTIFIED IN QUALITATIVE RESEARCH

R.A. Kane, S.C. Reinhard, *Div Health Policy & Management, University of Minnesota School of Public Health, Minneapolis, Minnesota*

The Return to the Community Initiative (RTCI) offers Minnesota nursing home (NH) residents assistance in planning community discharge and follow-up thereafter. RTCI is staffed by Community Living Specialists (CLS’s) supported by the Senior LinkAge Line specialists in each Area Agency on Aging. RTCI is targeted at non-Medicaid residents with potential and desire for discharge who have been residents for 60 days, but accepts referrals of newly admitted residents who present discharge challenges. In Minnesota, most nursing homes are staffed with one or more qualified social workers, and many have developed their own innovative teams and processes for discharge, presenting a best-case scenario for affecting community discharges because of the internal capability of NHs and the investment in community resources, including RTCI. This Symposium provides insights from qualitative interviews of CLS’s, nursing home discharge personnel, and consumers and their families related to: barriers and obstacles to discharge for privately paying NH residents; partnerships forged between NH and community personnel and perceptions of “added value” of the CLS; and some of the issues perceived by family and resident decision-makers. Most NH residents are admitted from hospitals, and informants report that residents are more complex and unstable in their medical conditions than formerly, resulting in longer “short-term stays.” Determining what constitutes reasonable safety on discharge, and what discharge “against-medical-advice” means in a NH context have emerged as themes. Discussant, Susan Reinhard, will identify implications, considering best practices in community-based long-term supportive services, and inter-state variation that might affect replication.



## **FAMILY MATTERS IN NH DISCHARGE: PRACTICES THAT COULD SUPPORT FAMILY IN A DECISION TO RETURN TO THE COMMUNITY**

T.P. Shippee, *Health Policy and Management, University of Minnesota, 420 Delaware St. SE, MMC 729, Minnesota*

This study examines the role of family members on the process of returning nursing home (NH) residents to the community. Specifically, this paper elucidates how family members influence the decision-making process, and identifies cases of successful and unsuccessful transitions. Data for the study come from interview cases described by the community living specialists (CLS), nursing home social workers, and family member interviews on the process of discharging NH residents in Minnesota to the community. Quite often, family members decline the assistance of the CLS because of practical concerns about their relative's safety. The findings identify issues of particular salience to families that make them reluctant to encourage community care, and explore what might lead to a different decision. Family perception of safety is of particular salience. This study's findings provide a better understanding of NH discharge process in the context of family decision-making and could guide future interventions

## **THE CLS, THE NH STAFF AND THE NEW WORLD OF NH DISCHARGE: NEW PARTNERSHIPS ADD VALUE BUT BARRIERS REMAIN**

K. Abrahamson<sup>1,2</sup>, R.A. Kane<sup>3</sup>, T.P. Shippee<sup>3</sup>, *1. School of Nursing, Purdue University, West Lafayette, Indiana, 2. Purdue University Center for Aging and the Life Course, West Lafayette, Indiana, 3. University of Minnesota, Minneapolis, Minnesota*

Based on qualitative interviews with CLS's and NH home discharge personnel, this paper identifies the added value of the CLS and the continued barriers to discharge. CLS's and NH social workers perceive the challenges similarly: insufficient financial resources to pay for home health agency assistance, lack of available support from family or friends, needs in some cases for specialized housing or mental health resources, and issues in rural areas, including transportation gaps. Both CLS's and NH social workers give weight to resident preferences yet both refer to residents as "unrealistic." Despite barriers, the paper also reports positive perceptions that the CLS and related LinkAge Line services provide reassurance to residents and families in discharge, and make NH personnel feel more confident in encouraging a discharge.

## **SESSION 1590 (SYMPOSIUM)**

### **CREATING AGE-FRIENDLY SERVICES: EXPLORING NEEDS AND PREFERENCES IN A DIVERSE, LOW INCOME COMMUNITY**

**Chair:** L. Simon-Rusinowitz, *Health Services Administration, University of Maryland, College Park, Maryland*

National efforts have expanded publically-funded community services; however, the majority of public funding for long-term services and supports (LTSS) for elders and adults with physical disabilities supports nursing homes. Maryland has lagged behind many states in shifting LTSS spending to community options. Thus, Maryland legislators passed the 2011 Maryland Communities for a Lifetime Act, which includes services such as LTSS, housing, transportation, health care, and civic engagement. We know little about the feasibility of implementing age-friendly services in a racially and economically diverse community. This pilot project explored community needs and preferences in designing age-friendly services in one such Maryland County. Highlighting the importance of communicating with community members, the project comprised focus groups with key stakeholders, elderly residents of two low-income senior buildings, and family members. We also reviewed existing county data. Findings will inform a proposal seeking funds to design and evaluate age-friendly county services.

## **IDENTIFYING COMMUNICATION AND INFORMATIONAL NEEDS IN AN AGING COMMUNITY**

K. Black, *College of Arts and Sciences, University of South Florida at Sarasota-Manatee, Sarasota, Florida*

Communities across the nation are currently grappling with unprecedented increases among their older adult populations, and bracing for even greater growth in the decades ahead. Conducted in a Southeastern region of the United States in which nearly one-third of the residents are age 65 and older, this study utilized multiple methods of qualitative inquiry to explore older adults' perceptions about aging in community. Communication and information represented a core theme identified in the research. Sub-themes include the following: (1) Limited knowledge about supports needed to age in place; (2) Interest in personal input and peer to peer sharing regarding programs, services, and activities; (3) Increasing roles of older adult peers as navigators of information relevant to late life circumstances; (4) Mixed experiences with technology as a means to communicate; and (5) Variable informational outreach approaches needed to enhance aging in community for all residents. Implications for enhancing communication and informational strategies among older adults aging in community are discussed.

## **GETTING THE WORD OUT: ENHANCING PLANNING IN AGE-FRIENDLY COMMUNITIES**

D.B. Bradley, K. Fitzgerald, *Center for Gerontology, Western Kentucky University, Bowling Green, Kentucky*

Many communities are responding to population aging by asking how they can make their cities more "age-friendly." This is an important research question which involves collaborative communication strategies. An aging population presents opportunities for communities because many older adults are committed, long-time residents who contribute their time, energy and assets. One of the most challenging things that research teams confront is how information is both gathered from and provided to seniors so that they may be able to participate fully. This symposium explores four perspectives of collaborative communication and its role in the planning of age-friendly communities. The first paper examines strategies to involve volunteers in a rural small town age-friendly research project primarily through the eyes of senior participants. Next, insights from Portland, Oregon's, multi-year research, development, and beginning implementation of an action plan to improve the city's age friendliness are presented. Then a paper reports on the communication and informational needs identified in an exploratory study conducted in a Southeastern region in which nearly a third of the residents are age 65 and older. Lastly, the planning experiences in a low-income, racially/ethnically diverse Maryland community highlight the importance of communication in initial steps implementing a new state policy. Supporting an age-friendly aging-in-community environment is very geographically-centric. While each research study has identified different communication challenges, the outcomes suggest that best practices could be shared more widely. The symposium concludes with a discussion about the opportunities to connect seniors with their communities from a global perspective.

## **STRATEGIES FOR KEEPING COMMUNITY PARTNERS CONNECTED IN AN AGE-FRIENDLY COMMUNITY**

D.B. Bradley, M. Hunt, H.K. Ruggles, *Center for Gerontology, Western Kentucky University, Bowling Green, Kentucky*

Bowling Green, KY, is implementing the World Health Organization Age-Friendly City framework with particular attention to developing strategies to increase communication. The primary goal of its Age Friendly Bowling Green (AFBG) - The Portal project, is to capture and disseminate knowledge relevant to aging community dwellers. As part of a stakeholder analysis, the role of volunteers in designing and implementing the Portal was examined. The survey, administered to representatives of city government, sixty nonprofit agencies, two hospital-based organizations and community members, many of which are

over 65 years, included open and closed-ended items. Several themes related to volunteer expectations were identified including attention to recruiting and rewarding volunteers. Interestingly, respondents who identified themselves as “age 60 and older” were more likely to strongly identify with the stated goals of the project. The paper concludes with implications for using senior volunteers to enhance planning for age-friendly communities.

#### **CREATING A MORE AGE-FRIENDLY PORTLAND: APPROACHES, SUCCESSES, AND CHALLENGES**

M.B. Neal, A. DeLaTorre, *Institute on Aging, Portland State University, Portland, Oregon*

Communities around the globe have begun recognizing the enormous implications of population aging for public policy, business, health care, technology, and urban planning. This presentation describes the approaches taken in Portland, Oregon, to plan and implement changes aimed at creating a more age-friendly community. In 2006-2007, Portland was one of 33 cities in 22 countries to participate in the World Health Organization’s Global Age-Friendly Cities project. Building on the study’s findings and relationships developed and expanded, as well as policy windows (Kingdon, 1984) that opened to allow an age-friendly agenda to be set, university researchers acted as policy entrepreneurs and disseminators of empirical findings in collaboration with members of an advisory council composed of government and community partners, including older adults. The results of consultations with older adults via instant polling, an action plan approved in 2013 and currently being implemented, and successes and challenges to date are also described.

### **SESSION 1595 (SYMPOSIUM)**

#### **NCI-AD: EXPANDING THE NATIONAL CORE INDICATORS FOR AGING AND DISABILITY SERVICES**

**Chair:** D. Hiersteiner, *Human Services Research Institute, Cambridge, Massachusetts*

National Core Indicators: Aging and Disability (NCI-AD) Project grew out of concern about the limited information available to states about the impact of public LTSS services on QOL of older adults and adults with disabilities. Some data are available about the quantity of and satisfaction with public LTSS services, yet almost nothing is known about the impact of these services on recipients’ lives. National Association of States United on Aging and Disabilities (NASUAD) partnered with Human Services Research Institute (HSRI) and National Association of State Directors of Developmental Disabilities Services (NASDDDS) to create a survey to measure outcomes of state aging and disabilities services. It will be used by state agencies to compare their performance with other states’ and to allow national benchmarking. NCI-AD has recently entered the pilot stage. This symposium will spotlight its’ development, goals, implementation and utility. Presentations will: 1) Discuss the need for the survey and the project’s origins. 2) Outline the survey design and development process to date. 3) Profile a state involved with survey development and the pilot process, why they decided to be involved with the project, how they plan to use the data and outcomes, and the role the survey will play in policy-making. 4) Look at preliminary data and discuss the next steps for the project.

#### **NCI-AD: IDENTIFYING THE NEED FOR DATA ON PUBLIC LTSS SERVICES**

V.J. Bradley<sup>2</sup>, M. Roherty<sup>1</sup>, *1. National Association of States United on Aging and Disability, Washington, DC, District of Columbia, 2. Human Services Research Institute, Cambridge, Massachusetts*

The NCI-AD survey was conceived to address a dearth of information on system performance of publicly-funded Long Term Services and Supports for older adults and adults with disabilities. NASUAD and member states agreed that it was necessary to develop a survey

that could be used to demonstrate the performance of state services in terms of their impact on recipients’ quality of life. This presentation will discuss the conception of the NCI-AD project. Specifically, how the need for data was identified, how the collaboration between HSRI, NASDDDS and NASUAD was conceived, how states were engaged and the conceived uses for resulting data. This presentation will also discuss the ongoing support of federal agencies such as the Administration for Community Living. In addition, this presentation will look at how this tool differs from existing measures of service quality and quality-of-life targeted at this population.

#### **NCI-AD: SURVEY DEVELOPMENT**

J. Bershadsky<sup>1</sup>, K. Walter<sup>2</sup>, D. Hiersteiner<sup>1</sup>, *1. Human Services Research Institute, Cambridge, Massachusetts, 2. National Association of States United on Aging and Disability, Washington DC, District of Columbia*

Once the need for data on public aging and disabilities service system performance was identified and the collaboration between NASUAD, HSRI and NASDDDS was begun, development of the survey tool commenced. Survey tool development was a complex process that involved many steps. This presentation will detail the process by which the NCI-AD tool was developed. The process started with research into existing measures of system performance, followed by several meetings of the NASUAD steering committee to discuss potential performance measures and indicators. There were several iterations of the draft survey tool, each taking into account the edits and suggestions of various stakeholder groups, administrators, policy-makers and academics. The development process also further engaged stakeholders through the administration of focus groups and field testing. This presentation will also discuss the pilot process and challenges encountered in the roll-out of the pilot.

#### **NCI-AD: A STATE AGENCY PERSPECTIVE**

K. Benson<sup>1</sup>, D. Clifford<sup>2</sup>, *1. Minnesota Board on Aging, St. Paul, Minnesota, 2. Ohio Department on Aging, Columbus, Ohio*

Three states, Georgia, Minnesota and Ohio, agreed to administer the NCI-AD survey in its pilot phase. All three of these states recognized the need for performance data on public services and expressed a desire to aid in the development and testing of such a tool. This section of the symposium will be presented by a representative from one of the three states that agreed to pilot the tool. The state representative will discuss the value of such a tool to her state, why the state decided to pilot the tool, how the approval to pilot the tool was secured, and how the state plans to use the data. In addition, the representative will outline the current policy context in the state and its impact on the decision to pilot and participate in the future of the project.

#### **NCI-AD: RESULTS FROM THE PILOT AND NEXT STEPS**

J. Bershadsky<sup>1</sup>, K. Walter<sup>2</sup>, D. Hiersteiner<sup>1</sup>, *1. Human Services Research Institute, Cambridge, Massachusetts, 2. National Association of States United on Aging and Disability, Washington DC, District of Columbia*

It is anticipated that as of November 2014, the NCI-AD team will have completed the pilot data collection of the Survey data and will have preliminary results from the pilot. This section of the symposium will present preliminary data resulting from the pilot. Data on the three participating pilot states will be presented, as well as overall results. Potential methodology for risk-adjustment will be discussed. In addition, this presentation will discuss elements of the pilot that went well, challenges faced in the pilot of the tool, and lessons learned in the pilot process. To conclude the symposium, this presentation will also discuss the next steps for this project, including the larger-scale rollout of the NCI-AD survey tool and its timeline, as well as the planned development of family/caregiver indicators to assess the impact of publicly-funded services on caregivers.

## SESSION 1600 (SYMPOSIUM)

### THE SHIFTING POLITICAL CONSTRUCTION OF OLD AGE AND ITS CONSEQUENCES

**Chair:** R. Hudson, *Social Work, Boston Univ, Boston, Massachusetts*

At one time a marginal presence in American politics, older adults have more recently assumed a significant electoral presence throughout the nation and an imposing organizational standing in Washington, D.C. Public policies directed toward seniors, once of modest scope and size, today cover a range of late-life contingencies and constitute upwards one-third of federal government spending. Indeed, policy-generated improvements in the well-being of older adults stand as America's foremost social policy success. Yet, that very success, in conjunction with broader economic and political developments, is at once a cause for both celebration and concern, presenting unprecedented challenges to the aging policy enterprise. Through use of a "typology of target populations," this symposium frames how the political construction of older adults has changed over the course of several decades. Specifically, it identifies three stages – "dependent," "advantaged," "contender" – that have marked the political evolution of older Americans over this time period. The individual presentations investigate both the consequences and controversies associated with this evolution. Robert Hudson's presentation sets forth the basic typology and applies it to the populations, politics, and policies of aging. Fay Lomax Cook documents the growing political presence of older Americans and a growing divide between popular and elite opinion about older Americans' needs and standing. Judith Gonyea presents cautionary data on how misleading such overarching constructions may be. Larry Polivka assesses how new understandings of elders' place in politics is playing out at the state and local level.

### THE POLITICAL CONSTRUCTION OF SENIORS OVER TIME: A MOVEMENT IN THREE ACTS

R. Hudson, *Social Work, Boston Univ, Boston, Massachusetts*

Using a typology of target populations organized by social construction and political power, this presentation suggests that the political standing of older Americans has evolved through three stages since the beginning of the modern welfare state: first, as Dependents (positively viewed with little political power); second, as Advantaged (positively viewed with considerable political power), and, third, as Contenders (negatively viewed with considerable political power). This shifting balance of perceptions and resources provides a useful framework for understanding the policy challenges facing today and tomorrow's older population.

### TWO FACES OF THE POLITICAL PRESENCE OF AMERICA'S SENIORS: PUBLIC SUPPORT AND SENIOR PARTICIPATION

F.L. Cook, *Institute for Policy Research, Northwestern University, Evanston, Illinois*

To understand seniors' presence on the political stage today and the extent to which they could be characterized as "contenders," this paper presents two perspectives. First, using NORC's GSS data over time, we find that the vast majority of the public supports Social Security. However, wealthy Americans have become less supportive recently, a troubling finding since wealthy Americans have demonstrably high levels of political influence. Second, using NES data on seniors' political participation beyond voting from the 1980s to 2012, we find that seniors' political participation has increased since the mid-1980s both in comparison to prior levels and in comparison to younger age groups. These findings portray seniors having broad support but support that bears careful monitoring for cracks that seem to be beginning to develop. At the same time, since seniors' political participation is increasing, they have the potential to be ever more active spokesmen on their behalf.

### THE WEAKENING POLITICAL LEGITIMACY OF SENIORS: CONSEQUENCES FOR AGING BOOMERS

J.G. Gonyea, *Social Work, Boston Univ, Boston, Massachusetts*

Throughout the past two decades, messages in the media have both reflected and fueled fears about the public costs of an increasingly older society. It is often emphasized that the aging baby boomer generation will place unprecedented pressures on our entitlement programs. Yet, it is not only their sheer numbers which have revived debate concerning the desirability of public services and benefits based exclusively or primarily on old-age status. The public portrayal of baby boomers as an affluent, self-absorbed, generation with a strong sense of entitlement has also weakened their political legitimacy. As this discussion makes clear, however, baby boomers are not a monolithic group. Indeed, rising economic inequality in this cohort may lead to a greater economic bifurcation of America's seniors into two very different worlds of aging. We explore the consequences of the fracturing of the long-standing political singularity of the old for the most vulnerable baby boomers.

### ARE THE ELDERLY SLIPPING FROM ADVANTAGED TO CONTENDER STATUS IN FLORIDA?

L. Polivka, *Claude Pepper Center, Florida State University, Tallahassee, Florida*

Over the last twenty years the elderly population in Florida has slipped from advantaged to contender status as defined by Hudson and Gonyea (2012). Until the early 1990s, policymakers, on a bipartisan basis, identified Medicaid and general revenue funded programs for the elderly as high priorities. These nursing home and community-based long-term care and quality of life programs were comparatively well funded through the early 1990s; however, by the mid-1990s, funding for these programs began to decline and has never returned to the same levels achieved in the 1970s and 1980s. The two worlds of aging are increasingly evident in Florida with the powerful 1 percent supporting low taxes at virtually all costs, with the bottom 50 percent facing lengthening wait lists for HCB services. The emergent "contender" construction of seniors has put lower income elders at great risk.

## SESSION 1605 (SYMPOSIUM)

### EXAMINING IMPACT OF CHANGING ENVIRONMENTS ON HEALTH AND PSYCHOLOGICAL WELL-BEING

**Chair:** J. Norstrand, *Social Work, Boston College, Newton, Massachusetts*

**Co-Chair:** A. Glicksman, *Philadelphia Corporation for Aging, Philadelphia, Pennsylvania*

**Discussant:** H. Wahl, *Heidelberg University, Heidelberg, Germany*

This symposium examines associations between changes in the environment and health. Research on the impact of the social and physical environment on the health has primarily looked at static environments. Less is known about how changes in the environment may be associated with health and psychological well-being. Examining environmental changes may enhance our ability to work with policy planners in designing environmental modifications that will bring the maximum positive effect on the health of older adults. This symposium presents research from six countries focused on change in the environment (i.e. social, physical, economic, policy) in terms of physical and psychological well-being. Gong & Kendrick, based in Australia, describe the health changes over time in relation to economic and political changes. Hunter, based in USA, evaluates environmental and policy change in the areas of pedestrian safety, walkability and wayfinding in relation to health and health-related behavior. Nyqvist, based in Finland, examines change in residential location in terms of loneliness among the very old. Slaug, based in Sweden, examines policies to improve housing accessibility in terms of activities of daily living (ADL), usage of home services and related costs. Finally, Wu, based in UK, describes both micro (area deprivation) and macro (societal) level changes in the environment in

terms of health among elderly from UK and China, respectively. It is hoped these diverse papers will provide opportunity for an in-depth discussion of the role of changes in the environment, along multiple dimensions, is important for health.

#### **IMPACT OF CHANGING ENVIRONMENT ON HEALTH: HEALTH OUTCOMES AND SOCIAL CHANGE AMONG AGEING AUSTRALIANS**

C.H. Gong<sup>1,2</sup>, H. Kendig<sup>1,2</sup>, 1. *Centre of Research of Ageing Health and Wellbeing, Australian National University, Canberra, Australian Capital Territory, Australia*, 2. *ARC Centre of Excellence in Population Ageing Research (CEPAR), Canberra, Australian Capital Territory, Australia*

Of the many 'environmental' influences on the health of older people, one of the most important concerns is the impact of social, economic and policy change. This paper examines health outcomes, as indicated by both self-assessed health and subjective well-being, among Australians aged 40 years and over from 2001 to 2011. The information source is the Household, Income and Labour Dynamics in Australia (HILDA) Survey. This household-based longitudinal data enables us to conduct a 'cross-sequential' and "age-cohort" analysis of how health outcomes have changed for individuals as they grew older in an Australia that was changing in terms of economic growth, the shock of the Global Financial Crisis, increasing policy and public concern for the costs of population ageing, and two changes of government with related policy redirection. The social determinants of health perspective, with a focus on disadvantaged groups and age-specific effects -will be applied to interpret the findings

#### **THE PREVALENCE OF LONELINESS IN THE VERY OLD: A FOCUS ON CHANGES OVER TIME**

F. Nyqvist<sup>1</sup>, M. Cattan<sup>2</sup>, Y. Gustafson<sup>3</sup>, 1. *National Institute for Health and Welfare (THL), Mental Health Promotion Unit, Vaasa, Finland*, 2. *Northumbria University, Faculty of Health and Life Sciences, Newcastle upon Tyne, United Kingdom*, 3. *Umeå University, Department of Geriatric Medicine, Umeå, Sweden*

Although researchers have provided evidence that social, functional and mental resources are linked to loneliness, few studies have focused on the very old, or people aged 85 and above. In this study we assess whether the prevalence of loneliness in a sample of very old people changes over time. We compare the levels of loneliness in two population-based cross-sectional samples of very old people in northern Sweden in 2000-2002 and 2005-2007. Furthermore, we assess the protective factors of loneliness such as social, functional and mental resources. The prevalence of those reporting frequent loneliness increased slightly between 2000-02 and 2005-07 in the total sample. However, the increase in loneliness was significant only among ≥95 year olds. Changes in loneliness among ≥95 year olds seem to be related to selected social, functional and mental resources.

#### **ASSESSING ENVIRONMENTAL CHANGE: CHALLENGES, OPPORTUNITIES AND STRATEGIES**

R.H. Hunter<sup>1</sup>, D.X. Marquez<sup>2</sup>, A. Perez<sup>3</sup>, A. Graces<sup>4</sup>, 1. *UNC Center for Health Promotion and Disease Prevention, Chapel Hill, North Carolina*, 2. *University of Illinois, Chicago, Chicago, Illinois*, 3. *Arizona State University, Phoenix, Arizona*, 4. *Urban Health Solutions, Miami, Florida*

Environmental and policy change is typically complex and often costly. Accordingly, we must achieve a better understanding the impact of change on older adult health and health-related behavior so that the best decisions can be made about resource allocation. Research to date points to conditions that favor healthy aging, but assessing the impact of neighborhood, community and/or policy change has proven to be challenging, making it difficult to build the necessary evidence base for specific changes. This presentation builds upon the work of the

CDC-Healthy Aging Research Network and partner communities to plan, implement and evaluate environmental and policy change in the areas of pedestrian safety, walkability and wayfinding. Drawing upon lessons learned in key initiatives and selected communities, we highlight the importance of cross-sector collaboration, identify specific assessment tools, such as the CDC-HAN Environmental Assessment Tool, and explore strategies and criteria for assessment decisions and implementation.

#### **IMPROVED HOUSING ACCESSIBILITY FOR OLDER PEOPLE: AFTER INDIVIDUAL ASSESSMENTS OR BY POLICY CHANGES**

B. Slaug<sup>1</sup>, C. Chiatti<sup>2,1</sup>, F. Oswald<sup>3</sup>, R. Kaspar<sup>3</sup>, S. Schmidt<sup>1</sup>, 1. *Health Sciences, Lund University, Lund, Sweden*, 2. *Istituto Nazionale di Riposo e Cura per Anziani, Ancona, Italy*, 3. *Goethe University, Frankfurt am Main, Germany*

A change for the better in the housing environment, such as a home adaptation, may be achieved after establishing an individual need or by implementing a policy change. From a public health perspective, it is important to be able to evaluate and compare the potential impact of alternative strategies on health-related outcomes. We will present mathematical simulations of the potential impact of alternative strategies to improved housing accessibility, by estimating the change in the performance of activities of daily living (ADL), usage of home services and related costs. We adapted health impact assessment (HIA) methods that consider the best available empirical evidence, and utilized the results from the ENABLE-AGE and other scientific studies to generate the simulations. Our findings suggest that environmental changes by an alternative policy implementation, may contribute to averting cases of ADL dependence and ultimately also to a reduction of societal costs.

#### **SOCIETAL CHANGES AND PREVALENCE OF DEMENTIA IN MAINLAND CHINA, HONG KONG AND TAIWAN**

Y. Wu, C. Brayne, *Department of Public Health and Primary Care, Institute of Public Health, University of Cambridge, Cambridge, United Kingdom*

Economic development and the change of social environment affect the living conditions of people with substantial influence on population health. In China, dramatic societal changes in the last hundred years, including rapid change of government, frequent wars, political conflicts and recent economic growth, could have caused different life experience with a major impact on health and well-being of ageing population. Several factors, such as life expectancy, education opportunities, nutrition, stress and increase of chronic diseases, are moderated by the societal level influence and considered to be associated with dementia. This study includes the existing prevalence studies of dementia in mainland China, Hong Kong and Taiwan from 1980 to 2012 and explores the temporal variation of dementia prevalence across different time periods and birth cohorts taking study methods into account. The results provide insights to the impact of societal changes on mental health in older population.

#### **SESSION 1610 (PAPER)**

#### **ELDER ABUSE IN INSTITUTIONAL SETTINGS AND THE COMMUNITY**

#### **ELDER ABUSE IN PRISONS: THE CALL FOR EXTENDING ELDER JUSTICE TO INCARCERATED OLDER ADULTS**

T.M. Maschi, *Graduate School of Social Service, Fordham University, New York, New Jersey*

Recent human and civil rights reports suggest that the poor social and environmental conditions of confinement may have devastating health consequences, especially for aging people in prison (HRW, 2012). However, there is a lack of knowledge about the lived experi-

ences of incarcerated older adults and their exposure to abuse in prison. Therefore, the purpose of this mixed methods study was to examine older adults' objective and subjective experiences of trauma, abuse, neglect, and exploitation in prison using quantitative and qualitative measure. It used a cross-sectional design and a sample of 677 older adults. Participants completed a mailed survey that included the Life Stressors Checklist-Revised (McHugo, 2005) and open-ended questions that asked about their experiences of abuse and neglect in prison. Descriptive statistics revealed that about two out of three participants reported some type of abuse in prison. Using content analysis strategies to analyze revealed types of trauma, abuse, and neglect not captured in quantitative measure. Participants reported experiencing mistreatment, exploitation, and medical neglect by staff, solitary confinement, and fears about personal safety. Many participants reported minimal to contact with their families while in prison, which was significant source of distress, especially when a family member in the community was sick or dying. These findings also suggest that incarcerated older persons are a population deserving of elder justice protections and advocacy efforts. Strategies for improving measurement of elder trauma and abuse in prison as well as practice and policy reform efforts that results in increased protections for older adults in prison.

### **BULLYING IN NURSING HOMES**

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In this research, we build on our prior pilot work in this area and present findings on bullying as a form of resident abuse in nursing homes. We examined the opinions of bullying from a large sample of nurse aides (N=3,000). The survey was developed using focus groups, pilot testing, and content experts; and was sent to a nationally representative group of nursing homes. Data were merged with the Online Survey Certification and Reporting data and the Area Resource File. Multivariate regression models using GEE were used. Overall, we found bullying to be somewhat common; with rates as high as 30% of residents experiencing bullying. The highest rate of bullying came from other residents and not staff. The rates identified were also associated with characteristics of the residents and nursing home settings (such as size and staffing levels). These associations will be presented. The findings provide tentative evidence that bullying may be an important abuse characteristic in nursing homes.

### **CONSERVATORSHIP CHARACTERISTICS AMONG FORENSIC CENTER AND ADULT PROTECTIVE SERVICES CLIENTS**

J.M. Yonashiro-Cho, Z.D. Gassoumis, K. Wilber, *Davis School of Gerontology, University of Southern California, Los Angeles, California*

Studies estimate that 11.4% of elders have experienced abuse within the past year. While service providers frequently use conservatorship to intervene in cases of mistreatment or self-neglect, little has been documented about its use or the characteristics of proposed conservatees and conservators. The purpose of this study is to explore the use of conservatorship intervention among clients receiving services from an Elder Abuse Forensic Center and a matched sample of usual care Adult Protective Services clients. Data were extracted from program case files and publicly available court documents. Analyses included descriptive statistics and multivariate logistic regression. About a quarter (22.7%;n=130/572) of elderly victims were subjects of conservatorship proceedings. African American (OR=2.07) or Asian/Pacific Islander (OR=3.17) race, self-neglect (OR=2.31) and involvement in the Forensic Center (OR=5.11) increased the odds of conservatorship petition. In a preliminary analysis of a subset (n=50) of petitions, 84% (n=42) were fulfilled. Although 94% requested plenary conservatorships over the conservatee's person and estate, 12% of those granted were limited in scope. Common petitioners included the Public

Guardian (PG; 62%;n=31), adult children (20%;n=10), other relatives (28%;n=14), or professional fiduciaries (8%;n=4). Appointed conservators included the PG (52.4%; n=22), adult children (14.3%;n=6), other relatives (21.4%;n=9), friends (9.5%;n=4), or professional fiduciaries (14.3%;n=6). One-third of filings involved competing petitions. In contested cases, PG was appointed the conservator 40% of the time. Because conservatorship is a highly restrictive intervention, it's important to identify these and other characteristics of proposed conservatees and conservators to better promote appropriate care relationships.

### **ELDER MISTREATMENT AS A PUBLIC HEALTH PROBLEM**

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Elder mistreatment is the last of the abuses to come to public attention. Its late arrival is because it is a complex public health problem with issues running the gamut from micro to macro levels of society, all of which demand a committed, interdisciplinary approach engaging the brightest minds possible. This presentation argues that it is critical to situate elder mistreatment as a public health problem. Situating it within the core functions of public health, the presenters contend that it is a public health problem by: 1) stressing that primary, secondary, and tertiary prevention of the problem is well within the scope of work performed by public health professionals; 2) addressing major public policy/public health initiatives as they relate to elder mistreatment (e.g., Healthy People 2020, White House Conference on Aging, Elder Justice Act, Affordable Care Act, ADA); and 3) framing elder mistreatment as a global and human rights issue. We embed our argument within the Socio-Ecological Framework and maintain that knowledge of elder mistreatment by public health professionals addressing issues of aging is essential for effective, well-informed efforts to identify, analyze, and address the facets that elder mistreatment involves. Finally, we provide examples of activities and structures that have, are, or will shape movement in the many sectors that intersect with public health to prevent elder mistreatment.

### **A MULTIAGENCY APPROACH TO COUNTER ELDER ABUSE: ARRIMAGE IN MONTRÉAL**

M. Beaulieu, J. Looock, S. Garon, *Gerontology, U. Sherbrooke, Sherbrooke, Quebec, Canada*

In 2010, the Quebec Government launched the Québec Government Plan of Action to Counter Elder Abuse 2010-2015. One of its main principles is to reinforce a continuum of services for prevention, detection and direct intervention. In the scientific literature, multiagency approaches (public, private and NGOs, including senior's NGOs) are highly recommended but very few models were evaluated; therefore we know little about their efficiency and efficacy. In Arrimage, we aim to fill the gap. This action-research project includes 11 agencies in the North-East part of Montréal. Our methodology consists of focus groups, individual interviews and observation of direct practice. Building from an informal collaboration between health and social services, police, a grouping together of seniors' organizations, and an NGO offering direct services to older adults with a focus on abused older adults, a multiagency approach is getting formalised, without rigidity, on who does what, with whom, in which case of elder abuse. This presentation will present our model of multiagency work including the strengths, challenges and limits of such approach. It will stress on a series of issues such as confidentiality, formal or informal links between people or between agencies, difficulties to recruit certain partners such as policy makers, banks, etc. We will conclude by presenting the detail of an innovative action to counter elder abuse: duos between police and community workers.

## INTERVENTIONS TO PREVENT AGE-RELATED DECLINE

## ISONIAZID DOES NOT ACTIVATE THE INTRINSIC DEATH PATHWAY IN YOUNG AND OLD FISCHER 344 RATS

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Isoniazid is the first-line medication in prevention and treatment of tuberculosis, however its hepatotoxicity increases in old age. In vitro, toxic doses of isoniazid stimulate mitochondria dependent apoptosis. The intrinsic death pathway is also activated in ageing and this may provide a mechanism for increased susceptibility to isoniazid hepatotoxicity. We therefore characterised the intrinsic death pathway in response to a toxic regimen of isoniazid (4 doses/day: 100, 75, 75, 75mg/kg intraperitoneal every 3 hours over 2 days) in young (6 months) and old (24 months) male Fischer 344 rats (isoniazid: young n=7, old n=5; saline: young n=7, old n=8). 15hrs post last injection animals were euthanized, livers perfused and prepared for histology and for immunoblotting of target proteins BAX, BAK, VDAC1, Bcl-2, Bcl-XL, Cytochrome C and caspase 3. A toxic regimen of Isoniazid did not activate the intrinsic death pathway or increase apoptosis in young or old animals. Hepatic mitochondrial expression of pro-apoptotic proteins BAX, BAK and VDAC1 did not change with age or treatment groups. In saline treated old animals compared to young, anti-apoptotic protein Bcl-2 significantly decreased (young:  $1 \pm 0.09$ , old:  $0.4 \pm 0.04$ ,  $p < 0.05$ ), and apoptosis markers cytosolic cytochrome C (young:  $1 \pm 0.3$ , old:  $2.8 \pm 0.8$ ,  $p < 0.05$ ) and activated caspase-3 increased (young:  $1 \pm 0.2$ , old:  $17.9 \pm 7.7$ ,  $p < 0.05$ ). Our preliminary results suggest isoniazid does not activate the intrinsic death pathway in young and old Fischer 344 rats in vivo and this pathway is unlikely to be involved in the increased hepatotoxicity found in older people.

## SYNERGISTIC ANTI-SENESCENCE EFFECT OF VITAMIN C AND CLOVE VIA INHIBITION OF LIPOPROTEIN OXIDATION

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It is well known that Vitamin C and clove, a culinary spice, have potent antioxidant activity. Glycation is a major pathologic process to cause aging related disease such as diabetes and atherosclerosis. Clove extract showed anti-glycation effect. Co-supplementation effect of vitamin C and cineole was investigated in lipoprotein metabolism in vitro and in vivo. The co-supplementation more inhibited fructose mediated glycation up to 80%, and cupric ion mediated oxidation up to 38%, compared with control. Dermal cell senescence and atherogenic phagocytosis were more inhibited by the vitamin C and clove up to 77% than control. Eight weeks co-consumption vitamin C and clove in zebrafish resulted 68% and 78% reduction of serum total cholesterol level and triglyceride with reduction of SA- $\beta$ -gal positive cell and fatty liver change in liver. In conclusion, co-consumption of vitamin C and

clove showed anti-aging and anti-atherogenic effect via inhibition of lipoprotein oxidation and glycation. (The authors are grateful for the BK21 plus program of the National Research Foundation for the support of graduate students)

## EFFECT OF EICOSAPENTAENOIC ACID ON SKELETAL MUSCLE IN SENESCENCE-ACCELERATED MICE

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Aim: Eicosapentaenoic acid (EPA), an omega-3 polyunsaturated fatty acid in fish oil, has been shown to regulate muscle protein synthesis and degradation. We analyzed the effects of EPA on skeletal muscle ageing. Methods: SAMP1 (senescence-accelerated mouse prone 1) and SAMR1 (senescence-resistance mouse) were fed standard chow diet with either 6% EPA or corn oil. Mice were fed either from 8 weeks (experiment I) or 25 weeks (experiment II) of age until 30 weeks, when muscles were extracted and analyzed for the cell signaling pathway associated with muscle protein synthesis and degradation. Results: All SAMR1 survived for 30 weeks. However, only 50% (experiment I) and 67% (experiment II) of SAMP1 fed corn oil survived, while 100% (experiment I) and 83% of SAMP1 (experiment II) fed EPA survived. The insulin tolerance test at 18 weeks of age (experiment I) showed that EPA improves insulin sensitivity in SAMR1 but not in SAMP1. Grip strength test showed the tendency that EPA increases muscle strength in SAMP1 but not in SAMR1. Weights of gastrocnemius and quadriceps muscles were significantly higher in SAMR1 fed EPA than those fed corn oil (experiment I and II), while there was no significant change in SAMP1. Protein expression and phosphorylation of AKT are higher in SAMP1 than in SAMR1. However, phosphorylation of p70S6K and 4E-BP1 are lower in SAMP1 than in SAMR1. Conclusions: EPA administration increases muscle mass in normal mice, but not in senescence-accelerated mice. However, muscle strength may be improved by EPA administration in senescence-accelerated mice.

## AGING, COGNITIVE DECLINE AND THE EFFECTS OF INSULIN-LIKE GROWTH FACTOR (IGF)-1 ON NEURONAL ACTIVITY

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Vascular cognitive impairment, Alzheimer's and other neurodegenerative diseases affect millions of elderly patients in the USA. According to recent results of the dementia research field a key event in the pathomechanism of dementia is the disruption of synaptic connections among neurons. Synapses are the structural elements for information processing, neuronal communication in the brain and essential for learning and memory as well as other cognitive processes. The core mechanism for transmitter release from synaptic vesicles requires the SNARE (SNAP Receptor) complex. Three proteins form the synaptic SNARE complex in the brain: SNAP-25, syntaxin1 and synaptobrevin. Using the knock-out mouse strains as a novel model of dementia and fluorescence imaging functional assays we have found that the levels of SNARE proteins significantly correlate with synaptic release. As prevalence of cognitive impairment and dementia cases is accelerating in our aging population, more efficient therapies are urgently needed. Insulin-like Growth Factor (IGF)-1 is an important trophic hormone and its expression decreases with age. Deficiency of this hormone therefore may influence cognitive decline in the elderly. We hypothesized direct synaptic effects of IGF-1 and tested its role in memory improvement. We present novel data on synaptic mechanisms of learning and memory after IGF-1 treatment acquired using electrophysiological and fluorescence imaging functional assays. Based on these new results on the effects of IGF-1 on synaptic communication, we propose the IGF-1/PI3K/Akt pathway as a possible therapeutic target and a novel approach to improve cognitive function for the elderly.

## MODULATION OF MITOCHONDRIAL DNA MUTATION FREQUENCY AND ACCUMULATION BY CALORIC RESTRICTION AND RAPAMYCIN IN AGING MOUSE MUSCLE

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Cell loss is an important aspect of aging in post-mitotic tissues. We hypothesized that age-associated mitochondrial DNA (mtDNA) mutations contribute to cell loss by accumulating to detrimental levels within cells. Our hypothesis suggests that preventing mtDNA mutation accumulation may be a point of intervention in aging. Recent *in vitro* studies demonstrated reductions of mtDNA mutations through the induction of autophagy by the mTORC1 inhibitor, rapamycin. We examined the *in vivo* effects of rapamycin and caloric restriction (CR), another inducer of autophagy, on mtDNA mutations and intracellular mutation accumulation in mouse skeletal muscle. Quadriceps muscles were isolated from 22mo male and female mice and histochemical staining was used to detect cytochrome c oxidase negative fibers, a marker of mtDNA mutation accumulation. Mitochondrial DNA was isolated from intervening sections and mtDNA deletion mutations detected by a novel droplet digital PCR method. At this age, we found sex and treatment effects on mtDNA mutation frequency and cytochrome c oxidase number in mouse skeletal muscle. These results corroborate observed sex differences for rapamycin and CR and highlight the challenges in the human clinical translation of the *in vitro* observations of altered autophagy.

## SELECTIVE NEUROPROTECTIVE EFFECTS OF ENVIRONMENTAL ENRICHMENT IN AGING

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This study compared the effects of two isolated-housing conditions [Running Wheel (IHRW) and Empty Cage (IHEC)] against two enriched environments [Static (EEST) and Dynamic (EEDY)], housed 12 mice per cage. The EEDY group had the location of toys and food and water sources changed daily, while the placement of these items remained unchanged for the EEST group. Mice (C57BL/6) were randomly assigned to one of these four groups at ~4 weeks of age and remained in their respective environments for the next 25 weeks, and then housed singly until brains were extracted between 90 and 100 weeks of age. We measured glutamate (GLU) clearance capacity post-mortem via western blot for GLT1 (glutamate transporter) expression in three brain regions: A) striatum; B) hippocampus; and C) cortex. In striatum, GLT1 levels were significantly higher in the EEDY group in comparison to the IHEC and IHRW. The opposite change was observed in hippocampus, where the EEDY mice had significantly lower GLT1 levels than the IHEC and EES. In cortex, GLT1 levels in EEST and EED were both lower than the IHEC. These results suggest that early exposure to novelty has a strong neuroprotective effect on striatum, which is most vulnerable to GLU excitotoxicity. The effects of enrichment also appear to be selective, as GLT1 levels were lower in hippocampus and cortex. When paired with behaviorally-relevant electrophysiological data demonstrating improved corticostriatal communication, our results indicate that novelty is an essential component of environmental enrichment beyond that of socialization and exercise.

## EFFECTS OF SODIUM NITRITE ON MOTOR AND COGNITIVE FUNCTION IN HEALTHY MIDDLE-AGED AND OLDER ADULTS

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Declines in motor and cognitive function are associated with an increased risk of disability and mortality in older adults. In preclinical aging models, sodium nitrite (SN) supplementation improves motor function and other nitric oxide-boosting agents reverse cognitive dysfunction. We performed a translational pilot study to compare the influence of chronic oral SN supplementation and placebo (Pl) on motor and cognitive function in middle-aged and older (MA/O) healthy adults (n=31, 60.9 ± 1.2 yrs). Subjects abstained from dosing for >12-hr before completing a functional battery. Although subjects showed no impairments at baseline, 10 weeks of SN supplementation (80 or 160 mg/d capsules, TheraVasc, Inc., randomized, placebo-control, double-blind) improved rate of torque development in knee extension (80mg: 964 ± 385 to 1204 ± 492 Nm/s; 160mg: 902 ± 281 to 1208 ± 429 Nm/s) and knee flexion (80mg: 983 ± 249 to 1309 ± 416 Nm/s; 160mg: 1034 ± 320 to 1481 ± 410 Nm/s) vs. placebo (897 ± 354 to 905 ± 399 and 989 ± 368 to 839 ± 243 Nm/s, respectively, p < 0.01). Balance errors (p < 0.05), grip strength (p < 0.05), heel-rise endurance (trend, p < 0.06), and time to complete TMT-B (Pl: 59 ± 23 to 65 ± 28 s; 80mg: 56 ± 11 to 46 ± 10 s; 160mg: 59 ± 19 to 51 ± 12 s, p < 0.01) also improved with SN. These preliminary results suggest that SN supplementation improves some subdomains of motor and cognitive function in well-functioning MA/O adults.

## EFFECTS OF PIOGLITAZONE AND EXERCISE IN OLDER ADULTS WITH MCI AND INSULIN RESISTANCE

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Background Mild cognitive impairment (MCI) is thought to represent the earliest clinically detectable stage of Alzheimer's Disease (AD) in many patients. Insulin resistance (IR), an early stage of Type 2 diabetes, increases risk for cognitive decline and AD. Interventions targeting IR may delay or prevent further cognitive decline in individuals with MCI. We sought to determine whether improving IR with six-months of endurance exercise training (EET) or pioglitazone could attenuate cognitive decline in older adults with MCI and IR at baseline. Methods Seventy-eight sedentary older adults aged 65±7 years (mean±STD) with abdominal obesity (waist >88cm for women; >102cm for men) and MCI were randomized to six-months of EET, pioglitazone or placebo. Primary outcomes were changes in performance in four cognitive domains: memory, language, visuospatial and executive function. IR (insulin-mediated glucose disposal rate; GDR) was measured by hyperinsulinemic-euglycemic clamp. Results Overall MCI was mild. Six-months of EET did not significantly affect peak oxygen uptake compared to placebo (p=0.12). Compared to placebo, GDR improved in the pioglitazone group (increase of 1.7 mg/kg/min; p=0.002) but not in the EET group (increase of 0.7 mg/kg/min; p=0.25). There was no measurable effect of pioglitazone or EET on any cognitive domain compared to placebo. There was no significant correlation between change in GDR and cognitive performance. Conclusions In older adults with both MCI and IR, six-months of EET or pioglitazone did not change cognitive performance compared to placebo. Future studies targeting

IR in MCI may benefit by including participants across a broad range of MCI severity.

#### **RETINAL REGENERATION BY LGR5+ AMACRINE CELLS IN ADULT MAMMALS: IMPLICATIONS FOR AGE-RELATED RETINAL DEGENERATIVE DISEASES**

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Age-related vision decline and loss have major impact on the health and well-being of the elder population. Most adults start to experience vision problems, such as presbyopia, beginning in their early to mid-forties. With age advancing, their vision continues to decline and they are more frequently affected by vision-threatening eye diseases, including cataracts, glaucoma, and age-related macular degeneration. Without appropriate treatments, these disorders can cause vision loss and blindness. Among many factors, neuronal loss in the retina is the leading cause of vision impairment and blindness. It is now commonly believed that the retina of adult mammals lacks regenerative capacity. This lack of regeneration leads to irreversible neuronal losses and contributes to the pathogenesis of a host of retinal degenerative diseases, including age-related macular degeneration. Here, we demonstrate that the adult stem cell marker *Lgr5* is expressed in the retina of adult mice. Although *Lgr5*+ retinal cells exhibit characteristics of retinal amacrine interneurons, they can re-enter the cell cycle, proliferate, and generate other retinal cell lineages. The generation of new retinal cells from *Lgr5*+ amacrine cells begins in early adulthood and continues as the animal ages. Together, these findings suggest that the retina of adult mammals is not devoid of regeneration as previously thought. It is rather dynamic, and *Lgr5*+ amacrine cells functions as the endogenous regenerative source, contributing to retinal homeostatic maintenance. The identification of such cells provides mechanistic understanding and potential therapeutic opportunities for a wide spectrum of debilitating retinal diseases.

#### **MATERNAL EXERCISE DELAYS CHEMICAL-INDUCED CARCINOGENESIS IN MOUSE OFFSPRING**

K.J. Pearson, A.L. Jarrell, R.J. Charnigo, T.E. Fischer, K.M. Platt, *University of Kentucky, Lexington, Kentucky*

To date, caloric restriction has shown itself to be the most reproducible and promising intervention to improve cancer outcomes in laboratory animals. An intense and expanding area of research is focused on discovering easily achievable interventions that can have long-lasting positive effects. As part of this study, we hypothesized that maternal exercise during pregnancy and nursing will protect mature offspring against chemical carcinogens because of increased activities of antioxidant enzymes. Three month old mouse offspring born to sedentary or exercised ICR dams were exposed to a two-stage carcinogenesis model to determine whether or not maternal exercise would provide long-term tumor resistance in offspring. Tumors were counted weekly by the same individual blinded to groups until 90% tumor incidence was reached in carcinogen-treated offspring born to sedentary dams (control group). The experiment was terminated, RNA was extracted from treated skin following euthanasia, and a spectrum of genes was quantified using NanoString nCounter Gene Expression CodeSets. Both male and female offspring had significantly decreased tumor incidence and tumor number as a result of maternal exercise. Significant differences were found in expression of stress-response genes in the skin as a consequence of maternal exercise. Nuclear factor (erythroid-derived 2)-like 2, glutathione peroxidase 1, and superoxide dismutase 3, which are all genes involved in antioxidant response, were among those genes whose expression was significantly altered. We have shown that maternal exercise has exciting potential to improve offspring stress response and tumor resistance. Future studies will further explore the mechanisms behind this protective effect.

#### **CENTRAL VS PERIPHERAL “SELF-CR” EFFECT OF RAPAMYCIN IN YOUNG AND OLD RATS**

C.S. Carter, M. Matheny, H.Z. Toklu, N. Kirichenko, K.Y. Strehler, N. Tumer, D. Morgan, P.J. Scarpace, *University of Florida, Gainesville, Florida*

Previously, we reported that rapamycin treatment initiated either earlier or later in life to FBN rats results in a state of “self-calorie restriction (CR)” with resultant preferential loss of fat mass. Furthermore, adipose tissue protein leptin levels (a major central regulator of ingestive behavior) in these treated animals were reduced suggesting that rapamycin may also influence food-intake via a central mechanism of action even when administered peripherally. Therefore the current study addresses changes in mTOR signaling and adipose leptin synthesis following rapamycin treatment initiated early (3 mos) and later (25 mos) in life in male FBN rats. Rapamycin was delivered every other day (ip 1 mg/kg) for a total of 5 weeks. As previously reported, rapamycin treatment reduced food intake and body weight at both ages, fat mass in older animals, and attenuated growth-related accumulation of fat in younger animals. There was a resultant reduction in circulating leptin as well as mRNA and protein levels in WAT. Rapamycin treatment attenuated mTOR signaling (p70-S6 and p70-S6K) in liver, and levels of p70-S6 in hypothalamus at both ages suggesting that peripheral administration of rapamycin also inhibited centrally mediated mTOR activity. We previously established that adipose leptin synthesis is under a leptin mediated central feedback mechanism. Thus, these data suggest that rapamycin likely mediates a “self CR” effect through both peripheral and central mechanisms. (Supported by NIH DK091710 and P30 AG028740)

#### **SESSION 1620 (POSTER)**

#### **TECHNOLOGY: APPLICATIONS AND IMPLICATIONS**

#### **UNDERSTANDING OLDER ADULT PREFERENCES FOR TECHNOLOGY ADOPTION**

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The purpose of this study was to understand differences in older adult technology adoption by conducting in-depth interviews with older adults. Four participants were selected for qualitative interviews from a larger sample of 176 older adults who participated in a study assessing technology adoption via a survey. This study focused on conducting qualitative interviews with high and low adopters of technology in order to find out more about why technology was (or was not) readily adopted. Based on the interviews, three themes were noted specifically highlighting the importance of 1) earlier life experiences (e.g., workplace experiences), 2) personal preferences (e.g., choices regarding keeping up with technology), and 3) societal perspectives (e.g., concern for human interaction) on technology adoption. Based on these findings earlier life experiences (e.g., workplace experiences and exposure to technology) were particularly influential on current technology use. We suggest implementing lifelong learning opportunities teaching older adults the usefulness of technology and giving them a chance to interact with technology in a supportive environment. Interviewing participants with a wide array of previous occupations and work experiences in future qualitative work may be particularly useful. A revised theoretical model of technology adoption is suggested, tying together the findings of both the qualitative findings of the current study and existing models of technology adoption.



## THE UTILIZATION OF TECHNOLOGY IN HEALTH-RELATED MANAGEMENT AND COMMUNICATION

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Technology can enhance independence and personal control, and has been shown to be efficacious for facilitating health behaviors. However, in terms of health management and communication, little is known about the types of technology being used, reasons for use, or the users themselves. Further, age and gender differences in health-specific technology use are unknown, though such information is becoming increasingly important as technology use is expanding in all age groups. The purpose of the present study is to present the first national profile of health-related technology use. Participants were 377 men and women (28-69 years old,  $M=45$ ,  $SD=8.4$ ) from the National Study of Daily Experiences (NSDE) who reported on their health-related technology usage in the previous week. Half (50.1%) used at least one form of technology related to their health; technology was used to make appointments, refill prescriptions, and seek information from healthcare providers (47.1%), monitor a health behavior (42.2%), and communicate with family members, friends or caregivers about health (37.4%). The most common technology forms were phone, email, and internet, though these varied by age. Participants under 40 were more likely to use internet and texting, 40-49 year olds primarily used internet and email, and those over 50 used telephone and internet for health purposes. Interestingly, women used more health-related technology than did men (54% and 45%, respectively). Findings contribute to a greater understanding of varying health-related technology experiences across adulthood and can aid clinicians and health educators in enhancing their patients' health self-management practices.

## A PHOTOVOICE EXPLORATION OF AGE-RELATED HEARING LOSS

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The purpose of this paper was to explore the utility of the Photovoice methodology for studies involving older adults, and to describe a Photovoice study that explored the myths and realities of age-related hearing loss. Photovoice is a technique used by researchers and community members to represent their community, assess participatory needs and study health promotion topics. Nine Montreal-based older adults ( $F=6$ ,  $M=3$ ) each took part in 13 (2-hour) group discussions and one in-depth personal interview. Over a three month period, participants captured photographs that represented myths and realities of hearing loss, and attended weekly group meetings to view and discuss images. Photographs were used as elicitation items in in-depth audio-video recorded interviews. Verbatim transcripts of interviews were prepared and content analysis was employed to uncover meaningful patterns of findings across interviews. In the Spring of 2014, participants welcomed community members, health care workers and policy makers to a photo exhibit aimed at sensitizing Montrealers to age related hearing loss. In the interviews participants described individual challenges associated with both planning and capturing photographs that portray a subject as abstract as hearing loss. Moreover, relinquishing control to research coordinators in the exhibit planning phase proved to be difficult for some. While participants described social benefits attributed to group meetings, there were important logistical challenges associated with decision making and planning the exhibit. The Photovoice methodology proved to be an intense, yet richly rewarding methodology for both participants and researchers. Yet, prior to embarking on a Photovoice study, researchers are advised to give critical consideration to the suitability of this methodology for the population under investigation.

## AGE DIFFERENCES IN PERCEIVED BENEFITS OF RECEIVING PSYCHO-ONCOLOGICAL SUPPORT ON THE INTERNET: OPTIMISM AND POSITIVE SELF-IMAGE

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**Objectives:** The present study gathered data to determine if older women with cancer have different perceptions about coping with cancer, and are influenced to a different extent by online peer support compared to younger women. **Methods:** Women living with cancer ( $N = 255$ ) participated in an online survey. Age differences were tested with ANOVA and chi-square tests. Separate multivariate linear regression models estimated the covariates for statistical significance of their unique effects on three outcome variables. A stratified analysis was performed to examine variations within age-based subsamples ( $\geq 51$  and  $\leq 50$ ). **Results:** The average number of support groups the women participated in was higher in older age group. Older women reported seeking online coping support more frequently and for longer months. Perceived contribution of online peer support for positive coping outlook, specifically to sense of optimism for a healthy future, was stronger among the older respondents. The older respondents perceived more benefit with regard to feeling in control of their health and less distressed. The younger patients perceived more contribution to their sense of feeling proud about how they were coping with cancer. As severity of the symptoms increased, the younger patients increased the amount of time they were online while the older patients increased the number of groups they participated in. Beta coefficients for online peer support were stronger than that of medical variables. **Conclusions:** Diagnosis of cancer may lead to perceived lack of control over health. The Internet might be particularly helpful for older adults who feel helpless to cope with cancer in old age.

## THE DIGITAL HEALTH DIVIDE: EVALUATING ONLINE HEALTH INFORMATION ACCESS AND USE AMONG OLDER ADULTS

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**Objective:** Innovations in Health Information Technology (HIT) provide opportunities to reduce healthcare spending, improve quality of care, and improve health outcomes for older adults. However, concerns relating to older adults limited access and use of HIT, including use of the Internet for health information, fuel the digital health divide debate. This study evaluated the potential digital health divide in relation to characteristic and belief differences between older adult users and non-users of online health information sources. **Materials and Methods:** A cross sectional survey design was conducted using a random sample of older adults. A total of 225 older adults (age range 50-92,  $M = 68.9$ ,  $SD = 10.4$ ) participated in the study. **Results:** Seventy-six percent of all respondents had Internet access. Users and nonusers of online health information differed significantly on age ( $M = 66.29$  versus  $M = 71.13$ ), education, and previous experience with the healthcare system. Users and nonusers of online health information also differed significantly on Internet and technology access, however, a large percentage of nonusers had Internet access (56.3%), desktop computers (55.9%), and laptop computers or netbooks (43.2%). Users of online health information had higher mean scores on the Computer Self-Efficacy Measure than nonusers,  $t(159) = -7.29$ ,  $p < .0001$ . Furthermore, use of online health information moderated the relationship between computer self-efficacy and age. **Conclusion:** This study found significant differences between older adult users and nonusers of online health information. Findings suggest strategies for reducing this divide.

## EXPLORING THE ACCEPTABILITY OF HOME-BASED SENSOR TECHNOLOGIES IN A CULTURAL CONTEXT

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**Introduction:** Home-based sensor technologies have the potential to help older adults live independently and safely in home or community. However, limited information exists regarding older adults' acceptance of sensor technologies, especially for people with diverse cultural backgrounds. This study sought to understand Korean (KOA) and Korean American older adults' (KAOA) perceptions of sensor technology in a cultural context. **Methods:** A qualitative analysis of two focus groups using a constant comparative approach for emerging themes was conducted (n = 6: KAOAs, n = 6: KOAs) to examine perceptions of older adults towards home-based sensor technologies. This study assessed cultural factors influencing technology acceptance and examined participants' satisfaction with current health care services. **Results:** Participants in both the KAOA and KOA groups perceived that sensor technologies would be useful. Most participants reported few privacy concerns related to in-home sensors, however, some participants expressed concerns that placing sensors in their homes would change their behaviors. KOAs who were dissatisfied with health care services were more receptive to innovative sensor technologies for their health than KAOAs who showed a higher level of satisfaction with the U.S. long-term care system. **Conclusion:** This study is the first to examine sensor technology acceptance among KOAs and KAOAs. Immigration seemed to influence the level of satisfaction with the health care system, which ultimately affected willingness to adopt innovative technologies. Although this study is limited in generalizability, this study provides insight into factors that can increase technology adoption of Asian older adults both in the U.S. and internationally.

## ASSISTIVE TECHNOLOGY IN LATER LIFE: ACCEPTANCE OF AN INTERNET-BASED MOBILITY PLATFORM

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Mobility has a high individual and social value and is a key factor in maintaining independence, social participation and quality of life. Health problems, decreasing physical functioning and sensory losses can constrain mobility in old age. Taking up this issue, our interdisciplinary project "S-Mobil 100" aims to support the everyday mobility of older adults and to minimize existing barriers by developing a platform based on the internet and mobile communication. Our mobility platform can be used via computer or smartphone to search for accessible means of transport such as public transportation, taxi or private volunteer lifts connecting the current location with a desired destination. To explore the willingness to use and acceptance of this kind of technical assistance system, particularly in old age, we conducted a quantitative study. Use of technology, life-long experience with technology, general technology commitment and acceptance of the mobility platform were investigated in different age groups. The sample consisted of 358 participants aged 40-90 (M=61.18; SD= 12.02). Findings indicate that the mobility platform was overall well accepted. Age, residence (rural vs. urban), income, and general technology commitment significantly predicted the judgment of the platform. Older participants reported more concerns about handling problems, less trust in their own technology competences and wished for more support when using the platform. Acceptance of this system might be enhanced by offering computer- and smartphone trainings or individual assistance for older users.

## KINECT GAMES FOR OLDER ADULTS: UNDERSTANDING USABILITY CHALLENGES

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Many older adults do not engage in the requisite level of physical activity to achieve optimal health. An estimated 54% of people age 65-74 and 68% of those over 75 do not meet U.S. Federal Physical Activity guidelines for either aerobic or muscle strengthening activities (National Center for Statistics, 2011). Exergames are video games in which players engage in physical activity; they could help older adults elevate their levels of physical activity to gain associated health benefits. However, the majority of exergames on the market are not designed for older users. We evaluated the usability for older adults of exergames for Microsoft Xbox 360 with Kinect. Through task analysis, expert heuristic evaluation, and usability testing, we identified challenges that older adults are likely to encounter when using game programs. We evaluated activities from two games, *Body and Brain Connection* (Bandai Namco Games, 2011) and *Your Shape Fitness Evolved 2012* (Ubisoft Entertainment, 2011) that are likely to appeal to older adults – one is called the 'Brain Fitness Test,' and the other is a combination of yoga and tai chi. Our objective was to simulate the situation wherein an older adult receives a game, perhaps from a family member who sets it up, but then needs to be able to interact with the system independently. Our overarching goal is to develop a tutorial that will enable older adults to benefit from this technology to increase their activity levels at home – leading to better health and increased quality of life.

## PERCEPTIONS OF USEFULNESS FOR ROBOT ASSISTANCE: DIFFERENCES BETWEEN OLDER ADULTS WITH AND WITHOUT MOBILITY LOSS

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Developing robots that are useful to older adult independence requires more than simply creating robots that complete household tasks. Ensuring that older adults find a robot useful requires careful consideration of the user, robot, and task. However, older adults' needs vary widely according to their capabilities and limitations. Understanding perceptions of usefulness is critical in determining whether existing technology acceptance models are applicable to robotics. In this study we investigated perceived usefulness of robot assistance for 12 mobile older adults and 12 with mobility loss (walker and wheelchair users). In an interview study, two personas were used; one depicted a physically-able older adult, and the other depicted an older adult with physical limitations due to arthritis. Participants were asked to discuss the usefulness of robot assistance for the tasks of organizing, monitoring, dressing, and transfer for each persona. They rated the usefulness of robot assistance via a questionnaire adapted from the Technology Acceptance Model (TAM; Davis, 1989) and participated in a semi-structured interview. The older adults agreed that robot assistance would be useful for the persona with arthritis. However, they varied in their perceptions of usefulness for the physically-able persona. The older adults with mobility loss were overall more positive toward robot assistance for this persona compared to the mobile older adults. Barriers and facilitators of acceptance identified suggest that perceived usefulness judgments are complex, and some constructs were interpreted differently between older adults. Thus, care should be taken when applying TAM constructs to robot assistance for older adults.

**ACCESS TO NEW TECHNOLOGIES - IPHONE USE BY OLDER ADULTS WITHOUT SMARTPHONE EXPERIENCE**  
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Background: Modern communication technologies such as the internet and smartphones are ubiquitous. Especially for older adults, the use of recent communication technologies can prevent isolation and loneliness (Segrist 2004). Smartphones allow older adults to participate in social life and can provide access to extensive information. Method: Thirty older adults without smartphone experience took part in a pilot study. After an intensive iPhone training, the participants completed a test on their ability to use different functions of the smartphone. Subsequently, they used the iPhone for a total of five weeks. After one week the user behavior was assessed and the test was repeated. Results: Making a phone call and checking the weather forecast were the most frequently used functions on the smartphone. After five weeks, half of the subjects also played games on the iPhone. The best rated functions were the possibility to make phone calls and send messages, to take pictures and receiving a weather forecast. Conclusion: Older people as a target group are often not recognized by software developers, possibly because they believe that the elderly are afraid or confused by new technology (Tatnal, Lepa 2003). However, with an extensive training and senior-friendly training materials, an access to new technologies can be given.

**TABLET USE AND ADOPTION BY COGNITIVELY-IMPAIRED SENIORS: A LONGITUDINAL IN-HOME ASSISTIVE TECHNOLOGY STUDY**

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Although persons with dementia (PWD) and their family caregivers need in-home support for neuropsychiatric symptoms (NPS) common in dementia, few if any assistive technologies exist to help manage NPS. This study tested the feasibility and adoption of a tablet-based care tool, the Companion, that delivers psychosocial interventions to the home to address individual NPS and needs. The immediate goal is to make the Companion usable for individuals with and without cognitive impairments. The overall goal is to support wellness, independence and quality of life in seniors and their caregivers aging in place. Seven dyads were included and used the Companion for a minimum of 3 weeks. Care recipients had mild cognitive impairment or dementia per self-report and Mini-Mental State Examination. Caregivers expressed a need for help with NPS and respite, and defined 3 to 5 intervention goals each. Intervention adoption, barriers and effectiveness were studied using a single-subject (dyad) pre-post case study design and a combination of qualitative and quantitative measures. Usage and adoption data showed that care recipients were capable of using the Companion for extended periods of time (hours per day), and find joy and comfort in doing so. Caregivers experienced significant respite. The intervention addressed a range of NPS including agitation, anxiety and sleep disturbances, and post-intervention, a majority of intervention goals (80%) were better than expected. Our findings suggest that mobile health applications such as the Companion are feasible and useful in the home and can help address pervasive care challenges.

**EXPLORING THE POTENTIAL OF COMPUTERS TO ENRICH OLDER PERSON'S SOCIAL NETWORKS**

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Older persons receiving services in community settings, rather than Nursing Homes, are at risk of social isolation. Computer mediated communication offers technological resources which recipients of Home and Community-Based Services (HCBS) might use to reduce

their social isolation. The present study involved personal interviews with 40 HCBS clients regarding their interest in communicating with members of their social networks, and using computers. At the time of the interview, 30 of the 40 participants did not use computers and reported cost, lack of training, physical limitations, lack of interest and access, and fraud as the reasons for not using computers. After watching a videotape illustrating an easy-to-use computer interface that allows older persons to communicate with families and friends, 90% reported that it would be helpful for people like them. Participants said such a computer would be helpful because it would make communication with friends and family easy, it could accommodate visual and manual disabilities, and would be interesting. Eighty-five percent said they would use a system like the one they were shown if it were available to them.

**INTERNET USE BY BABY BOOMERS: HEALTH LITERACY, FINANCIAL LITERACY AND SOCIAL CONNECTEDNESS**

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The internet provides a method of communication for overcoming barriers to social interaction and access to health information for older adults (Kubeck, Miller-Albrecht, & Murphy, 1999). The baby boomer generation is the second leading cohort to learn the computer. Data from the Pew Internet and American Life project collected in late 2008 (Horigan, 2008) indicated that 74% of baby boomers (born between 1946 and 1964) used the Internet in 2008 compared to 40% in 2000. Three hundred fifty-six respondents aged 55-70 completed a survey addressing Internet use. Eight percent reported they did not use the Internet, 16% reported using the Internet 5-6 hours/week, 29% reported using the Internet 7-8 hours/week, and 15% reported using the Internet more than 8 hours/week. Of those respondents using the Internet more than 8 hours/week, half reported using it 11-20 hours/week. Respondents indicated they currently used the Internet in the following ways: 85% used email, 84% searched for general information, 72% used online banking, and 48% searched for medical information. As they approach retirement, 74% of respondents plan on using the Internet for medical information, 64% to locate Medicaid/Medicare information, and 56% to search for services offered at senior centers. Implications for practice include the need for services/information to be readily available to baby boomers. In looking for more information post retirement, baby boomers are using the Internet as a viable source in terms of health literacy, financial literacy, and social connectedness.

**OLDER ADULTS PERFORMING TECHNOLOGY-BASED TASKS: THE ROLE OF MILD COGNITIVE IMPAIRMENT**

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The potential of technological devices able to profoundly support older adults gains rapidly increasing attention in gerontological research as well as practice contexts. Specifically, the hope is that physically or cognitively frail older individuals may profit from user-friendly technologies in terms of facilitating activities of daily living, autonomy, and participation in society. However, successful technology use also requires physical and mental resources to release its potential benefit. Still, data to better understand this tradeoff are rare, particularly, when it comes to those with mild cognitive impairment (MCI). The present study assessed the performance of older adults (age: M=73, SD=6.5) without cognitive impairment (n=33) and with MCI (n=31), using three types of technology representing key areas of everyday functioning (communication: mobile phone; leisure: e-book reader; health: blood pressure meter). Relationships between performance and a range of cognitive abilities (e.g., working memory, visual-spatial abilities), personal-

ity-related characteristics (e.g., obsolescence), and previous technology experience were examined based on cognitive testing, self-report, and video data. Regarding performance, participants with MCI needed more time for tasks and made more mistakes. After controlling for cognitive status, higher self-efficacy and lower obsolescence (feelings of being antiquated) still contributed to better performance. Spatial abilities and obsolescence were among the best predictors to explain effectiveness and efficiency, whereas age was only related to the time required, but not to the number of errors. Nuanced knowledge of older adults' specific difficulties, abilities, and resources may help improve the fit between user needs and technological requirements, with implications for developers and practitioners.

### COMPUTER USE AND COMPUTER ANXIETY IN OLDER KOREAN AMERICANS

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**Purpose:** Despite the growing interest in the use of computer and technology in aging populations, little attention has been paid to racial/ethnic minority older adults. The present study aims (1) to examine the status of computer use and computer anxiety and (2) to explore their common and specific predictors, using a sample of older Korean Americans. **Methods:** Data were drawn from 209 older Korean-Americans surveyed in Central Texas (Mean age=69.6, SD=7.50). Multivariate models of computer use and computer anxiety were estimated using the sets of predictors: (a) demographic variables (age, gender, marital status, and education), (b) physical health indicators (chronic conditions, functional disability, and self-rated health), and (c) sociocultural factors (acculturation and attitude toward aging). **Results:** Approximately 40% of the sample were non-computer users, and they had a significantly higher levels of computer anxiety than their computer-using counterparts ( $t = 14.6, p < .001$ ). Due to the anticipated high correlation between computer use and computer anxiety ( $r = -.71, p < .001$ ), separate regression analyses were conducted. Younger age, male gender, advanced education, more positive self-rating of health, and higher acculturation were identified as common factors that are significantly associated with the use of computer and low levels of computer anxiety. Attitude toward aging was also found to be a significant predictor of computer anxiety. **Implications:** Findings help better understand the factors linked to the use of computer and its related anxiety. Such information should be incorporated in intervention efforts for computer training/education targeted to racial/ethnic minority older adults.

### USE OF A NOVEL WEARABLE CAMERA SYSTEM TO INFORM TAILORED INTERVENTION WITH DEMENTIA CAREGIVERS: A FEASIBILITY STUDY

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Family caregivers (CGs) of persons with dementia (PWDs) are often stressed by their responsibilities. Little objective evidence shows when distressing dementia-related behaviors occur and how they are handled. In this presentation we describe a novel camera system worn by CGs to capture daily interactions and present findings from our first 5 caregiving dyads. Following assessment of caregiving burden (Zarit) and self-efficacy, CGs wore our system at home during waking hours for 3 to 7 days. The research team used video clips from this wearing and CG self-reports to conduct focused discussion with CGs of new strategies for handling difficult behaviors. Three phone calls reinforced the intervention, which were followed by reassessment of burden and self-efficacy and interviews regarding CGs' views of the study. CGs were husbands ( $n=2$ ) and daughters ( $n=3$ ) with a mean age of  $65.2 \pm 19.4$  years. All PWDs ( $n=5$ ) were female (mean age:  $79.8 \pm 5.2$  years) with mean MMSE scores of  $18 \pm 11.7$ . From baseline to post-intervention, mean CG self-efficacy increased from 58.3 to 65.3; burden decreased

from 27.4 to 26.8. Positive comments included "... maybe a one or two-day video should be supplied ... to the doctor so he can see for himself what's going on" and "... what made the study unique was having you see through my eyes what a day is like." Our wearable system permits remote assessment of distressing dementia-related behaviors and yields examples of interactions that can provide a springboard for tailored interventions to improve CG confidence and reduce CG burden.

### ACCEPTANCE OF MOBILE WELLNESS TECHNOLOGY IN A FRAIL SENIOR HOME HEALTH POPULATION

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Frail seniors receiving home health services may benefit from prompting to complete health and wellness related tasks when staff are not present in the home. Technology-based prompting can provide personalized prompts to complete and track home wellness tasks. Little is known about acceptability of technology and perceptions of its value, factors that are likely key to abandonment, a major concern with translation of technology from lab to field. The present study compared a paper-based tracking system with a technology-based prompting system for monitoring self-care behaviors. An ABAB design was used with 16 older home health patients (7+ days per phase). Analysis of ratings of perception of ease of use, familiarity, comfort with task, usefulness, confidence that doing tasks improved health and function, and desire to continue use of each system yielded 3 key findings. The technology was perceived positively (means of 3.6-4.5 of 5), equivalent to more familiar paper-based system for all ratings. However, wide variability in responses was evident. Qualitative and graphic analysis showed substantially more positive valuing of the technology when the agency integrated the technology into their ongoing intervention. Future research on home-based technologies needs to report on the extent to which clinicians integrate the technology into agency services. Predictors of positive valuing of technology need to be identified, including factors related to the user, agency, and technology.

### TECHNOLOGY USE AND DEPRESSIVE SYMPTOMS IN OLDER ADULTS

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Despite a growing research base, it remains unclear whether older adults' use of information and communications technology (ICT) is related to better mental health. In a prior study using data from the first wave of the National Health and Aging Trends Study (Elliot, Mooney, Douthit, & Lynch, 2013), we found no effect of ICT use on depressive symptoms. However, level of ICT use moderated the effects of ill-health and limitations in activities of daily living (ADLs). We build on these findings by examining separate interaction effects involving information and communication components of ICT use, and by conducting longitudinal analyses incorporating Wave 2 data. In a linear regression analysis of Wave 1 data, there was again no main effect of ICT use after adjusting for relevant covariates. However, frequency of emailing/texting over the past month interacted with both self-rated ill-health ( $\beta = -.10, p < .001$ ) and chronic disease burden ( $\beta = -.07, p < .003$ ) to predict lower depressive symptoms. In an ANCOVA controlling for Time 1, there was again no main effect of ICT use on Time 2 depressive symptoms, and no significant interaction effects. However, Cox regression analysis showed that a 1-unit increase in ICT use was associated with 0.93 (95% CI: 0.87 to 0.99) times, or a 7-percent lower, hazard of incident depression as measured by exceeding the clinical cutoff score on the PHQ-2. These findings suggest that ICT use, particularly for communication purposes and in combination with poor health, may afford some protection against depression, although future research needs to examine these effects over longer periods of time.

## GENDER, PERSONALITY AND AGE DIFFERENCES

## AGE AND GENDER DIFFERENCES IN DECISION-MAKING STYLE PROFILES

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It has been suggested that due to age-related cognitive declines, older adults may postpone, rely on intuition, depend on others, and be less rational when making decisions compared to younger adults. Cultural stereotypes depict women as more intuitive and dependent, and men as more rational, but findings are inconsistent. To investigate age and gender differences in decision-making styles, we used an established measure of individuals' habitual ways of making decisions as measured by five subscales: rational, intuitive, dependent, avoidant, or spontaneous (Scott & Bruce, 1995). Rather than using a variable-centered approach to look at each decision-making style separately, we adopted a person-centered approach and used cluster analysis to see whether decision-making styles formed distinct profiles and then investigated whether profiles differed by age and by gender. Participants were from RAND's American Life Panel (N=1075, 18-93 years, M=53 yrs) and completed a web-based survey. A 3-cluster solution was identified: (1) high spontaneous/low dependent, (2) highly dependent, and (3) low spontaneous/low dependent. Those in the highly dependent group were significantly older than those in the low spontaneous/low dependent group. More males than females were in the high spontaneous/low dependent group. Lastly, more women than men were in the low spontaneous/low dependent group. Age differences were consistent with the hypothesis that older adults were more dependent. The greater prevalence of women in the low spontaneous/low dependent group contradicted stereotypes that women are more likely than men to rely on others more when making decisions. Implications regarding the advantageous nature of each style will also be discussed.

## GENDER DIFFERENCES IN SPOUSE INVOLVEMENT DURING DIABETES MEDICAL ENCOUNTERS

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Many spouses support patients in managing diabetes by accompanying them to their medical appointments. We investigated spouse language use and differences by gender during medical visits. We examined pronoun use as a marker of spouses' involvement in care. Our study examined conversations among patients, their spouses, and their physician during diabetes management appointments (n = 58). Female spouses spoke for the patient (t = 6.67, p < .0001) and used first person plural pronouns (t = 5.94, p < .0001) more than male spouses did. We used ANCOVA to examine differences by spouse gender in speaking for the patient and in using first-person plural pronouns, controlling for patient's age, spouse's age, and household income. Again we found that female spouses spoke for the patient at a greater frequency than did male spouses (B = 2.87, SE = .78, p < .01), and we found that female spouses used more first-person plural pronouns than male spouses (B = 5.46, SE = 1.47, p < .01). Male and female spouses use different language when accompanying partners to diabetes maintenance appointments. Speaking for the spouse and using first-person plural pronouns may indicate a sense of connection between the couple and a sense of joint ownership of the patients' medical problems. When physicians witness these language patterns in their offices, it may provide clues to which patients are receiving more or less support to manage their diabetes.

Future research should examine how physicians could capitalize on this information to improve patient care.

## MORAL JUDGMENT: BE HARSH TOWARD YOUNG MALE PERPETRATORS AND SYMPATHETIC TOWARD OLD FEMALE VICTIMS?

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Everyday moral judgment is seldom purely rational. Socioemotional processes, such as the perception of group membership and stereotypes about a group, may influence moral judgments. Despite the obvious relevance of socioemotional processes, little is known about whether the age of a perpetrator or a victim actually influences moral judgment. The current study investigated how moral judges' age and sex, social attitudes (i.e., benevolent ageism and benevolent sexism), and characteristics of moral situations (i.e., the age and sex of the perpetrator and victim) interact with each other impacting moral judgment. Five hundred and twenty-one adults viewed 32 moral scenarios and evaluated how acceptable the perpetrators' behaviors were. Sixteen variations were created for each scenario by manipulating the age and sex of the perpetrator and victim (2x2x2x2). The findings were consistent with expectations: 1) Young or male perpetrators were judged more negatively than old or female perpetrators; 2) A perpetrator was judged more negatively when the victim was old or female than when the victim was young or male; 3) participants' age and ageism moderated their judgment, depending on the age of the perpetrator and victim; 4) participants' sex and sexism moderated their judgment, depending on the sex of the perpetrator and victim. The results provide support for the complex interplay between moral judges' social characters, social attitudes, and the perpetrators' and victims' social characters in moral judgment. The findings are relevant in court by emphasizing that persons' judgment might be affected by the age of the victim or perpetrator.

## A DISTANCING FROM AGING QUESTIONNAIRE AND ITS CORRELATIONS WITH PERSONALITY VARIABLES

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Individual differences and personality characteristics have been found to affect both one's general view of aging as well as one's view of the personal process of aging. The Distancing from Aging Questionnaire (DAQ) was developed and validated in this study as one tool for exploring attitudes toward the aging process. This measure comprised two components of the tendency to distance one's self from aging: avoidance of older adults and avoidance of one's own aging. Responses to the 10 items are given on a 4-point Likert scale; higher scores indicate increased distancing from aging. One hundred and five undergraduate students completed the DAQ, two other measures related to ageism, a personality questionnaire, and a demographics questionnaire. The DAQ was found to have convergent validity, as it correlated with both the Fraboni Scale of Ageism (r = 0.57, p < .001) and the Anxiety About Aging Scale (r = -0.73, p < .001). In addition, this scale was found to have moderate correlations with the subscales of the Eysenck Personality Questionnaire – Abbreviated that assess extroversion and neuroticism. Further analysis found that the subscale assessing avoidance of one's own aging was significantly positively associated with extroversion (r = 0.25, p = .01) and significantly negatively associated with neuroticism (r = -0.26, p = .01). Avoidance of older adults was not significantly associated with either variable. Results suggest that the personality traits of extroversion and neuroticism are associated with one's view of the personal aging process but not with one's view of older adults.

## EFFECTS OF PERSONALITY AND SPECIFIC RISK FACTORS ON THE HEALTH OF BEREAVED ADULTS

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Approximately 20% of Americans are at high risk for developing metabolic syndrome (Beltran-Sanchez et al., 2013). Adults with metabolic syndrome are twice as likely to develop cardiovascular disease (USDHHS, 2011). Furthermore, research suggests that individuals who report higher levels of depression, anger, and hostility have an increased risk relative to their counterparts (Cohen et al., 2010). Data from 800+ adults, ages 18 to 80 years ( $M$  age = 32.27), were used to test a path model examining whether individuals at risk for metabolic syndrome differ in personality and whether the associations with physical health differed as a function of metabolic syndrome risk ( $X^2$  ( $df = 8$ ,  $N = 802$ ) = 54.16,  $p < .001$ ;  $GFI = .98$ ,  $R$ -square for Health = .19). Age was positively associated with risk for metabolic syndrome ( $\beta = .24^{***}$ ). Risk for metabolic syndrome was positively associated with neuroticism ( $\beta = .07^*$ ), while it was negatively associated with extraversion ( $\beta = -.13^{***}$ ), conscientiousness ( $\beta = -.09^*$ ), openness to experience ( $\beta = .10^{**}$ ) and physical health problems ( $\beta = -.36^{***}$ ). Furthermore, higher levels of agreeableness were negatively associated with physical health problems ( $\beta = .09^*$ ). The complex interplay among age, personality traits and metabolic risk are discussed.

## AGE-RELATED TRAJECTORIES AND DETERMINANTS OF POSITIVE AND NEGATIVE RECIPROCITY

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Positive reciprocity (i.e., striving to reciprocate favors) and negative reciprocity (i.e., the striving to retaliate negative actions) represent two independent individual dispositions. Previous research on both types of reciprocity often relies on theories of social exchange that use experimental approaches. Less is known about the life span development of these dispositions as well as possible differential association with resources. In the present study, we aim at a) exploring stability and change of positive and negative reciprocity in adulthood, and b) examining the impact of existing resources on the development of reciprocity. We applied two complementary approaches to address our research questions: Study 1 used representative macro-longitudinal data of the German Socio-Economic Panel (GSOEP,  $N = 13,169$ , age 20 to 96 yrs.) to examine long-term developmental trajectories of positive and negative reciprocity. Findings showed relative stability of positive reciprocity across the entire adult life span, but decreases in negative reciprocity in older age. Study 2 used a web-based sample ( $N = 743$ , age 20 to 91 yrs.) to examine micro-longitudinal associations of available resources in the health, educational, and social support domain with robustness and change of reciprocity over the course of four months. We found emotional and health resources to explain differential change patterns of positive and negative reciprocity in adulthood. We discuss potential emotion regulative functions of reciprocity and sketch future research questions based on life span theories of resources.

## PERSONALITY, SUBSTANCE USE, AND LONGEVITY AT A 50 YEAR FOLLOW UP

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Personality traits predict both substance use and mortality risk across the life course. However, few investigations that have examined both of these effects in a single study and with a long term follow up. Utilizing 50-year mortality data from a sample of adults in the Normative

Aging Study, we tested whether smoking behavior mediated the personality-mortality association, using the 16pf personality inventory. Mediation tested in a structural equation modeling framework (with censored outcome) provided evidence that personality predicts mortality via smoking behavior for seven of the sixteen traits. By itself, personality appears to have minimal impact on mortality, with suspicion (vigilance) being the sole predictor. However, when smoking behavior was included in the model as a mediator, we detected a number of significant effects, providing evidence for suppression mediation. We found warmth, impulsivity, suspicion, and tension to be risk factors, such that individuals high on these traits had a 20-46% increase in odds of being heavy smokers, and thus an increased hazard of dying. The protective factors were conformity, sensitivity and openness, such that individuals high on these traits had a 16-19% decrease in odds of being heavy smokers, and thus a decreased hazard of dying. The current study provides empirical support for the Health Behavior Model of Personality, which holds that personality influences health behaviors, which in turn affects health and longevity. Furthermore, this study shows that personality may have a far-reaching impact on mortality.

## WHO I AM IS BECAUSE OF WHAT I WANT TO FEEL? THE ROLE OF IDEAL AFFECT ON PERSONALITY CHANGES ACROSS ADULTHOOD

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As people age, personality changes. Extraversion, Neuroticism, and Openness decrease, while Agreeableness and Conscientiousness increase. Previous research proposed that particular personality traits were selected to fulfill different life goals across the lifespan. In addition to life goals, Socioemotional selectivity theory (SST) argues that emotional goals are increasingly important with age. Meanwhile, emotional goals (i.e. ideal affect, the feelings that people value) were found to be correlated with personality. For instance, extroverted people valued high-aroused positive (HAP e.g., enthusiastic) more and low-aroused positive (LAP; e.g., peaceful) less. Based on SST and aforementioned research, we argued that emotional goals at least partially drove personality changes. Study 1 found that both ideal HAP and LAP partially mediated age differences in Extraversion, Agreeableness, and Conscientiousness across European Americans aged 20 to 90 years (EA;  $N = 268$ ), Chinese Americans aged 20 to 89 years (CA;  $N = 268$ ), and Hong Kong Chinese aged 18 to 89 years (CH;  $N = 321$ ). Study 2 primed participants with the importance of HAP or LAP for well-being, and then tested whether self-report personality changed. Among 63 younger ( $M = 20.51$  years,  $SD = 1.64$  years) and 57 older adults ( $M = 69.77$  years,  $SD = 5.67$  years), we found that, in the control condition, older adults were more extroverted, agreeable and conscientious than were younger adults. The age differences in Agreeableness and Conscientiousness increased in the condition that valued LAP, while the age difference in Extroversion increased in the condition that valued HAP. These results shed light on the role of emotional goals in personality changes across adulthood.

## AGE, ATHEISM, AND TRUST: PERCEPTIONS AND INTERACTIONS

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It is well documented that older adults are stereotyped as both religious and trustworthy whereas atheists are often distrusted—based on the perceived lack of supernatural monitoring. However, to date, the implications of these stereotypes, and the interplay of these concepts, have yet to be explored. Two studies were employed to better understand the intersections of religious and age identities. The first study examined the intersection of age and religiosity in 399 college students.

Relative to a religious target, participants viewed a demographically-ambiguous atheist as younger  $F(4,390)=6.39, p<.00$  regardless of whether the target was assigned a label of young ( $M=20.91, SD=4.51; M=28.06, SD=9.51$ ) or old ( $M=54.58, SD=16.5; M=57.44, SD=16.03$ ). A follow up study explored the dimension of trust with this relationship utilizing 218 Mechanical Turk workers. Analysis revealed a significant interaction  $F(2,544)=8.26, p<.00$ , where an older (73) atheistic target received higher trust ratings ( $M=5.23, SD=.12$ ) than a younger (16) counterpart ( $M=4.52, SD=.13$ ), although this increase did not moderate differences between atheistic and religious targets. Taken together, findings from these two studies suggest participants interpret atheism as a characteristic of youth. Interestingly, participants were more likely to identify an older person as trustworthy, but, if faced with the competing characteristics of older age and atheism, participant responses suggest that they put more emphasis on whether or not the target was an atheist than on his or her age. Implications include an increased understanding of the intersection of age and religious identities with the goal of reduced stereotypical thinking through education.

### THE EXPERIENCE OF HEALTH ANXIETY AMONG OLDER AND YOUNG ADULTS

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The experience of health anxiety among older and young adults is poorly understood. Most studies (e.g., Abramowitz & Moore, 2007; Gramling et al., 1996) have examined cognitions and behaviors associated with health anxiety, with little to no studies examining emotions and physiological arousal. The present study induced health anxiety in a laboratory setting with 36 older (age:  $M = 66.11, SD = 6.31$ ) and 36 young adults (age:  $M = 19.75, SD = 1.70$ ) by providing false health-related feedback. Outcome variables included heart rate, blood pressure, and self-reported emotions recorded across three periods: baseline, induction, and recovery. Repeated measures MANCOVAs were conducted with baseline measures as covariates. Results revealed a main effect of time for heart rate, such that heart rate decreased from induction to recovery. A main effect of time for subjective distress was also found, with distress increasing during induction and decreasing during recovery. A main effect of time was revealed for anxiety, depression, and positive affect, such that anxiety and depression were highest during induction and positive affect was lowest during induction relative to recovery. A significant age by time interaction was found for anxiety, with young adults reporting greater anxiety than older adults during induction. No effect for blood pressure was found. Results indicate health anxiety is experienced as a combination of anxiety, depression, low positive affect, distress, and increased heart rate for both older and young adults. Implications for the understanding of health anxiety among older adults are discussed.

### INTERGENERATIONAL EXCHANGE AND MEDIATORS IMPACT AMBIVALENCE ABOUT FUTURE OLDER SELVES

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Programs involving youth and older adults are promoted to improve youth attitudes towards elders, often with measurable success. Intergenerational contact can also foster multiple stereotypes of elders, contributing to ambivalence about aging. We explored the relationship between intergenerational contact and young adults' ambivalence about their own aging. Mechanisms of anxiety, empathy, and knowledge were tested as mediators of the relationship. Young adult respondents completed one online survey ( $N=457$ ). We used a multiple mediator path analysis model to test the hypothesis that anxiety, knowledge, and empathy would mediate the impact of intergenerational contact on feelings of ambivalence about aging ( $\beta = -0.04, SE=0.01, p <.001$ ) in the model without

mediators. The multiple mediator path analysis model had an adequate fit [ $X^2(8) = 32.48, p <.01$ , Standard Root Mean Error (SRMR)=0.03, Comparative Fit Index (CFI) = 0.95]; anxiety ( $\beta = -0.07, p <.01$ ) and empathy ( $\beta = 0.02, p <.01$ ) fully mediated the relationship between contact and ambivalence about future older self (knowledge did not). Those with higher ratings of intergenerational contact, lower aging anxiety, and higher empathy expressed less ambivalence about aging, indicating positive expectations for late life. Intergenerational contact can influence expectations for old age. Exchange between youth and elders that fosters empathy and reduces anxiety can be facilitated to support positive and counteract negative images of future older selves, which may affect late life health.

### TO LIVE OR NOT TO LIVE? OLDER PEOPLE REASON THEIR WISHES TO BECOME CENTENARIANS

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Background: Lifespan is increasing, but little is known about opinions of older people whether they want to live an extremely long life. Even less is known about how they reason their wish to live or not to live up to 100 years. Methods: A random sample ( $n=1637$ ) of home-dwelling people (mean age 85.0 years, range 75-96 years) in Helsinki, Finland, responded a survey including an inquiry: Do you wish to become a centenarian (yes/no)? Why/ Why not (open-ended question)? Analysis of the reasoning for their wishes was performed using thematic content analysis. Results: Every third (32.9%) wished to reach the age of 100 years. Those willing were older, more often males, and they reported good subjective health more often than those not willing to live a hundred years. There was no difference between the groups in comorbidities or years of education. In qualitative analysis those wishing to become centenarians were curious to see what happens, with a twinkle in the eye, and they loved life. Many of them wanted to live long in case they would stay healthy. Significant roles in life were common, whereas those not wishing to live up to 100 years reported meaningless life. Also bitterness was an emerging attitude. Most of them feared loss of autonomy or loneliness, or they were reluctant to become a burden to society or their closest ones. Several responders also stated that they do not want to intervene in evident fate. Conclusion: One third of home-dwelling octogenarians wish to become centenarians.

### SCHOOL CLIMATE, ATTENDANCE, AND RETENTION OF OLDER ADULTS IN SCHOOL-BASED VOLUNTEER ROLES WITHIN THE BALTIMORE CITY EXPERIENCE CORPS STUDY

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Volunteerism is associated with improved health and psychosocial well-being, and studies further suggest a dose-response relationship between hours volunteered and these outcomes. Despite these clear advantages of volunteering, the impact that organizational factors (i.e., climate) has on volunteer attendance and retention has received less attention. Within the Baltimore Experience Corps Trial, we evaluated school climate (i.e., safety, resources, learning environment, etc.) as a predictor of average weekly attendance (hours/week) and retention (total weeks volunteered) of older adults in school-based volunteer roles. Our sample included 298 older adults (age  $67.3 \pm 5.9$ ; 86.9% female; 91.3% African American). We assessed eight dimensions of school climate rated by school staff and students in grades 3-5 as predictors of older adult attendance and retention using linear mixed-effects and Cox regression models, respectively. Staff ratings of school climate were associated with retention but not attendance of volunteers. Vol-

unteers in schools with better staff ratings of school safety were less likely to discontinue volunteering than older adults in schools with worse safety ratings (hazard ratio (HR): 0.6, 95% confidence interval (CI): 0.4, 1.0). Similar trends were observed for learning environment (HR: 0.7, CI: 0.41, 1.1), resources (i.e., programs for students with learning disabilities, school supplies, etc.; HR=0.7, CI: 0.4, 1.1), and overall satisfaction (HR: 0.7, CI: 0.4, 1.0). No significant associations were observed between student ratings of school climate and volunteer attendance or retention. Our results suggest that targeting organizations with positive staff-rated climates could have important implications for sustaining participation of older adult volunteers.

#### AGE-RELATED DIFFERENCES IN IMMEDIATE AND DELAYED FEEDBACK PROBABILISTIC CLASSIFICATION LEARNING

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Recent research suggests that two learning systems are involved in feedback learning: one for immediately presented feedback supported by the striatum, and one for delayed feedback in which the medial temporal lobe (MTL) plays a central role (Foerde, Race, Veraellie, & Shohamy, 2013; Foerde & Shohamy, 2011). The striatum declines gradually with age throughout adulthood (Raz et al., 2003) resulting in impaired performance on associative learning tasks (Price, 2005; Seaman, Howard, & Howard, 2013). There is also decline in the MTL, which appears at later ages and is less universal (Raz et al., 2005), affecting the hippocampus which facilitates feature binding (Mitchell, Johnson, Raye, & D'Esposito, 2000). Therefore, we hypothesized that older adults would be impaired in feedback learning, particularly with immediate feedback, reflecting age-related declines in striatal function. To test this, the present study examined feedback learning in younger and older adults by administering a probabilistic learning task in which cue-outcome associations are learned through response feedback under immediate (1000 ms) and delayed (7000 ms) conditions, with delay condition varying within-subjects (as in Foerde et al., 2013). As expected, we found less learning in old than young adults, but contrary to expectations, age differences were no larger for immediate than delayed feedback. In addition, accuracy on the immediate and delayed conditions was correlated for young adults ( $r = .689, p < .001$ ), but not for older adults ( $r = -.020, ns$ ), perhaps reflecting differential decline of these learning systems across individuals in old age.

#### MARITAL STATUS PREDICTS BETTER EPISODIC AND SEMANTIC MEMORY PERFORMANCE IN OLDER ADULTS

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The association between marriage and health benefits is commonly investigated. However, few studies have examined marriage and its relationship with episodic and semantic memory. Mousavi-Nasab, Kormi-Nouri, Sundstrom, and Nilsson (2012) were one of the first to examine age and multiple memory domains in relation to marital status and found that older married individuals performed better than non-married individuals on episodic and semantic memory. The current study attempted to replicate these findings using a smaller sample of community-dwelling older adults from Southeastern Massachusetts enrolled in the Southcoast Cognitive Aging Study. Fifty-five older adults (mean age = 69.16, SD age = 8.92, range 52-89) were assessed to determine whether marital status is a significant predictor of episodic and semantic memory performance. Episodic memory was assessed with the WMS-R Logical Memory Delayed Recall (Story A) and semantic memory was assessed with the WAIS-R Vocabulary (Voc) subtest. Results from group means testing indicated that the married group ( $n=14$ , Mean

Recall=14.00) had significantly higher episodic memory scores than the non-married group ( $n=30$ , Mean Recall=11.17),  $t(43)=2.70, p=.01$ . The married group also had significantly higher semantic memory scores (Mean Voc = 53.47) than the non-married group (Mean Voc = 45.60),  $t(43)=2.12, p=.04$ . In secondary hierarchical regression analyses, after controlling for age and education as covariates, marital status remained a significant predictor only for lower episodic memory performance ( $p=.03$ ). Future studies could expand the non-married group in a larger sample to assess differences in memory performance for the widowed, divorced, and single never-married groups.

#### AGING-RELATED DIFFERENCES IN WORRY IN CANCER SURVIVORS

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Cancer is diagnosed across the lifespan; most often in older adults. Due to improvements in treatment, many survive cancer, but have persisting side effects in medical, psychological, and social domains. Advancing age may convey some protection in coping with cancer, as older adults have more lifespan experience with medical illnesses. In this study, 121 adults age 40-50s ( $n=31$ ), 60s ( $n=58$ ) and 70s-80s ( $n=32$ ) ( $M=65.29+9.17$ ) were interviewed at 6, 12, and 18 months post diagnosis of oropharyngeal, digestive, or colorectal cancers. Worries about recovery from treatment, (e.g., something in my body that no longer works) were most frequently endorsed, followed by worries about family (e.g., burdening my family), recurrence (e.g., my cancer coming back), and existential issues (e.g., getting done what I want before I die). Worries about healthcare quality were minimally endorsed. Over time, worries about the impact of cancer on family improved ( $t=2.72, p < .01$ ), but worries in other areas did not. Worry was not associated with cancer stage, at 6 ( $r=.11$ ), 12 ( $r=.03$ ) or 18 months ( $r=.01$ ) post diagnosis. However, worry was associated with age: the oldest old (70s-80s) displayed far less worry at all time periods ( $T1 M=6.58 + 6.02$ ) than those in their 60s ( $M=17.19 + 14.15$ ) or 40s-50s ( $M=20.62 + 15.10$ ), with significant main effects for age ( $F=172.60 p < .01$ ), but not time. Similar age patterns were found across sub-domains, although the oldest old showed small increases in existential worries over time. Advancing age / lifespan development may convey resilience against worry in the face of life-threatening illness.

#### GENERATION TO GENERATION: EFFECTS OF INTERGENERATIONAL INTERACTIONS ON ATTITUDES

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Meaningful intergenerational interactions between older and younger adults are rare outside of family relationships. Generation to Generation, a course at University of San Francisco for older (over age 55) and younger (18-30 year old) adults, was designed to promote positive intergenerational contact. This study examines changes in attitudes for older and younger adults who attended the class. Each fall semester, 18 older and 18 younger adult students met once a week for 8 weeks and discussed topical issues. Pre- and post-course questionnaires assessing allophilia, liking for another group, were distributed to both age groups. Participation in the study was voluntary. Combining responses from three semesters, 53 younger and 27 older adults completed the pre-course questionnaire. At the beginning of the course, both older and younger adults reported greater comfort and kinship for their own age group but greater engagement with the other age group. Younger adults reported more affection and enthusiasm for older than younger people, but older adults had similar levels of affection and enthusiasm for both age groups. Forty younger and 16 older adults completed both Time 1



and 2 measures. Younger adults reported increases in affection, comfort, kinship, engagement and enthusiasm for older adults and increased affection for younger adults from beginning to end of the course, but no significant change in comfort, kinship, enthusiasm and engagement for younger adults. Older adults' ratings did not show significant changes over time. Results suggest that intergenerational interactions in a classroom setting may increase younger adults' liking for older adults.

### **TIMING OF RETIREMENT: A GENDERED DEVELOPMENTAL TRANSITION**

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Timing of retirement can be conceptualized as a developmental transition that occurs "early," "on time," or "late" relatively to age peers. A recent study showed that individuals retiring "on time" or "late" have better subjective physical and mental health than individuals retiring "early," controlling for health (Calvo, Sarkisian, & Tamborini, 2013). However, less is known about what predicts retirement timing or whether predictors vary by gender. The present investigation used the Health and Retirement Survey (HRS), a longitudinal study of 37,000 participants assessed biennially since 1992, to examine predictors of retirement timing. Regression analyses examined the predictive value of demographic, health, economic, and cognitive variables at Wave 1 of data collection on the subsequent retirement timing for participants retiring after Wave 1 (N = 4807). Excluding gender, significant predictors of retirement timing were marital status ( $\beta = -.05$ ), number of children ( $\beta = .04$ ), self-reported health ( $\beta = -.07$ ), and memory ( $\beta = .05$ ). Total wealth and BMI were not significant predictors. When gender was added, it became the most important predictor ( $\beta = -.34$ ), with women retiring earlier than men. The variance accounted for increased from .01 to .12. BMI also became a significant predictor ( $\beta = .03$ ). Finally, gender-by-predictor interactions revealed that marital status ( $\beta = -.09$ ) and number of children ( $\beta = -.20$ ) are more important predictors for women's retirement timing than men's, while wealth ( $\beta = .13$ ) was a more important predictor of men's retirement timing. These results have implications for retirement decision-making for individuals, institutions, and policy.

### **THE AFFORDABLE CARE ACT AND OLDER WOMEN'S HEALTH BEHAVIORS**

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A large proportion of the stated aims of the Affordable Care Act (ACA) involve prevention as a means of lowering healthcare costs. This assumes that increasing insurance rates will actually change health-seeking behavior. Women between the ages of 55 and 64 fall into what has been called a "window of vulnerability." They are more likely to be employed part time than in other age cohorts in jobs unlikely to come with benefits. They are disproportionately expected to rely on the individual exchanges set up by the ACA for their health care. To explore whether or not increase access will change behavior, this paper examines how current changes in health insurance fit older women's overall orientation throughout their lives toward formal medical care. A small group (N=15) of older women not yet eligible to retire were recruited from a women's social club. They were interviewed using semi-structured interviews. Women reported that while they were more likely to have insurance after the ACA, this did not increase their intended frequency of utilizing medical care. Many of the interviewees intended to discontinue treatment options perceived as expensive until they become eligible for Medicare. These findings indicate that as well-meaning as the ACA is, it is unlikely to change the health outcomes of segments of the population already under-utilizing preventative care.

### **MENTAL HEALTH DIFFERENCES BETWEEN MEN AND WOMEN CAREGIVERS**

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It is expected that the proportion of men caregivers will increase substantially with the aging of the baby boomer generation, i.e. those born between 1946 and 1964. Although numerous studies have shown that women have larger and more complex social networks than men, there is little information about whether these more developed networks confer a protective effect that would mitigate the differences in health outcomes between men and women caregivers. Furthermore, there is a dearth of information on gender differences that include large samples of caregivers despite significant progress in understanding the nature and effects of caregiving. Recent findings from the 2009 Behavioral Risk Factors Surveillance System (BRFSS) found that roughly one-quarter of respondents 18 years of age or older reported providing care to a friend or family member during the month preceding the survey. We used data from the 2011 BRFSS administered to over 100,000 participants to examine differences between male and female caregivers by demographics, health-related quality of life (HRQOL), and the effect of social support on HRQOL. Roughly two-thirds of caregivers were women, and demographic characteristics differed among men and women caregivers. Women caregivers reported significantly more mentally and physically unhealthy days than men, but there were no differences between men and women in general health or life satisfaction. Men were significantly more likely to report that they rarely or never received social support. However, the effect of social support on HRQOL was stronger in women than in men. Implications for caregiver support programs are discussed.

### **GENDER DIFFERENCES IN PERCEIVED SOCIAL SUPPORT IN AN U.S. COMMUNITY-DWELLING OLDER CHINESE POPULATION**

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Background: Social support is an important component of successful aging. This study aimed to examine gender differences in perceived positive and negative social support among U.S. Chinese older adults. Methods: Data were drawn from a population-based face-to face interview survey of Chinese older adults aged 60 years and above in the greater Chicago area. We assessed participants' levels of social support through asking the frequency of receipt of positive and negative support from spouse, family members and friends. Results: Of the 3,159 participants, 58.9% were female and the mean age was 72.8 (SD = 8.3). Women were more likely than men to perceive positive spousal support (rely on: 89.8% vs. 85.2%,  $p < 0.01$ ), family support (open up to: 88.5% vs. 81.5%,  $p < 0.001$ ; rely on: 91.8% vs. 87.9%,  $p < 0.001$ ) and friend support (open up to: 74.7% vs. 64.4%,  $p < 0.001$ ; rely on: 61.4% vs. 56.9%,  $p < 0.05$ ), whereas men were more likely to perceive negative spousal support (been demanded too much: 17.4% vs. 10.7%,  $p < 0.001$ ; been criticized: 35.6% vs. 25.9%,  $p < 0.001$ ). Younger age, higher levels of education, being married, living with a larger number of people, higher overall health status, better quality of life, and improved health over the past year were positively correlated with perceived positive social support in older women. Conclusions: Perceived social support varied by gender among U.S. Chinese older adults. The development of support group interventions should take gender differences into account. Longitudinal studies are needed to understand the outcomes associated with positive and negative social support.

## GENDER COMPARATIVE STUDY OF SUCCESSFUL AGING IN OLDER ADULTS IN COLIMA, MEXICO

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**INTRODUCTION** The model of successful aging by Rowe and Kahn (1997) operationalized by McLaughlin (2010) is the most influential in positive aging. Prevalence rate is 3.1%–21% in different countries and protective factors are: male gender, high education, not smoking and married status. **OBJECTIVE** Determine and compare the prevalence and associated factors of successful aging in men and women in elderly population of the state of Colima, Mexico. **METHODOLOGY** Descriptive transversal study derived from “Health, Wellness and Aging Survey” Colima, Mexico;  $n=1454$  elderly. Indicators of successful aging: no serious illness or physical disability, high cognitive and physical functioning and commitment to life. Age, gender, education, marital status and pension were independent variables. Odds ratios and binomial logistic regression, 95% confidence intervals were calculated. **RESULTS** Prevalence of successful aging was 12.5% (18% in men, 9.1% in women). 61.4% of participants were female and 38.6% male, mean age was 72.18 years ( $SD\pm 8.6$ ). Married status  $OR=0.13(0.07-0.31)$ , younger age,  $OR=0.35(0.20-0.60)$  and high school or higher  $OR=0.58(0.36-0.94)$  were protective factors for successful aging in men. On the contrast, married women  $OR=0.23(0.13-0.42)$  with a younger age  $OR=0.33(0.17-0.67)$  were more likely to age successfully, but education was not a protective factor in their case.  $OR=0.71(0.41-1.22)$ . **CONCLUSIONS** Prevalence of successful aging in Colima showed an average level compared to international prevalence. Differences among men and women reveal that it is necessary to develop further study to determine if they are due to biological or sociocultural factors.

## MEN, MASCULINITY AND USE OF ANTI-AGING PRODUCTS IN THE GLOBAL NORTH

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The neo-liberal ideologies that point to individual responsibility for risks increasingly influence countries of the global North. The anti-aging industry reflects this dictate and encourages people to use their products and services to avoid aging. Middle age is a time when bodily changes will prompt individuals to begin to manage their aging (Fishman, et al., 2010). However, given the negative connotations attached to the term “anti-aging”, which is usually seen to focus on aesthetics, and the extent to which appearance is taken to be a woman’s concern, men may be likely to disavow being involved in such anti-aging activities. This paper uses interview data collected from men aged 42–70 from the U.S. and Finland, to explore whether and how men answer the call to manage their risks of aging when such activities are seen to be potentially feminizing. We find that these men reflected neo-liberalism in the sense that they felt that, although aging cannot be prevented, it can be controlled. And while they generally rejected anti-aging products and services that were judged to be about aesthetics, they reported that they use and consume them once they are re-defined as promoting health and performance instead. Our findings suggest that men in both countries respond to similar ageist and consumerist cultures in the global North, wherein the cultural dictate to fight the visible signs of aging is considered to be every individual’s task.

## CONSEQUENCES OF EARLY PARENTAL LOSS ON COGNITIVE FUNCTION IN OLD AGE: DOES GENDER MAKE A DIFFERENCE?

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Drawing from the cumulative disadvantage theory, this article examines (1) whether losing a parent in early life affects cognitive function in old age; and (2) whether this association differs by respondents’ gender and their parents’ gender. Using the 2005 wave of the Chinese Longitudinal Healthy Longevity Survey, this study estimated logistic models of parental loss and cognitive function for a nationwide sample of sample of older adults aged 63–120 years ( $N = 15,638$ ). Older women who lost their mother before or at the age of 16 had worse cognitive functions compared to their counterparts who lost their mother later in life. This association was not found in older men. Losing one’s father in young age had no significant effects on late-life cognitive function for both men and women. Evidence from older Chinese women lends support to the cumulative disadvantage theory. Both respondents’ gender and their parents’ gender shape the relationship between childhood trauma and cognitive function in old age. These findings suggest that women losing a mother at young age are a vulnerable group at higher risk for cognitive impairment in late life.

## ADULT AGE DIFFERENCES IN THREE MEASURES OF INTRINDIVIDUAL VARIABILITY DURING AN IMPLICIT LEARNING TASK

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Age differences in intraindividual variability (IIV) in reaction time have been well documented in relatively simple perceptual-motor tasks (i.e. Li, Aggen, Nesselrode, & Baltes, 2001) and are thought to predict long-term changes in cognitive performance (Bielak, Hultsch, Strauss, MacDonald, & Hunter, 2010; MacDonald, Hultsch, & Dixon, 2003). Here we use three measures of IIV: individual standard deviation (ISD), coefficient of variation (CoV), and mean successive squared differences (MSSD) to examine IIV on a more complex, sequence learning task, the Triplets Learning Task (Howard, Howard, Dennis, & Kelly, 2008) in young and older adults. While ISD is the most frequently used measure of IIV, these other measures have distinct advantages in that the CoV is not as influenced by the overall mean reaction time and MSSD is not as influenced by trends in the data. As expected, we found significant age-related differences in sequence learning, with young adults showing more learning than older adults. Also consistent with previous studies, we found significant age differences in ISD and MSSD and marginal age differences for CoV, with older adults exhibiting greater IIV than young adults. Additionally, within the entire sample, there was a significant relationship between IIV and learning, with greater variability related to less learning. Collectively, these results extend prior work by showing age-related differences in IIV on a more complex sequence-learning task. Furthermore, they suggest that IIV is related to overall task performance.

## THE EFFECT OF PERSONALITY TRAITS ON COGNITIVE FUNCTIONING AND FUNCTIONAL STATUS IN THE OLDEST OLD

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Introduction: Low neuroticism and high conscientiousness, in particular, are associated with positive psychological and physical health, but the impact of personality on neuropsychological and functional performance in older adults is unknown. The study investigates whether personality traits incrementally predict cognitive functioning, verbal

fluency, abstraction, executive functioning, and functional status better than age, education, and gender alone. Methods: Eighty octogenarians and 244 centenarians from the Georgia Centenarian Study completed measures of cognition, functional status, and personality. Hierarchical regressions were performed to examine the incremental predictive value of Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism beyond demographic variables. Demographic variables were entered on the first step. NEO-PI summary scores were entered on the second step. Outcome measures included the Mini Mental State Examination (MMSE), Controlled Oral Word Association Test (COWAT), WAIS-III Similarities Subtest, Behavioral Dyscontrol Scale (BDS), and the Direct Assessment of Functional Status Basic (BADL) and Instrumental (IADL) Activities of Daily Living scores. Results & Conclusions: Personality accounted for significant, unique proportions of variance in all cognitive and functional outcomes. For octogenarians, lower agreeableness and higher conscientiousness were the most consistent personality predictors of better neuropsychological and functional performance. For centenarians, lower neuroticism was the most consistent personality predictor of better outcomes.

### AN EXPLORATION OF OLDER MEN'S ACCEPTANCE OF AGE INEQUALITY

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Age relations serve to increase the marginal status of people as they grow old. They also interact with such inequalities as gender to produce varying degrees of acceptance of that marginal status. We propose that belief in the ideals of categories of identity tied to social inequalities, such as youth-based gender ideals of masculinity and femininity, can affect acceptance of age relations. Thus, maintaining youth-based ideals of masculinity may lead men to treat their increasingly marginal status as biologically inevitable or their own individual fault. Using interview data obtained from middle-aged men from Finland and the U.S., we explore the extent to which aging men's adherence to youth-based ideals of masculinity correlate with acceptance of their own subordination based on age relations. We find that these aging men express the belief that they should be able to live up to the ideals of youth-based masculinity and be able to compete for status in a similar manner, and that if one is unable to do so, that one should expect to be in a subordinate position. These findings help us to understand why and how it is that men, who are in a more dominant position in earlier life, do not rebel against age-based inequality as a group.

## SESSION 1630 (POSTER)

### EMOTIONS AND AGING

#### PATH MODEL EXAMINATION OF HEALTH AND ATTACHMENT-RELATED AFFECTIVE REGULATION

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Recent theory exploring the role of attachment has highlighted the concept of affective-regulation (Mikulincer, Shaver, & Pereg, 2003). Consistent with Bowlby, the assumption is that exposure to a potential threat activates the attachment system. Once activated, an individual engages in proximity-seeking behavior(s) as a way of managing the distress associated with the threat. If proximity-seeking fails, the individual will fall back on secondary attachment strategies in order to regulate distress associated with the perceived threat (i.e., hyperactivating versus deactivating regulation of emotion). 130 community-dwelling older adults participated in a study examining affective experience and daily life. The sample of 130 included 80 women (M=67.68, SD=8.497) and 50 men (M=67.70, SD=9.519) with an average age of 67.568 (SD = 8.873). In addition to measures of psychosocial functioning, participants completed a modified version of the Day Reconstruction Method

(DRM). Of the 130 participants, 32 were securely attached while 98 were insecurely attached (i.e., preoccupied, dismissing or fearful). The current analysis examines the construction of a path model linking the experience of a health stressor to attachment-related styles of affect regulation (i.e., anxiety or avoidance). The path model used aggregated physical and mental health from the SF-36 and the anxiety and avoidance subscales derived from the Adult Attachment Scale. The model also included measures of life satisfaction and perceived stress as possible mediators. Results from the path model suggest a well-fitting model (CFI = .994,  $\chi^2(1) = 2.121$ ,  $p = .145$ ). Discussion will focus on the potential mediators of attachment avoidance and anxiety.

### AGE DIFFERENCES IN RUMINATION, CO-RUMINATION, AND THEIR RELATIONSHIP WITH DEPRESSIVE SYMPTOMATOLOGY

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Co-Rumination, or "extensively discussing and re-visiting problems" with another person (Rose, 2002), is a construct that has primarily been studied in adolescent populations. Among adolescent girls in particular, co-rumination is paradoxically related to both closer friendships and increased emotional problems. Given that older adults often report both better emotion regulation strategies and social relationships relative to those at younger ages, we conducted an exploratory study to investigate age differences in co-rumination. Young Adults (N = 27; Mean Age = 19.2) and Older (N=29; Mean Age = 73.0) adults filled out questionnaires about Rumination (the Ruminative Responses Scale; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008), Co-Rumination (a modified Co-Rumination Scale; Rose 2002), and Depressive Symptomatology (the DASS-21; Wood, Nicholas, Blyth, Asghari & Gibson, 2010). Results indicated that there were significant age difference in both rumination,  $F(1,52) = 9.26$ ,  $p = .004$ , and co-rumination,  $F(1,51) = 9.63$ ,  $p = .003$ , with young adults engaging in these behaviors more than older adults. In addition, there was an Age x Sex interaction for co-rumination,  $F(1,51) = 4.78$ ,  $p = .03$ , with larger age differences in women than in men. Finally, although rumination was strongly and positively correlated with depressive symptoms in both groups ( $r = .53$  for young;  $r = .69$  for old), co-rumination was only significantly correlated with depressive symptoms in the older adults ( $r = -.19$  for young;  $r = .53$  for old). The results suggest that co-rumination is a potentially useful construct for understanding age differences in social and emotional processes.

### EXAMINATION OF AGE AND GENDER DIFFERENCES IN COGNITIVE AND EMOTIONAL EMPATHY IN YOUNG, MIDDLE-AGED, AND OLDER ADULTS

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Age differences and changes in emotional processes have been investigated in prior literature; results documenting age differences have suggested these changes result from motivational shifts in goals. More recently, investigations have incorporated empathy, which integrates perspective-taking and emotional experience. The purpose of the current study was to examine age differences in cognitive and emotional empathy, as well as emotion regulation strategies in adulthood. Participants included 37 young (M=21.68; SD=4.50; Range=18-39), 28 middle-aged (M=49.32; SD=5.62; Range=40-59), and 26 older adults (M=72.12; SD=6.84; Range=60-87). A series of multivariate and univariate analyses of covariance tests, with age and gender as grouping variables, were conducted. Depression served as a covariate, as age differences emerged,  $F(2,88)=13.37$ ,  $p<.01$ , with young and middle-aged adults scoring higher than older adults. A significant age group by gender interaction emerged for one measure of cognitive empathy,  $F(2,83)=4.18$ ,  $p<.05$ , indicating middle-aged men and women performed similarly, and significantly higher than young and older adult

men, but not significantly different from young and older women. Significant age differences were observed in three emotion regulation strategies: self-blame ( $p=.01$ ), acceptance ( $p=.008$ ), and other blame ( $p=.024$ ); Young and middle-aged adults were significantly more likely to use self-blame and acceptance, while older adults were significantly more likely to use other blame. Gender differences in the positive refocusing strategy ( $p=.02$ ), showed women scored higher than men. These results coincide with and extend prior literature. Thus, discussion will consider mechanisms of these age and gender differences in empathy and emotion regulation strategies.

#### **LONELINESS IN A DAY: ACTIVITY ENGAGEMENT, TIME ALONE, AND EXPERIENCED EMOTIONS**

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Previous research has established that the experience of chronic loneliness is associated with poorer physical health and well-being, including declines in cardiovascular health and higher levels of distressed affect. The purpose of the current study was to obtain a more detailed picture of the experience of loneliness in midlife and older adulthood by incorporating the context of a day's activities. We obtained a detailed picture of loneliness in midlife and older adulthood (age 50 – 96) by using a modified day reconstruction task to examine the activities in which middle age and older adults engage (such as work, exercise, socializing, watching television), the amount of time they spent alone, and the emotions experienced while engaging in a day's activities. Lonelier individuals did not participate in different daily activities or spend more time alone during the day; however, loneliness was associated with engaging in more activities alone than with other people. In regards to emotional experiences, we report that daily activities yield a different profile of positive emotional experiences for lonelier individuals. The social context of daily activities was an important factor in understanding the effects of loneliness on experienced negative emotions. The results of this study provide insight into the influence of loneliness on the structure of a day and context for understanding the emotional experiences of lonely older adults.

#### **THE RELATIONSHIP BETWEEN SOCIAL CAPITAL AND HEALTH AMONG THE ELDERS IN TAIWAN**

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Methods: Cross-sectional and individual-level secondary data analysis. Data for the analysis came from the 2007 Taiwan Social Chang Survey with a nationally representative sample of 1,038 adults. Social capital was measured using social trust, social involvement, social support (name generator) and occupational positions (position generator). Logistic regression was applied to explore whether social capital was associated with health. Results: Overall, 85.7% reported did not had summed depressive symptoms, and 74.5% reported their physical health as being good. High social trust was significantly associated with self-rated good physical health and did not had summed depressive symptoms, while high instrumental support had summed depressive symptoms. Conclusions: Social capital was very significant in determining health among the eldes in Taiwan.

#### **AGE DIFFERENCES IN FUTURE ANHEDONIA: THE ASYMMETRY IN THE PROCESSING OF GAINS VS. LOSSES**

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Future anhedonia is the tendency for individuals to believe that they will experience less intense affects when an event happens in the future, compared to the same event happening in the present. The current study examined age differences in future anhedonia in both monetary gain and loss condition, and the role of future anhedonia in time discounting.

Ninety-one younger adults, 69 middle-aged adults, and 69 older adults participated in the study. We found that all age groups display future anhedonia in the gain condition, and that future anhedonia predicts time discounting in the gain condition; however, only younger and middle-aged adults display future anhedonia in the loss domain.

#### **THE IMPACT OF CHRONIC STRESS ON RUMINATION, ANXIETY, DEPRESSION, AND AGE**

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Older adults often report higher levels of well-being. Yet, in contexts with high levels of chronic stress, when older adults are not able to use emotion regulation strategies as effectively, age-related benefits in well-being may disappear. We evaluated this hypothesis in a diverse sample of adults (Mage=47, range 25-65) who completed a wide range of questionnaires that included an assessment of subjective chronic stress and measures of mental health (rumination, anxiety, and depression). We found that chronic stress moderated the relationship of age with rumination ( $\beta=.006$ ,  $p < .05$ ), anxiety ( $\beta=.008$ ,  $p < .01$ ), as well as depression ( $\beta=.005$ ,  $p < .09$ ); results indicated a negative association between age and mental health, but only in those reporting the highest levels of chronic stress. These findings suggest that previously studied age differences in well-being may disappear in contexts with high levels of chronic stress. Implications for socio-emotional aging theories are discussed.

#### **EFFECT OF AROUSAL AND VALENCE ON EMOTION REGULATION CHOICE IN OLDER AND YOUNGER ADULTS**

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Previous research suggests that emotional stimuli that elicit strong responses promote selection of different strategies during emotion regulation than milder stimuli. Regardless of stimulus valence, younger adults prefer to reappraise low intensity stimuli but to distract themselves from high intensity stimuli (Sheppes & Gross, 2011, 2012). Compared with younger adults, older adults favor positive over negative information in their attention and memory (Charles, Mather & Carstensen, 2003; Mather & Knight, 2005). This age-related positivity effect may bias whether older adults choose to approach (reappraise) or avoid (distract away from) stimuli when regulating emotions. However, it remains unknown whether stimulus intensity and valence impact older adult emotion regulation strategy selection. In this study, we explored the effect of arousal and valence on emotion regulation strategy selection across age. Younger and older adult men were shown slideshows of positive and negative images, and asked to select and then utilize either cognitive reappraisal or distraction strategies to decrease their emotional reactions to images that varied in intensity (high intensity, low intensity images). Preliminary results revealed a main effect replicating previous findings, in which high intensity images were more frequently distracted, and low intensity images were more often reappraised across age groups. No significant age by valence interaction was found, supporting that similar to younger adults, conscious older adult strategy choice is largely driven by arousal and not valence. These findings raise the question of whether valence plays a role in automatic emotion regulation decision-making processes.

## ENGAGING IN HEALTH-RELATED BEHAVIORS THROUGHOUT THE DAY: ASSOCIATIONS WITH AGE, MOOD, AND STRESS

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Many public health campaigns target changes in day-to-day healthy and unhealthy behaviors in order to age well and avoid disease. Most outcomes, however, are multi-determined; few studies have examined the role of daily experiences on engagement in multiple daily health-related behaviors. We examined whether momentary mood and recent disruptive events are related to a range of health behaviors (consuming alcohol, caffeine, nicotine, eating, exercising, using medicine or drugs) in a 10-day ecological momentary assessment study of 189 adults aged 18-81. Palm-top computers prompted participants to complete brief surveys five times daily. Older age was associated with 2-3% higher odds of engaging in exercise and using medication in the last 3 hours. In multilevel models accounting for age, gender, day of week, time of day, and previous behaviors and mood, we found no evidence for mood or events predicting health behaviors in the next three hours. In contrast, recent health behaviors predict mood three hours later. Drinking alcohol and exercise were both associated with significantly higher positive affect and lower negative affect. Eating, however, was only associated with lower levels of negative affect. Use of medicine was related to lower levels of positive affect in older adults. Use of caffeine or nicotine were unrelated to future mood. These results suggest that even when accounting for age and gender differences, in a non-clinical adult sample engaging in health-related behaviors can enhance daily emotional well-being but there is little evidence for stressors or emotions prompting individuals to engage in or avoid health behaviors.

## PERCEPTIONS OF THE EVERYDAY EMOTIONAL DISPLAYS OF YOUNGER AND OLDER ADULTS

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Research has identified general stereotypes of emotional behavior across the life span (e.g., Fabes & Martin, 1991; Montepare & Dobish, 2013). Whereas older adults are expected to experience and express fewer highly charged, negative emotions, they are expected to experience and express more positive, low arousal emotions, as well as negative, low arousal emotions. High arousal, positive emotionality is seen as more characteristic of younger age groups. Using a social-psychological attribution framework, this research examined emotion expectations by exploring how perceivers evaluated the emotional displays of older versus younger adults in "real life" everyday social exchanges. 104 observers (54 women, 17-54 years) were randomly assigned to evaluate the behavior of older and younger adults depicted in vignettes of everyday emotional exchanges reflecting negative or positive emotions varying in high or low intensity. Observers evaluated the extent to which actors were believed to be able to regulate their emotions, were concerned about how others viewed their emotional behavior, were responding to typical, situational cues, and had emotional dispositions. Significant age group differences were found, however, they were not qualified by the valence or intensity of the emotional exchanges. Older adults were evaluated as being able to regulate their emotions more, less concerned about social evaluations, and more likely to be responding to situational cues than younger adults. This work extends our understanding of age-related emotional behavior by showing how the emotional displays of older versus younger adults are likely to be evaluated in everyday social exchanges

## A DAILY DIARY ASSESSMENT OF FINANCIAL WORRIES AND BEHAVIORS: EFFECTS OF AGE AND GENDER

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The great recession has had a prolonged effect on the financial situation of adults across the lifespan. The current study used a daily diary format to capture the daily experiences of this financial situation's behavioral impact on younger and older adults. Participants completed 8 telephone interviews on consecutive evenings. During each, participants (n = 564; Mage = 43.8) reported how often they had thought about their financial situation that day. At the end of the interview period, participants reported on whether they had done any of the following to manage their financial situation: used public transportation, walked or biked for transportation, put off paying bills, put off buying essentials (e.g., groceries), put off non-essential expenses (e.g., leisure expenses), worked more hours, and borrowed money. They also reported whether they felt they had enough money to make ends meet. There was significant daily variability in thinking about financial issues (ICC = .54); however, there were no significant effects of age or gender (ps > .13). Fifty-three percent of participants reported at least one behavioral adaptation to their financial situation over the past week, with reducing non-essential expenses being the most frequently endorsed change. Women were more likely to make changes (p < .0001) and report not having enough money to make ends meet compared with men (OR = 2.16, p = .0004). Younger adults were more likely to report putting off paying bills (OR = 1.32, p = .01) and younger men specifically reported more use of public transportation (OR = 2.21, p = .01). Implications of these behavioral changes for other daily outcomes (e.g., well-being) will be discussed.

## AGE DIFFERENCES IN EMOTION RECOGNITION OF BRIEFLY PRESENTED FACES

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Previous research has found that, when identifying emotional expressions from static faces, older adults show impaired recognition for some emotions (e.g., sadness, fear, anger), but spared or even improved recognition on others (e.g., happiness, surprise, disgust). There are several limitations to previous research, however, including possible ceiling effects in young adults and a lack of ecological validity. In the current research, we used a modified emotion recognition test in which posed emotion expressions were briefly presented in-between neutral expressions, in order to mimic fleeting emotional expressions and increase difficulty. In Experiment 1, 24 young and 24 older adults performed this task. We found a pattern of age impairments in anger, happiness, and sadness recognition; age similarity in fear and surprise recognition; and age improvements in disgust recognition. In Experiment 2, we tested an exploratory hypothesis that age-impairments in vision may partially account for this finding. Fifty young adults were randomly assigned to perform the same test with either typical pictures, or pictures "blurred" to mimic age-related visual declines. Performance was identical to the young adults in Experiment 1, and condition had no effect on performance. Overall, these findings suggest that age differences in emotion recognition (1) are smallest for the most ecologically valid expression (e.g., surprise presented fleetingly), and (2) are not related to age-related visual changes.

## SELF-RATED HEALTH MODERATES THE ASSOCIATION OF DAILY REGULARITY AND AFFECT IN OLDER ADULTS

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Introduction: Existing empirical research suggests that greater rhythmicity in daily activities is associated with better affective outcomes. Yet, prior research has generally not considered how certain physical

health states, where regularity may be more likely to be imposed rather than chosen, influences this association. The aim of the present study was to ascertain if the association between daily regularity and affect varies by self-assigned physical health ratings. Methods: An archival analysis was conducted on data from the Midlife in the United States follow-up study, MIDUS-II. Participants were 433 community-dwelling adults aged 65 to 84. Intraindividual variability in the duration of time spent on daily activities was derived from data collected via 8 daily phone calls. Physical health and affect were assessed by mail-in questionnaires developed for MIDUS-II. Results: Hierarchical regression analyses indicated a significant regularity by health interaction, signifying the differential association of regularity and both positive,  $\beta=.67$ ,  $p=.04$ , and negative,  $\beta=-.55$ ,  $p=.02$ , affect, at varying levels of self-rated health. Follow-up analyses suggest that greater regularity was associated with less positive and more negative affect for individuals who rated their health as being 'poor'. Conclusions: The present findings complement the existing literature by identifying that the association between daily regularity and affect varies by self-rated physical health. Future studies may examine discrepancies in perceived and actual regularity, as well as assess individual preference for regularity, as such factors may help to explain the relation between regularity and affect for older adults who are experiencing varying states of physical health.

#### **EVENT CENTRALITY AND DAILY WELL-BEING: THE SYNERGISTIC EFFECT OF CHRONIC STRAINS AND DAILY HASSLES**

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People react differently to the daily stressors they encounter: Whereas some people appear to take daily stressors in stride, others are much more reactive. One reason for these differences may be the extent to which daily stressors are related to ongoing, chronic strains. The current study tested this hypothesis by examining how people reporting differing levels of chronic interpersonal strains reacted to daily interpersonal stressors. Results revealed that people who reported higher levels of interpersonal strains were more reactive to daily stressors involving interpersonal tensions ( $\beta = .05$ ,  $p < .001$ ). However, these results were qualified by a significant three-way interaction, indicating that among people who reported high levels of chronic interpersonal strain, daily interpersonal tensions were more costly to younger adults' well-being compared to older adults' well-being. No age differences emerged for people who reported low levels of chronic interpersonal strain ( $\beta = -.003$ ,  $p < .01$ ).

#### **MEMORY FOR POSITIVE EVENTS AS AN EMOTION REGULATION TOOL: LINKING PROCESSES WITH OUTCOMES IN ADULTS**

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Emotion and aging researchers have recently called for more research linking processes (e.g., remembering positive events) and outcomes (e.g., emotion regulation). The current study aims to examine whether the positivity effect (i.e., older adults' increased focus on positive material during memory tasks) leads to faster reduction in sadness after a mood induction. Young and older adults received instructions to avoid negativity, focus on positivity, or focus on negativity while watching a sad film clip. A comparison group did not receive instructions and simply watched the film. After a one-hour delay, participants retold the story of the film clip in their own words. Trained raters, blind to condition and age, coded participants' stories for accuracy in recall. Six young and older adult coders classified each film event as positive, negative, or neutral. Among young adults instructed to avoid negativity, accurately recalling proportionally more positive film events

was associated with more reduction in sadness following the mood induction. This relationship did not hold for young adults in the other conditions. Importantly, for older adults in all conditions (except focus on negativity), this positive relationship between memory and sadness reduction exists. Thus, encouraging young adults to avoid negativity may lead them to use memory for positive events as an emotion regulation tool. Furthermore, older adults seem to avoid negativity on their own, without requiring instructions. Older adults' thought-listing after watching the film are consistent with avoiding negativity. These results have implications for how memory may relate to emotion regulation across adulthood.

#### **AGE-RELATED DIFFERENCES IN UP-REGULATING POSITIVE AND NEGATIVE EMOTIONS: EFFECTIVENESS AND REPORTS OF DIFFICULTY**

A.K. Harrington, J. Stanley, *Psychology, The University of Akron, Akron, Ohio*

Older adults typically outperform younger adults when asked to regulate their emotions. However, emotion regulation research has focused on age differences in regulating into a positive mood, ignoring the question of whether older adults are equally effective at regulating into a negative mood. Thirty-seven older adults (60-84 years) and 27 younger adults (19-27 years) were instructed to up-regulate one of three emotions (fear, sadness, or happiness) while watching a film clip intended to elicit an opposite emotional response. Participants indicated their current mood before and after each film clip. Emotion regulation success was computed as a change score for the instructed emotion. Participants also reported the ease of up-regulating their emotions. Participants were least able to up-regulate happiness to a saddening film, and younger adults were marginally more effective at regulating into a happy mood, relative to older adults,  $p = 0.064$ . Participants reported the greatest ease when up-regulating happiness to a frightening film. Overall, older adults reported more difficulty up-regulating their emotions than younger adults. These effects were qualified by a significant interaction such the relative ease of regulating into a positive mood while watching a frightening film was greater for young adults than older adults. These results suggest that not all emotion regulation abilities increase with age. Future research should investigate whether age differences in regulatory success in the lab translate to similar age differences in everyday life. The findings are discussed in terms of lifespan shifts in motivational goals and functional theories of emotion.

#### **THE RELATIONSHIP BETWEEN AFFECT AND ENVIRONMENTAL CONTEXT IN A HEALTH-IMPAIRED POPULATION**

R.C. Intrieri, P. Goodwin, *Psychology, Western Illinois University, Macomb, Illinois*

Participants were 25 community-dwelling older adults that were recruited from cardiac/pulmonary rehabilitation programs to join a study examining affective experience and general well-being. The sample included 8 women ( $M=69.13$ ,  $SD=7.34$ ) and 17 men ( $M=66.74$ ,  $SD=7.99$ ) with an average age of 67.5 ( $SD = 7.72$ ). Participants completed a modified version of the Day Reconstruction Method (DRM, (DRM; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). The DRM was designed to collect information from participants based upon their recall of the previous day. The individual constructs a short diary consisting of a series of episodes. For each episode, participants provide information about what they were doing (activity), who they were with (social partners or alone), where they were in their environment (at home or in the community), as well as their affective state during each episode. Participants also completed several measures assessing general well-being. The procedure used here was closely modeled on the procedure used in Kahneman et al. (2004). Diary data generated by the DRM, were analyzed using HLM 7.01 with multilevel random coefficient modeling. Coefficients representing mean ratings for both

positive affect and negative affect were calculated for each participant. Level-1 Model,  $Y(\text{Pos or Neg Affect}) = P1*(\text{SOCIALIZING}) + P2*(\text{ALONE}) + P3*(\text{SIGNIFICANT OTHER}) + P4*(\text{HOME}) + E$ . For Positive Affect, statistically significant coefficients were obtained for the objective context (coefficients ranging from  $b = -3.702$  to  $b = 2.158$ ). Results obtained for Negative Affect with statistically significant coefficients for contextual variables (ranging from  $b = -1.575$  to  $b = 1.371$ ).

#### AGE DIFFERENCES IN THE EFFECTS OF SOCIAL EVALUATIVE STRESS

L.E. Popham, T.M. Hess, *Psychology, North Carolina State University, Raleigh, North Carolina*

There is growing evidence of age-related improvements in emotion regulation. The present study aimed to examine whether previously identified age differences in emotion regulation hold up in a high arousal, stressful context. This is an important question given that previous studies that have examined age differences have used mild emotional inductions using pictures or video clips. In the current study, older ( $N=60$ ; 65-80 years old) and younger adults ( $N=60$ ; 20-35 years old) participated in a social evaluative stress task, which involved an impromptu speech in front of a panel of evaluators. Participants' blood pressure, heart rate, and subjective emotions were assessed at several points during the pre-speech and post-speech period to assess age differences in the stress regulation process. Consistent with expectations, the results revealed that older adults were able to down-regulate negative emotions more quickly than younger adults following the stressful speech ( $p = .04$ ). Inconsistent with expectations, however, older adults were not more vulnerable to the physiological costs of stress than younger adults.

#### NEGATIVE SOCIAL INTERACTIONS AND INCIDENT HYPERTENSION AMONG OLDER ADULTS

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The purpose of this study was to determine if negative social interactions are prospectively associated with hypertension among older adults. This is a secondary analysis of data from the 2006 and 2010 waves of the Health and Retirement Study, a survey of community-dwelling older adults (age  $>50$ ). Total average negative social interactions were assessed at baseline by averaging the frequency of negative interactions across four domains (partner, children, other family, friends). Blood pressure was measured at both waves. Individuals were considered hypertensive if they reported use of antihypertensive medications, had measured average resting systolic blood pressure  $\geq 140$  mmHg, or measured average resting diastolic blood pressure  $\geq 90$  mmHg. Analyses excluded those hypertensive at baseline and controlled for demographics, personality, positive social interactions, and baseline health. Twenty-nine percent of participants developed hypertension over the four-year follow-up. Each one-unit increase in the total average negative social interaction score was associated with a 38% increased odds of developing hypertension. Sex moderated the association between total average negative social interactions and hypertension, with effects observed among women but not men. The association of total average negative interactions and hypertension in women was attributable primarily to interactions with friends, but also to negative interactions with family and partners. Age also moderated the association between total average negative social interactions and hypertension, with effects observed among those ages 51-64, but not those ages  $\geq 65$ . In this sample of older adults, negative social interactions were associated with increased hypertension risk in women and the youngest older adults.

#### LIFESTYLE COUNSELING AND SATISFACTION WITH PROVIDER COMMUNICATION AMONG MIDLIFE ADULTS

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Effective provider communication is associated with improved health outcomes among US adults. Recent changes to health care policy require primary care providers to engage in lifestyle counseling with their patients. Middle-aged individuals would likely benefit from lifestyle counseling as a way to prevent and/or manage chronic disease. We surveyed middle-aged patients (age 45-64;  $n=266$ ) at three safety net clinics in Charlotte, NC. Data were collected on satisfaction with provider communication and whether clinicians discussed diet and/or exercise counseling. We conducted logistic regression using generalized estimating equations to account for clinic clustering. The multivariate model adjusted for demographic characteristics, health conditions, housing situation, and satisfaction with clinic care. In unadjusted results, patients who reported being counseled about diet had 4 times odds of higher satisfaction with provider communication (OR=4.03, 95% CI=2.09-7.80). Patients who indicated that they were counseled on exercise had 157% higher odds of higher satisfaction with provider communication (OR=2.57, 95% CI=1.93-3.43). In the multivariate model that adjusts for both lifestyles, and other covariates, the association between diet counseling and satisfaction with provider communication was magnified (OR=4.36, 95% CI=2.73-6.96). The relationship between exercise counseling and provider communication satisfaction was attenuated (OR=1.49, 95% CI=1.14-1.96). Depression, Hispanic ethnicity, and homelessness significantly decreased odds of satisfaction with provider communication. In this study lifestyle counseling was associated with higher satisfaction with provider communication. These low-income patients were open to receiving advice about lifestyle changes and perceived them as an appropriate activity for their clinicians. Further research should examine effective components of lifestyle counseling.

#### RISK AND PROTECTIVE FACTORS FOR DEPRESSIVE SYMPTOMS AMONG AMERICAN INDIAN OLDER ADULTS: ADVERSE CHILDHOOD EXPERIENCES AND SOCIAL SUPPORT

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Purpose of study: Despite efforts to promote health equity, many American Indian and Alaska Native (AI/AN) populations, including older adults, experience elevated levels of depression. Although adverse childhood experiences (ACE) and social support are well-documented risk and protective factors for depression in the general population, little is known about AI/AN populations, especially older adults. The purpose of this study was to examine factors related to depression among a sample of American Indian older adults in the Midwest. Method: Data were collected using a self-administered survey completed by 233 American Indians over the age of 50. The survey included standardized measures such as the Geriatric Depression Scale-Short Form, Adverse Childhood Experiences Questionnaire, and the Multidimensional Scale of Perceived Social Support. Hierarchical multivariate regression analyses were conducted to evaluate the main hypotheses of the study. Results: Multiple regression analysis indicated that two dimensions of ACE (i.e., childhood neglect, household dysfunction) were positively associated with depressive symptoms ( $B = .279, p < .05$ ;  $B = .121, p < .05$ ) social support was negatively associated with depressive symptoms ( $(B = -.038, p \leq .001)$ ). Perceived health ( $B = -.242, p \leq .01$ ) and living alone ( $B = .368, p \leq .05$ ) were also significant predictors. Conclusion: ACE may play a significant role in depressive symptoms among AI/

ANs across the life course and into old age. Social support offers a promising mechanism to bolster resilience among AI/AN older adults.

### **ALTERED HOPES AND FEARS AMONG OLDER ADULT, LONG-TERM, CANCER SURVIVORS**

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The psychological impact of cancer is an important concern for older adult survivors. This research examines how individual hopes and fears are altered by cancer and explores how these psychological shifts are related to survivor characteristics such as sex, race, and years since diagnosis. Qualitative data from the first wave of a ten year, six wave longitudinal NCI-funded project (n=321) are presented to give insight into the multiple ways that individual's hopes and fears are altered by a traumatic life event such as cancer. Response rate for the selected questions was roughly 1 in 3 leaving 100 respondents. Responses were coded based on both the respondent's affect and the content of that response. Content was coded into 7 categories: relationships, ability/disability, spirituality, life perspective, health behaviors, re-occurrence, and no effect. Changes in life perspective and relationships were the most commonly discussed of these categories. There was an overwhelmingly positive response to cancer concerning hopes and fears (positive to negative affect ratio of 5:2). This seems paradoxical, however it implies that individuals view surviving cancer as a learning experience. The response rate that cancer had no effect was roughly 50%. Examining respondent sex, race, and years since diagnosis revealed that males reported more thoughts surrounding health behaviors and re-occurrence than women; years since diagnosis was associated changes in fears surrounding re-occurrence; and blacks discussed spiritually more than whites. These findings have important implications in understanding psychological shifts after cancer and how this major life event shapes identity and life perspectives.

### **MEASURING AGING ATTITUDES AND COMPARING MEASURES OF ATTITUDES TOWARD AGING**

G.S. McCall, R.C. Intrieri, *Psychology, Western Illinois University, Macomb, Illinois*

Butler (1975) defined Ageism as the systematic stereotyping and discrimination against people because of their age. Since 1975 there have been numerous scales developed to quantify attitudes toward the old and aging in general. This study specifically examined the relationship among four measure: the Aging Semantic differential, the Fraboni Scale of Ageism (FSA), the Facts on Aging Quiz-Revised, and a relatively new scale developed by North and Fiske (2013) the Intergenerational Tensions Ageism Scale (ITAS). The ITAS has three domains: Succession, Identity, and Consumption. Succession is defined as the "active succession of enviable positions and influence", Identity is defined as "age-appropriate, symbolic identity maintenance", and Consumption is defined as "minimizing passive shared-resource consumption" North & Fiske, 2013). Data were collected from ninety-six undergraduate students recruited through the University's human participant pool. The mean age was 19.85 (n=97, SD=1.6); 51.5% were Caucasian, 27% were African-American, 7% were Hispanic, 6% were Biracial, and 8% were designated as Other or missing. In terms of gender, Sixty-eight percent were women and 32% were men. Results show that the relationship between the ASD-Instrumental scale and ITAS- Succession and the ITAS- Identity subscales were highly significant ( $r=.39, p=.0001$ ;  $r=.27, p=.008$ , respectively). Also noted were significant relationships between FSA-Antilocution subscale and ITAS- Succession and ITAS- Consumption ( $r=-.204, p=.046$ ;  $r=-.286, p=.005$ , respectively). None of the FSA-subcales and the ASD-subcales demonstrated statistically significant relationships.

### **EXAMINING THE EFFECT OF A SURVIVORSHIP TRANSITION COACHING INTERVENTION ON SELF-EFFICACY AMONG OLDER BREAST CANCER SURVIVORS**

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Objectives: The transition from active treatment to cancer survivorship can present physical and psychological burden that persists across time. Because of this complexity, cancer survivorship has been conceptualized within a chronic disease framework. This study examined the effect of a brief survivorship coaching intervention using motivational interviewing and survivorship care planning to enhance self-efficacy among breast cancer patients aged 55 and older transitioning to survivorship. Methods: 46 female non-metastatic breast cancer survivors (mean age M= 65.33, SD = 6.63) were recruited and randomly assigned to either the survivorship coaching intervention (n=21) or usual care control (n=25) group. Self-efficacy was assessed with the Self-Efficacy for Managing Chronic Disease 6-item Scale. A mixed effects model was used to assess the effect of the intervention on self-efficacy at pre-intervention and three-month follow up. Results: A significant interaction was found between time and intervention type, Wilk's Lambda=.86,  $F(1,28)=4.63, p<.05$ , Partial Eta Squared=.14. Specifically, survivors in the intervention group demonstrated significantly greater improvement in self-efficacy at three-month follow-up compared to those in the usual care control group. Conclusions: Findings demonstrate that a one-time survivorship planning visit that engages older breast cancer survivors in their healthcare plan has beneficial effects on self-efficacy for managing survivorship care beyond usual care. Future research is needed to better understand the mechanism that leads to higher self-efficacy.

## **SESSION 1635 (POSTER)**

### **EDUCATION AND AGING**

#### **EVALUATING AN EVIDENCE BASED TRAINING PROGRAM FOR IMPROVING ADVANCE CARE PLANNING CONVERSATIONS IN NURSING HOMES**

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Palliative care and advance care planning can benefit residents of long-term care facilities, including those whose conditions are not imminently life-limiting and for whom hospice is inappropriate. Using evidence based practices for palliative care and communication at end-of-life, this project developed and implemented an educational program to improve skills of direct care staff in six nursing facilities in a midsize Midwestern city to promote a practice change of completing advance care planning conversations with residents, documenting these conversations, and routinely utilizing advance care planning forms and orders. Using a train-the-trainer model, project staff did initial trainings in each facility utilizing multiple educational strategies; then, staff development personnel completed training of all staff over a 6 month period and integrated the training for new hires. Evaluation of staff behavior change was done through chart reviews of 20 randomly selected charts per facility carried out at baseline (prior to training implementation) and 6 and 12 months after training was implemented. Chart review recorded information about medical orders, presence of advance care planning forms, documentation of advance care conversations, and inclusion of goals in the care plan. Advance care planning conversations and documentation of them increased steadily and significantly at 6 and 12 months. This project suggests that training of nursing home staff can



alter the frequency with which advance care planning conversations take place and are documented. More needs to be done to translate these larger goals into daily care.

#### **ASSESSMENT OF AGING-RELATED LEARNING OBJECTIVES AMONG PSYCHOLOGY MAJORS**

A. June, C. Andreoletti, *Central Connecticut State University, New Britain, Connecticut*

Program evaluation is an important component of ensuring quality instruction and curricular development in higher education. This is especially crucial for gerontology in higher education as we prepare students to meet the increasing demands of the aging population. The present study examined how well the Department of Psychological Science at Central Connecticut State University (CCSU) is assessing and meeting gerontology-related learning objectives. A total of 188 undergraduate psychology majors completed a multiple-choice capstone psychology assessment required for graduation during the years of 2012 and 2013. However, 43 participants were excluded from further analysis because their lifespan development course was taken at another university. The remaining 145 students (M age = 23 years, 76% female, 79% White) all completed a lifespan development course at CCSU and 20% also had an advanced psychology of aging course. Students responded to five questions assessing learning objectives related to gerontological theories, research design, and domains of study. Sixty-three percent responded correctly to a question about Kubler-Ross's end-of-life theory, 76% responded correctly to a question about personality theory based on life transitions, 81% correctly identified a cross-sectional research design, and 75% recognized behavior genetics as a domain for studying the relative contributions of nature and nurture to aging. By contrast, only 39% were able to identify the generativity stage of Erikson's psychosocial development theory when provided with an age range. This is a first step toward developing more comprehensive age-related learning objectives and assessments and demonstrates clear areas of strength and needed improvement in our curriculum.

#### **GERONTOLOGY PRACTITIONER CERTIFICATE: NEEDS ASSESSMENT AND PROGRAM DEVELOPMENT**

K. Hash, J. Englehardt, E.M. Fullmer, *West Virginia University, Morgantown, West Virginia*

This poster presents a survey assessing the geriatric training needs of professionals in aging and the resulting continuing education based gerontology practitioner's certificate program. A total of 391 individuals participated in the online survey. The majority of respondents were trained as social workers (46%), followed by nurses and speech pathologists (each 16%). In terms of formal geriatric training, 43% identified CE offerings as the source of this training. Thirty-three percent indicated that they had no formal training in geriatrics. The majority (77%) expressed some interest in enrolling in a certificate program within the next two years. Increased knowledge and competence, personal satisfaction and growth, and meeting CE licensure requirements were the major reasons given for enrollment. Cognitive changes, dementia and end of life issues were each selected by almost half of the respondents as areas in which they needed the most training. Legal issues, health care and social policies and programs were also of interest. Online training was indicated as a preferred training method. Using survey findings, a 100-hour program was developed to extend the understanding of the aging process and issues faced by older adults and strengthen the skills of persons who work with older adults. This needs assessment can benefit other programs that wish to assess the geriatric training needs of professionals and develop an appropriate educational program to respond to these needs. As the number of older adults continues to rise, providing such training will go a long way in ensuring an adequate and competent workforce.

#### **PROMOTING GERIATRICS TEACHING THROUGH A CHIEF RESIDENT IMMERSION TRAINING (CRIT) PROGRAM**

H. Auerbach<sup>1,2</sup>, B. Brett<sup>3</sup>, R. Chippendale<sup>1,2</sup>, M.E. Young<sup>1,2</sup>, L.B. Caruso<sup>1,2</sup>, A. Sorensen-Alawad<sup>1</sup>, S. Levine<sup>1,2</sup>, *1. Boston University School of Medicine, Department of Medicine, Section of Geriatrics, Boston, Massachusetts, 2. Boston Medical Center, Boston, Massachusetts, 3. Brett Consulting Group, Somerville, Massachusetts*

Background: Non-geriatricians must acquire skills and knowledge to ensure coordinated care for older adults with multi-morbidity. Exposure to geriatrics principles in residency curricula is variable. The Chief Resident Immersion Training (CRIT) Program in the Care of Older Adults is designed to increase Chief Resident (CR) capacity to provide such education. We explored whether prior exposure to and attitudes towards teaching geriatrics are related to geriatrics topics taught six months post-CRIT (PC). Methods: CRs completed baseline (BL) and 6-month PC surveys. Both surveys assessed topics taught in the past 6-months and attitudes towards teaching geriatrics. Independent variables: total hours of geriatrics training received 2 years pre-CRIT; total number of geriatrics topics taught at BL; confidence in, responsibility for, and enjoyment of teaching geriatrics. Dependent variable: total geriatrics topics taught at 6-months. Regression (list-wise) analyses were conducted with matched BL and PC surveys. Results: 452 CRs from 17 institutions attended CRIT from 2008-2012. 78.7% completed follow-up surveys. Controlling for geriatrics topics taught pre-CRIT, total hours of geriatrics training received during residency and enjoyment of teaching geriatrics at follow-up were significant predictors of total topics taught at six months (both  $p < .001$ ). Enjoyment of teaching geriatrics pre-CRIT, responsibility for, or confidence in, teaching geriatrics post-CRIT were not predictors. Conclusions: CRIT exposes CRs to geriatrics principles they can disseminate to promote better care of older adults. 6-month post-CRIT variation in the number of geriatrics topics taught by CRs suggests more research is needed to assess how geriatrics can be further integrated into residency education.

#### **LEARNING THROUGH LOSS: INCORPORATING NARRATIVES ABOUT LOSS IN DEATH EDUCATION**

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Students may have a greater willingness to discuss issues of death and loss through written assignments, however, there is little guidance for instructors regarding how to manage these sensitive assignments, nor how students benefit from them. We implemented and evaluated a "lossography" assignment in undergraduate thanatology courses within a gerontology program. In this assignment, students (N = 64, mean age = 30) wrote about their losses and anonymously shared the narratives with their classmates. We describe the implementation of this assignment as an educational tool, qualitatively analyzed the loss narratives for salient themes, and assessed the usefulness of the assignment for educators in a wide variety of disciplines/settings. Additionally, students completed a quantitative survey reflecting on their course learning. Although many themes of loss emerged, the most frequently reported significant loss was death of a grandparent. Additionally, most significant losses occurred in childhood/adolescence. Four major learning themes emerged: (1) grief and coping with a variety of losses, (2) universality of death, grief, and loss, (3) appreciation of life and loved ones, personal growth, and connectedness, and (4) helping families/children with loss and grief. Students also reported gaining self-awareness and knowledge to apply to future careers, feeling prepared to cope with future personal losses, and compassion for others. Of all aspects of course delivery, the lossography was evaluated highly (4.7/5) and 44% identified it as the most beneficial to their learning. Furthermore, 97% recommended this

assignment for future students. The implications of the assignment for death education are also discussed.

### **A FACULTY DEVELOPMENT TRAINING PROGRAM TO IMPROVE THE PARTNERSHIP FOR HEALTH IN AGING COMPETENCIES**

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The conceptual framework for the Virginia Geriatric Education Center's 160-hour interprofessional faculty development program in geriatrics is based on the core multidisciplinary competencies in the care of older adults established by the Partnership for Health in Aging (PHA) Workgroup on Multidisciplinary Competencies in Geriatrics. The 23 relevant competencies were incorporated into an evaluation instrument designed to measure changes in self-efficacy among faculty scholars as a result of their participation in the VGEC's curriculum development and evaluation training program. The first program cohort of 12 faculty scholars indicated their levels of confidence with respect to each PHA competency before and after training using a rating system (from 0-100) derived according to Bandura's guide for constructing self-efficacy scales, and higher ratings were indicative of higher levels of self-efficacy. All participants completed the self-report measures before and after training. Results indicated that prior to training, self-efficacy related to the competencies was significantly lower ( $M = 61.09$ ;  $SD = 16.27$ ) than the overall mean rating following training ( $M = 83.16$ ;  $SD = 7.01$ ). The mean difference in perceived PHA competency levels before and after training was  $22.07$ ,  $t(11) = 3.65$ ,  $p < .01$ . This presentation will provide additional results of changes within and across the six primary domains: health promotion and safety, evaluation and assessment, care planning and coordination across the spectrum, interdisciplinary and team care, caregiver support, and healthcare systems and benefits. Analyses indicative of curriculum improvements will be related to competency mapping with the 103 program objectives that comprised the program's didactic content.

### **EVALUATING A PAIN REPORTING AND MANAGEMENT PLAN FOR CONFUSED AND NON-VERBAL LONG TERM CARE RESIDENTS**

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Nationally, quality improvement initiatives are being undertaken to address pain management in long term care (LTC). New federal regulations are also in place to improve resident pain management outcomes, however gaps remain and little is known about how to effectively design and implement a program for assessing, managing and communicating about pain for confused and non-verbal long term care residents. Previous research indicates that pain is under assessed and under treated and that those who are non-verbal and those who suffer dementia are more susceptible to under-treatment of pain because they can't verbally express their pain management needs. Barriers to effective pain management also include resident, family and staff counterproductive beliefs about pain in addition to education gaps regarding pain management. We developed an evidence based practice initiative to teaching LTC nurses and Registered Care Technicians (RCTs) from 10 LTC facilities in the Midwest region how to identify, assess, treat, and

report pain in non-verbal and confused residents. The train-the-trainer model was used to educate staff development champions and support them with their work at each site. Tools introduced for use included: Stop and Watch, PAIN-AD, CALM, the Analgesic Trial and CHAT. Chart reviews were conducted pre and 6 months post the intervention to assess whether changes in documentation of: pain, its aggravating and relieving factors, as well as pharmacological and non-pharmacological treatments for pain were in evidence. Follow-up at 12 months will be conducted to assess retention of learning over time and to guide permanent system change.

### **IMPROVING GERONTOLOGIC NURSING COMPETENCY: MAPPING LEARNING CONTENT WITHIN AN INTERPROFESSIONAL VIRTUAL CASE**

S.C. Johnson, P. Parsons, M. Feldman, L. Sargent, *Virginia Commonwealth University, Richmond, Virginia*

Background Care of elderly adults necessitates specialized knowledge and skill, as well as need for coordination among different healthcare professionals, across multiple settings. To assure effective, high-quality outcomes for elderly adults, healthcare professional students must develop interprofessional skills as well as discipline-specific gerontologic competencies. To achieve desired education outcomes, faculty need to integrate these two facets of competency development into the curriculum. Methods Ninety-two baccalaureate nursing students were assigned to one of 42 interprofessional teams comprised of students from 4 disciplines. Using a virtual case study approach, students planned care for a complex geriatric patient across the continuum, including community, hospital, long-term and end-of-life care. Student teams collaborated when responding to 54 multiple-choice questions covering a range of geriatric content. The virtual case content was mapped to the AACN (2010) curricular guidelines for nursing care of older adults. At the conclusion of the case, outcome data was collected and nursing students' performance was evaluated with consideration to the competency map. Results Opportunities for case and curricular follow-up were noted in these priority geriatric content areas: 1) Screening and assessment; 2) Interaction of acute and chronic illnesses; 3) Geriatric syndromes; 4) Variations in management of care across the continuum; and 5) Strategies to promote quality and safety. Conclusion Mapping learning content to discipline-specific competencies is essential when planning and implementing interprofessional learning strategies for health professional students. Faculty will use results of this study to make recommendations for geriatric curricular improvements and to make recommendations for improvements in the case study.

### **EFFECT OF LARGE SCALE, LOW DOSE INTERACTIVE TRAINING ON STUDENTS' ATTITUDES AND KNOWLEDGE SURROUNDING INTER-PROFESSIONAL COMMUNICATION AND TEAMWORK**

R.L. Dillard, C. Clevenger, B.P. Davis, *Center for Health in Aging, Emory University, Atlanta, Georgia*

Clinical educators have come to recognize the importance of inter-professional education (IPE) within health professions training programs. Existing models of IPE require further evaluation to determine effectiveness on improving knowledge and perceptions of inter-professional communication. Our study evaluates the effect of a two-hour, large-scale training on student attitudes toward IPE and knowledge of the Situation, Background, Assessment, and Recommendation (SBAR) communication tool. First year students from Emory University's Nursing, Medicine, Physical Therapy, Anesthesiology Assistant, Physician Assistant, and Medical Imaging programs participated in the training in the fall of 2013 ( $n = 470$ ). Approximately 10% ( $n = 45$ ) completed pre- and post tests measuring knowledge of and attitudes toward communication and IPE. The intervention consisted of pre-reading on SBAR, lecture, panel discussion of interdisciplinary clinicians, and small-group collaboration with inter-professional stu-

dent peers. The SBAR Knowledge Test (AZ toolkit) and the Interdisciplinary Education Perception Survey (IEPS) (Cameron et al, 2009) measured students' knowledge and attitudes, respectively. Pre-training surveys indicated 45% of respondents having "never heard of" SBAR; rates dropped to 4% indicating "never heard of" following the training. Average knowledge test scores improved from 65% (pre-training) to 75% post-training. Respondents indicated minimal changes on IPES: average scores increased from 5.06 to 5.13 (Likert 6-point scale) with many students declining in their perception. Reference: Cameron, A., Ignjatovic, M., Langlois, S., Dematteo, D., DiProspero, L., Wagner, S., and Reeves, S. (2009). An introduction to interprofessional education for first year health science students: Perspectives of pharmacy students and faculty. *American Journal of Pharmaceutical Education*, 73(4), 1-7. Retrieved from: <http://www.ajpe.org>

### **WHY DO GERONTOLOGICAL EDUCATORS NEED TO KNOW ABOUT "BINGO ARMS"?**

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Purpose: Little is known about the relationship between anxiety about aging and body image. This study examines whether body image avoidance and objectified body consciousness are predictive of overall aging anxiety, fear of older people, psychological concerns about aging and aging appearance. Methods: This cross-sectional study examined aging anxiety, aging related concerns, objectified body consciousness, and body image avoidance in 501 undergraduate students attending a large public university. Results: Aspects of objectified body consciousness (viewing the body as an outside observer and body shame) and body image (avoidance of situations that provoke concern about physical appearance) predict overall anxiety about aging, fear of older people, psychological concerns as well as physical aging appearance concerns. Implications: This study suggests the utility and necessity of including anxiety about aging and aging appearance as core gerontological educational content, in addition to raising awareness of the societal ideal perpetuating youth and thinness.

### **IMPACT OF STAFF EDUCATION ON THE USE OF BEHAVIORAL ACTIVATION AS AN INTERVENTION IN THE MANAGEMENT OF DEPRESSIVE SYMPTOMS IN LTC RESIDENTS**

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Working with three long-term care (LTC) facilities in Missoula, Montana, the MTGEC conducted a two phase project to improve the identification, prevention and management of depression in LTC residents. In the second phase, baseline data were collected from 122 residents' charts after which education on the use of behavioral activation was provided for LTC staff. Behavioral activation (BA) in the treatment of late life depression involves identifying, planning and implementing meaningful activities for residents to decrease their depression. Pre- and post-testing of the 56 participating staff (nurses, nursing assistants, pharmacists, social workers, physical therapists, administrators) showed significant ( $p < 0.0001$ ) gains in knowledge about the BA intervention. Participants rated the training session as excellent (59%) or good (34%) in terms of increasing their knowledge of BA in the treatment of depression. Four months after the initial data collection, a repeat data collection and analysis on 108 residents showed significant increases in the documentation of depressive symptoms compared to the initial data collection. Charting of depressive symptoms increased from a total of 357 symptoms noted (pre-training) in 122 residents to 417 symptoms noted (post-training) in 108 residents ( $p < 0.0001$ ). The average number of notes charted on depression increased from 2.9 per patient in a 2 month period (pre-training) to 3.9 per patient (post-training) ( $p < 0.0001$ ). In addition, the number of BA interventions increased from 65 pre-training to 125 post-training. Identification of desirable activities increased from

8 to 108, plans for resident involvement increased from 6 to 101, and actual involvement increased from 55 to 110 instances.

### **THE ROLE OF EDUCATION ON COGNITIVE DECLINE PRIOR TO DEATH: A SYSTEMATIC REVIEW**

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A key aim of aging research is the identification of factors that may slow cognitive decline in elderly. Education is a well-studied risk factor that has been reported to be associated with cognitive ageing. Its association with terminal decline (cognitive change prior to death) remains however unclear. Several studies have investigated this association, but the difference in methodology and statistical techniques used have contributed to a controversy in findings. The current work aimed to synthesise evidence about the effect of education on terminal decline in global and specific cognitive abilities. Biomedical and social science databases (PubMed, PsycINFO, EMBASE, and Scopus) were searched from January 1990 to September 2013. A systematic review of 479 articles has investigated and compared trajectories of cognitive decline in longitudinal studies with repeated measures of cognitive functioning in relation to terminal decline. The studies were not matched on age at death, but were controlled for education. Results revealed mixed evidence of education. The rate and onset of terminal decline varied across cognitive domains. A preliminary hypothesis suggests that motor and cognitive functions both undergo a period of accelerated decline in the last few years of life. Exacerbate age- and mortality related cognitive declines among the oldest old were particularly seen in test of memory. Education affected terminal decline differently across the domains but this modification was not consistent with the predictions of cognitive reserve theory. The results of this review consolidate the existing pool of knowledge related to the variability in cognitive decline prior to death.

### **EDUCATION, NUMERACY, AND RISK FOR ELDER FINANCIAL EXPLOITATION**

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Elder financial exploitation (FE) is a crime that takes many forms, including transfer of real property, estate changes, unauthorized ATM charges, overcharging for services, forged checks, and "gifts". Basic research into the understanding of FE has been lacking until recently, in part because of difficulties in accurately defining and measuring FE (Conrad et al, 2010). The ongoing study examines neuropsychological correlates and the impact of education on financial exploitation in a sample of 159 community dwelling older adults who were administered a test battery as well as the Older Adult Financial Exploitation Measure, a 79-item self report measure (OAFEM; Conrad et al., 2010). Preliminary analyses revealed that there was no correlation between education and FE ( $p = ns$ ), but higher levels of education is correlated with higher numeracy ( $p = .001$ ) and numeracy is correlated with FE ( $p < .05$ ). In other words, older adults who performed worse on the numeracy measure reported higher frequency of fraudulent events. So, although education and numeracy are correlated, linear regression analyses showed that education doesn't predict FE ( $p > .63$ ), but numeracy does ( $p < .05$ ). Moreover, numeracy remains to be a significant predictor above and beyond education illustrating the unique role of numeracy in predicting FE. These results are consistent with work on financial capacity (Marson, 2000) and the growing literature on the importance of numeracy in decision-making (Wood et al., 2010).

### **OLDER ADULT OFFER READING PROGRAMS FOR YOUNG CHILDREN IN RURAL COMMUNITIES**

Z.L. Bail<sup>1</sup>, C.M. Mehrotra<sup>2</sup>, L.M. Haglin<sup>1</sup>, *1. Northland Foundation, Duluth, Minnesota, 2. The College of St. Scholastica, Duluth, Minnesota*

Since 2008, the Northland Foundation has worked with 10 rural communities and three Indian Reservations to develop locally-driven

AGE to age initiatives. These sites range in population from 391 to 12,124 with high poverty rates. Each site developed an action plan and implemented an array of projects that build friendship between age groups and enhance community well-being. A regional network has been created to bring participating sites together for information-sharing and training. In the fall of 2012, the Foundation added a program enhancement aimed at helping young children, age three to grade three in a variety of community-based and school settings, become successful readers by connecting them with caring older adult volunteers. AGE to age Reading Pals was piloted in three rural sites: Proctor, McGregor, and Moose Lake where more than 36 older adult volunteers regularly read with 204 children over the school year. The volunteers helped students at schools during lunchtime, after school, and at the library. They also read to children in early childhood care and education programs. The program was continued for a second year during the 2013-2014. Teachers reported the program helped their students become more confident readers with reading aloud. It also boosted their self-confidence and made them feel special and valued. It also benefited the volunteers. As one volunteer stated, "Being a Reading Pal opens the door for blending the old with the new, investing in what I can give away to the young new ideas and new places to go with a book."

#### **MAKING CONNECTIONS: THE POSSIBLE LEGACY OF AN INTERGENERATIONAL PROGRAM**

E.H. Thompson<sup>1</sup>, A. Weaver<sup>2</sup>, A. Futterman<sup>1</sup>, 1. *Sociology & Anthropology, College of the Holy Cross, Worcester, Massachusetts*, 2. *Bridges Together, Inc, Sudbury, Massachusetts*

Among children, forms of ageism range from affective and cognitive distancing to outright avoidance of contact with older people. On the face of the shrinking opportunities for children and older adults to routinely interact with one another – sometimes the result of age-segregated and gated communities, younger families' geographical mobility and greater distance from older relatives – many communities have introduced intergenerational programs within the elementary school curriculum. The current study reports on the "images of aging" held by 944 students attending a regional high school. For more than a decade one community has maintained an intergenerational program that brings 4th grade students together with older adults. The question was, do the students coming from the two towns differ in the images of aging? Separate regression analyses of positive and negative images of aging – controlling for students' frequency and self-reported quality of interaction with older adults, affective and cognitive distancing, ethnicity, age, and gender – reveal a town effect ( $\beta = .057$ ,  $t = 2.05$ ,  $p < .05$ ) for positive images of aging. This does not mean that the intergenerational program produced the observed difference, however what is certain is that the high school students from one community with ongoing intergenerational programming hold a more positive image of older adults. Further research is needed to parse out if there is a short- and long-term legacy effect when young students have an opportunity to interact closely with older adults who are not their grandparents or neighbors.

#### **WHO BENEFITS? LONELINESS CHANGE AND STABILITY FOLLOWING A FRIENDSHIP ENRICHMENT PROGRAM FOR OLDER WOMEN**

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The negative consequences of loneliness in later life have become increasingly clear during the last decade, as has the value of having friends to reduce loneliness. Despite their beneficial influence, contact with friends often declines as we age. The Friendship Enrichment Program (FEP) was designed to support older women to develop the friendships that they desire. In this study we examined patterns of change in loneliness during the year following the FEP among 108 participants. Using cluster analysis of loneliness scores at two points in time, 7 clusters

were identified. We combined these clusters into three groups: a recovered group (26%), a significantly improved group (36%), and a non-improved group (29%). A very small group (9%) was never lonely. Demographic variables (age, education, marital status) were not associated with the patterns of loneliness. However presence of a friend in the outer circle of the convoy initially, and presence of friends in the inner and outer circles, variation, and improvement in friendship later were associated with recovery from loneliness. Non-improvement was associated with a lack of these qualities in friendship development. These results are interpreted in terms of relational competence: a) the ability to develop new relationships and b) the ability to enhance relationships. Why some women do not succeed in reducing loneliness by means of friendship development is a question that requires further exploration.

#### **COGNITIVE FUNCTIONING AND BEHAVIORAL CHANGE: EFFECTIVENESS OF AN INTERVENTION PROGRAM IN MEMORY**

T.M. Granado Gil<sup>1</sup>, N. Mendoza Ruvalcaba<sup>1</sup>, E. Arias Merino<sup>2</sup>, F. De Santos Avila<sup>2</sup>, 1. *Universidad de Guadalajara CUTONALA, Guadalajara, Jalisco, Mexico*, 2. *Universidad de Guadalajara, CUCS, Guadalajara, Jalisco, Mexico*

**Introduction** The intervention program "Memory a Big Treasure" was designed to improve cognitive skills through behavioral change and training on working, episodic and subjective memory in older persons. The objective of this study is to assess the effectiveness of this program. **Methods** This study was developed in the CASOENAC-project, FONCICYT-94670(EU-CONACYT). Participants were  $n=24$  healthy older persons attending a community center (CICA), mean age 68.58(SD7.63) years, 54.2% women, 4.58(SD3.13) years education, divided in two groups (experimental  $n=12$ , control  $n=12$ , no differences in age, gender, education), the first took part in a 10-sessions program during (2-hours, once/week) the second remained in wait list. The program based on Precaution Adoption Process Model (PAPM) consisted in theoretical-practical sessions for training on working, episodic and subjective memory. A pre-post battery included The Rivermead Behavioral Memory test, Backward Digit-Span (WAIS-RM), Subjective Memory Complaints Scale, and PAPM-assessment. Pearson's Chi-square, Mann-Whitney U, Wilcoxon, and signs test were performed. **Results** At baseline the groups were similar  $p > .05$ , after the program in the experimental group were found significant improvements on working ( $p = .015$ ), episodic ( $p = .002$ ) and subjective memory ( $p = .011$ ) compared with the control group. Regarding behavioral change groups at baseline were similar in stage of behavior change (Stage2: Unengaged), after the program most of the experimental group progress to the Stage6 (acting) while the control group remained without significant changes. **Conclusion** Findings show the program promotes improved memory through behavioral change in healthy elders. Training of cognitive functions prevents the development of pathological forms of cognitive change in old age and promotes active aging.

#### **AGING AT HOME: BIOPSYCHOSOCIAL PROFILES AND ADULT DAY PROGRAMS**

A. Eades, P. Katz, J. Karuza, A. Berall, B. Edelstein, *Baycrest, Toronto, Ontario, Canada*

**Background:** In response to rising healthcare costs in an aging population, the provincial government of Ontario has implemented the "Aging at Home Strategy" aimed at avoiding premature long-term care (LTC) placement. Avoidance of LTC placement may impact the functional profile of ADP membership, affecting programming and staffing profiles. **Purpose:** Profile the biopsychosocial characteristics of existing ADP members and compare their characteristics with an incoming cohort of new ADP members. **Methods:** Out of 105 individuals attending an ADP, 50 individuals were recruited (35 existing members, 15 new members) over one year. Existing members had been in the program 5 months to 14 years (mean=3 years); new members

were recruited within their first month. Findings: New members were on average four years younger than existing members, but were more functionally impaired. Nearly all (93%) required mobility aids for ambulation and were cognitively impaired (90%); a significant majority (85%) experienced symptoms of depression and rated themselves as moderately lonely. Living situation (e.g. living alone) did not appear to be a factor for moderate loneliness among new members; however, more than 70% of existing members in the moderate loneliness category do not live alone. Discussion: Data suggest that the cohort of incoming ADP members are frailer and more functionally impaired. This study raises questions about whether increased prevalence of loneliness and depression is reflective of changes within the population, or if continued participation in an ADP supports improvement of psychosocial measures. This distinction is critical for ADPs' ability to effectively plan and demonstrate outcomes.

### **IMPACT OF PAST EXPERIENCE ON COLLEGE STUDENTS' ATTITUDES TOWARD OLDER ADULTS**

J. Olson, M. Powers, *University of Central Oklahoma, Edmond, Oklahoma*

Students' attitudes toward older adults can be improved through positive experiences with older adults, however, it is not clear if this improvement is dependent upon past experience. The purpose of this study was to examine the impact of past experience on change in attitudes toward older adults among college students participating in an intergenerational fitness assessment project. Kinesiology students completed a fitness testing experience at a local retirement community (n = 54). Students' attitudes toward older adults were assessed using Polizzi's Refined Aging Semantic Differential Scale (ASD) and the Attitudes Toward the Elderly Scale (ATE) developed by the Student Assisted Independent Living (SAIL) project. Attitudes toward working with older adults (ATW) were assessed using a scale developed by the SAIL project. Attitude assessments were conducted before and after the fitness testing experience. We also asked students if they had past professional experience with older adults. Complete data were obtained for 47 students. Students with past experience had significantly higher ATW scores at baseline than students without experience ( $p = .001$ ). Repeated measures ANOVA indicated no significant interaction effects for any scale based on past experience; however, there was a trend toward those without experience increasing ATW with no change observed among those with experience. Both groups significantly and similarly improved on the ASD and ATE ( $p < .05$ ). These results indicate that students with past professional experience may have more positive attitudes toward working with older adults, but do not have different attitudes toward older adults in general.

### **A TOOLKIT FOR ON-CAMPUS AND ONLINE COURSE CURRICULUM MAPPING**

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What core skills, competencies, and learning outcomes do gerontology programs seek to instill in students? AGHE's newly defined knowledge, abilities, and skills competencies (AGHE, 2014) provide faculty an opportunity to sharpen the focus of their curricula, measure proficiency, and meet market demands (Educational Advisory Board, 2012). Curriculum mapping aligns courses outcomes, assessments, and learning activities with program-level competencies. For those who teach online, that focus can be easily blurred by opportunities and barriers presented by technology. In this presentation, a series of tools will be presented to facilitate curriculum mapping for building or revising on-campus and online courses to meet program level competencies. From design documents to learning objective matrices to quality review rubrics (Quality Matters, 2014), this toolkit will equip attendees to design and develop on-campus and online programs that

prepare students to master competencies and meet market demand in the field of aging. AGHE (2014). <http://www.aghe.org/> Educational Advisory Board (2012). <http://www.eab.com/> Quality Matters (2014). <https://www.qualitymatters.org/>

### **GERIATRIC CARE BOOT CAMP: AN INTERPROFESSIONAL, INTENSIVE EDUCATION PROGRAM**

L.B. Solberg, C.S. Carter, T.N. Richardson, L.M. Solberg, *University of Florida, Gainesville, Florida*

Geriatric care is best delivered to patients through careful coordination of interprofessional teams of healthcare professionals, but there is a shortage of such professionals educated to care for older adults. Additionally, the population of older adults is rapidly increasing. In response, the University of Florida (UF) piloted a half-day long geriatric care boot camp to educate healthcare professionals about core concepts in geriatric medicine, including delirium and dementia, medication management, palliative care, and ethics. The boot camp was offered with two aims: 1) determine the level of interest of healthcare professionals across the University in participating in an intensive program dedicated to care of older individuals; and 2) measure whether this event would increase attendees' understanding of and comfort level in caring for older patients. The interprofessional perspective of the speakers and the varied expertise of the attendees differentiated the event from boot camps offered at other institutions. Pre- and post-assessments completed by the 44 boot camp participants (including nurses, pharmacists, and others) showed this type of educational initiative is in demand and an effective learning opportunity. Changes in participants' understanding of the core concepts covered were statistically significant, as was the change in comfort level of participants in caring for older adults. The majority of the attendees reported finding the multidisciplinary perspective of the boot camp beneficial. We will discuss these findings, the boot camp itself, and future plans in more detail to provide helpful guidance to others creating interprofessional geriatric practice curricula for healthcare professionals.

### **SESSION 1640 (POSTER)**

#### **STRESS AND COPING**

#### **STRESSING, SOCIALIZING, AND SIPPING: THE ROLE OF DIFFERENTIAL STRESSORS AND SOCIAL INTEGRATION IN RISKY ALCOHOL CONSUMPTION IN MID- TO LATE-LIFE**

T. Wilson, L.A. Wray, *Biobehavioral Health, The Pennsylvania State University, University Park, Pennsylvania*

As age increases, tolerance to alcohol decreases. Excessive drinking can worsen current health conditions, increase morbidity, and interact adversely with medications related to many conditions associated with older age (e.g., acetaminophen, sleep). Approximately 40% of adults aged 65 years and older exceed the National Institutes of Alcohol Abuse and Alcoholism's recommended guidelines for alcohol consumption. Further, stress can be detrimental to quality of life and successful management of chronic diseases (e.g., diabetes). Existing studies document links between psychosocial factors (e.g., social support, social integration, stress) to alcohol use and abuse. Using 2010 data on 3,826 adults age 51 and older from the nationally representative Health and Retirement Study, the current study examines whether psychosocial factors (e.g., social integration and stressors) are associated with risky alcohol consumption, controlling on known covariates of alcohol consumption. Preliminary results suggest several known social status factors (e.g., younger age, being female) and not having chronic stressors (e.g., ongoing financial strain or health problems) were associated with the reduced likelihood of being a risky drinker. Getting together with friends was found to be related to an increase likelihood of being a risky drinker.

Preliminary results imply that known social status factors (e.g., age, gender) in addition to type of social network contact and chronic stress is related to risky drinking in middle-aged and older adults.

#### **CHANGES AND STABILITY OF STRESS-RELATED GROWTH OVER 5-YEAR: FINDINGS FROM DAVIS LONGITUDINAL STUDY**

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Few studies have examined change and stability of stress-related growth (SRG) over time. The purpose of this study is to identify the number of classes based on SRG responses, and to examine how individuals make transitions across SRG classes over 5 years. Data were collected among 509 college alumni in both 1996 (T1) and 2001 (T2), Mage at T1 was 44.24, SD = 7.38. Latent class analyses (LCA) were used to identify number of classes of SRG for T1 and T2, separately. Latent transition analyses (LTA) were used to examine how individuals make transitions across SRG classes from T1 to T2. Two classes were found at both time points: high SRG (T1 61%, T2 66%) and low SRG (T1 39%, T2 34%). The LTA found four subclasses: stable low SRG (66%), from low to high SRG (34%), stable high SRG (83%), from high to low SRG (17%). More women and older individuals were in the stable high SRG subclass than in the stable low SRG subclass. Those in the low to high SRG subclass were older than those in the stable low SRG subclass. Women were less likely to transit from the high SRG class to the low SRG class. SRG showed high stability over 5 years, especially in the high SRG class. Women and older individuals were more likely to have stable high SRG over time. Further, older individuals were more likely to transit from low SRG to high SRG over time. This suggests that SRG increases with age.

#### **CHILDHOOD FAMILY ENVIRONMENT AFFECTS PATTERNS OF HASSLES AND UPLIFTS IN ADULTHOOD: THE VA NORMATIVE AGING STUDY**

Y. Jeong<sup>1</sup>, C.M. Aldwin<sup>2</sup>, H. Igarashi<sup>2</sup>, A. Spiro<sup>3,4</sup>, 1. Chonbuk National University, Jeonju, Republic of Korea, 2. Oregon State University, Corvallis, Oregon, 3. Boston University, Boston, Massachusetts, 4. VA Boston Healthcare System, Boston, Massachusetts

Childhood family experiences are important for well-being in later life. Those from cohesive families are more likely to enjoy good psychological health in adulthood, while those from highly conflicted families have poorer well-being. Childhood family experiences can also influence cognitive processes, with conflicted families resulting in more negative stress appraisals and poorer social skills. We investigated the effect of childhood family experiences on the longitudinal patterns of hassles and uplifts in older men (n=713) from the Normative Aging Study (Mage = 64.3; SD = 6.8). They completed the Family Environment Scale on their family of origin and current families in 1990. We related scores on family of origin to their patterns of hassles and uplift over 15 years, controlling for conflict and cohesiveness in their current family. Results showed that conflict scores in childhood were associated with pattern of hassles, with men who had the lowest level of hassles having lower conflict scores, compared to those with patterns indicating higher levels of hassles. In contrast, cohesion scores were associated with patterns of uplifts, with those having more uplifts on average reporting higher cohesion scores for family of origin. These findings suggest that negative family environments are related to more hassles in later life, whereas positive family experiences lead to more uplifts in later life.

#### **INTRAINDIVIDUAL VARIABILITY IN DAILY ANTICIPATORY COPING: AGE AND EDUCATION DIFFERENCES**

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Daily stressors, especially arguments, are associated with worse mood, increases in physical health symptoms, increases in memory failures, and poorer performance on cognitive tasks in older adults. However, flexibility in coping strategies is linked with better outcomes for older adults. The current study implemented an 8-day daily diary to examine intraindividual variability as an index of flexibility in daily anticipatory coping (e.g., coping that takes place before a stressor occurs) in a sample of 43 older adults (M age = 74.3, SD = 7.5, range = 60-96). Participants completed questionnaires of anticipatory coping with respect to potential arguments that they may experience the following day. Significant intraindividual variability was found for all indices of daily anticipatory coping. Within-person standard deviation scores were calculated for each measure of anticipatory coping. We were interested in potential age and resource (i.e., education) differences in coping flexibility (i.e., intraindividual variability). Results from multiple regression analyses indicated that older adults ( $\beta = -1.21$ ,  $p = .02$ ) and those with more education ( $\beta = -3.6$ ,  $p = .023$ ) were less flexible in problem analysis for upcoming arguments. Additionally, there was an Age X Education interaction ( $\beta = 3.71$ ,  $p = .02$ ); education was associated with less flexibility in problem analysis for young-old adults, while education was associated with more flexibility in problem analysis for old-old adults. These results suggest that there is intraindividual variability in anticipatory coping behaviors for arguments within older adults, but that this flexibility may change with age and access to resources.

#### **NEGATIVE AGING PERCEPTION WAS ASSOCIATED WITH DECREASED LONGEVITY: UNHEALTHY HABIT AS A MEDIATOR**

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Levy (2002) has argued that positive self-perceptions of aging could lead to increased longevity. We further examined the association between negative aging perception and longevity in a sample of Chinese older adults. We analyzed a population-based data from Chinese Longitudinal Healthy Longevity Survey (CLHLS), which was initially carried out in 1998 with 9,093 older adults (77 - 122 years old, Mean age = 92.10, SD = 7.74) from 22 out of the 31 provinces in China. And 4 follow-up surveys have been conducted in 2000, 2002, 2005, and 2008. In each wave, 3 items were designed to measure participant's negative self-perception of aging (e.g., feel useless with age), and the internal consistency of the 3 items was acceptable (mean  $\alpha = .64$ ). Daily consumptions of alcohol and cigarettes were recorded as an indicator of unhealthy habits. Other demographic variables such as age, sex, education, marital status, self-reported health and quality of life were also measured and included in analysis as covariates. Cox Proportional Hazards Model was applied, and the results indicated that after controlling for demographic variables, participants with higher level of negative aging perceptions had a lower survival rates compared with those who had a lower level of negative aging perception. Moreover, this association was mediated by participant's unhealthy habits, such that individuals with higher level of negative perception had more unhealthy habits (e.g., drinking more alcohol or smoking more cigarettes), which could in turn impair their health and reduce their longevity.

## CONTEXTUAL AND INDIVIDUAL CHARACTERISTICS PREDICTING INDIVIDUAL HEALTH OUTCOMES FOR OLDER ADULT LOUISIANA RESIDENTS

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Disaster mitigation research studies the impact of individual and contextual indicators on the ability of older adults 50+ and communities to adjust and cope with disaster disturbances. This research is relevant in a state like Louisiana who has been affected by disasters for centuries. Andersen's Behavioral Model of Health Utilization is the conceptual model that drove this study, modified with the disaster resilience of place model as well as the hazards-of-place model of vulnerability. The study uses a multilevel, repeated cross-sectional design with a three-level, nested structure. It used secondary data gathered from the Behavioral Risk Factor Surveillance System for seven cohorts from 2004-2010. Parish-level data came from 12 additional sources. A representative Louisiana sample of 15,685 adults 50+ was used to test the model. Because the outcome variable (self-rated health) was ordinal, a ordered multinomial response model was tested. 20% of the sample reported fair to poor health in 2004, increasing to 25% by 2010. The results indicated inequitable disaster mitigation, with contextual social resilience, individual social vulnerability, individual economic resilience and contextual economic resilience indicators explaining the most variance in the self-rated health of older residents. Disaster risk indicators did play a role in explaining health outcomes, but not as strong as anticipated. By educating gerontologists on the importance of building resilience within communities and within older adults, and raising the awareness of the problem of inequitable disaster mitigation, we can foster better health outcomes for older adults living in disaster prone areas.

## MINDFULNESS BUFFERS THE EFFECTS OF STRESS ON HEALTH-RELATED QUALITY OF LIFE IN OLDER ADULTS

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The current study examined whether the link between stress and health-related quality of life was buffered by protective factors, namely trait mindfulness, in a sample of middle-aged and older adults. In this cross-sectional study, 134 healthy, community-dwelling adults (ages 50-85 years) were recruited from Dallas, Texas. The participants were screened for depressive symptoms and severity (using the Patient Health Questionnaire [PHQ-9]). All participants completed measures of self-reported health status (i.e., SF-36v2: mental and physical health composites), life stress (using the Elders Life Stress Inventory [ELSI]), and trait mindfulness (i.e., Mindful Attention Awareness Scale). Hierarchical regressions (covarying for age, gender, and education) showed that life stress was inversely related to physical and mental health. Mindfulness was positively related to mental health. The negative effect of life stress on mental health was weakened for those individuals with higher levels of trait mindfulness. The results suggest that mindfulness is a powerful, adaptive strategy that may protect middle-aged and older adults from the well-known harmful effects of stress on mental health.

## SLEEP DURATION AND DAILY CORTISOL FOR CAREGIVERS ON HIGH AND LOW STRESS DAYS

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Sleep complaints are common among caregivers and are associated with detriments in mental and physical health. Examining the relation of sleep with cortisol, a biomarker of the stress process, may further link sleep with subsequent health changes in caregivers. The current study examines whether sleep duration is directly associated with the cortisol

awakening response (CAR), or if it is moderated by Adult Day Services (ADS) use, an intervention known to lower daily stressor exposure and improve blunted CAR, which is a pattern found among people under chronic stress. We examine caregivers (N=150) of individuals with dementia (IWD) on low stress days when IWDs attended ADS and high stress days when IWDs did not attend ADS. Data were gathered over 8 consecutive days. Caregivers were primarily female (87.3%) with a mean age of 61.43. We ran a multi-level model to explore the association of today's ADS use, last night's sleep duration, and their interaction with today's CAR. Using the Johnson & Neyman technique to probe the significant interaction between ADS use and sleep duration, we found that when an individual sleeps at or longer than their average and uses ADS, they have a higher CAR. When an individual sleeps at or longer than their average but does not use ADS, they have a smaller or blunted CAR. Findings indicate that ADS use moderates the association between sleep duration and CAR such that longer than average sleep is associated with blunted, dysregulated cortisol patterns on non-ADS days.

## STRESS AND EVERYDAY MEMORY PROBLEMS: THE BUFFERING ROLE OF SELECTION, OPTIMIZATION AND COMPENSATION

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There is an established negative relationship between stress and cognition. However, less work has examined the relationship between naturally occurring stress and everyday memory problems. The use of a self-regulatory strategy, such as selection, optimization, and compensation (SOC), may help to buffer these negative effects of stress. The present study extends previous work relating daily stressors and everyday memory problems by examining whether this relationship varies across levels of SOC strategy use. Participants (n = 122, 23 - 94 years of age) completed a baseline interview and a daily diary study for seven consecutive days. Each day, participants self-reported daily stressors, SOC strategy use and everyday memory problems. Multilevel analyses examined a within-person relationship between daily stressors and everyday memory problems, and the moderating effect of SOC strategy use. Results revealed that on days on which participants reported more daily stressors compared to their own average, they also reported more memory problems (Est. = 1.21, SE = 0.25, p < .0001). Additionally, SOC strategy use moderated this effect (Est. = -0.21, SE = 0.05, p = .0001). When participants experienced a day with high stress, those that had high SOC strategy use reported fewer memory problems than those that had low SOC strategy use. When participants experienced a low stress day, there was no difference in memory problems between those that used high or low SOC strategies. These findings help to further understand the relationship between stress and everyday memory problems, with possible implications for developing intervention programs using SOC strategies.

## THE ROLE OF CONSCIENTIOUSNESS IN EMOTIONAL REACTIVITY TO DAILY STRESSORS

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Conscientiousness, a personality trait characterized by self-control, deliberation, and competence, has strong associations with lifelong health and well-being. High levels of conscientiousness predict reduced disease development, fewer cognitive problems, and greater longevity. Researchers have suggested a number of processes that may explain these links, including lifestyles related to reduced stressor exposure and reactivity. Heightened emotional reactivity to daily stressors has been associated with poorer health and the development of chronic health conditions. People with high levels of conscientiousness may be less reactive to stressful life events. The current study examined the mod-

erating effects of conscientiousness on negative emotional reactivity to daily stressors and how this relationship varies with age. Participants (N=1842) completed a series of daily interviews in Wave 2 of the National Study of Daily Experiences (NSDE II), a subset of the Midlife in the United States (MIDUS II) Survey. Multilevel models indicated that lower levels of conscientiousness were associated with increased emotional reactivity to daily stressors ( $b=.035, p<.001$ ). Additionally, lower levels of conscientiousness were associated with greater exposure to stressors. This effect was similar across age groups. Results indicate that emotional reactivity to daily stressors is one pathway through which conscientiousness influences health.

### THE INTERACTIVE ROLE BETWEEN STRESS, COPING, AND DISPOSITION

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Various contextual factors influence the relationship between stress and depressive affect, such as the type of stressor encountered, the coping strategies used to buffer the impact of the stressor, and the disposition of the individual involved. Specifically, according to Fredrickson's undoing hypothesis, positive emotions uniquely benefit the individual, promoting the use of coping strategies and buffering the impact of stressors on emotional well-being. This hypothesis posits that individuals with high positive affect also utilize better coping strategies when dealing with stress. The current study assesses the unique relationships between two types of stressors (ambient stressors and role strains), two coping strategies (emotion-focused coping and instrumental-focused coping) and the role of positive affect on depression. Standardized data from the Notre Dame Study of Health & Well-being was used to explore these relationships. The sample includes 566 subjects with an age range from 40-91 ( $M=63.4, SD=9.9$ ). Analyses indicated significant direct effects of age and significant two-way interactions between coping and stress for all the models. In addition, the model consisting of role strains, emotion-focused coping, and positive affect also resulted in a two-way interaction between emotion-focused coping and positive affect. There were significant three-way interactions between coping, stress, and positive affect for all four models. The general trend was similar across all models with positive affect buffering the effects of stress on depression for both high and low strains, and high coping only showing substantial buffering of the effects of stress on depression in the group with low positive affect.

### THE ROLES OF AGE AND COGNITIVE FUNCTION IN MODERATING THE RELATIONSHIP BETWEEN JOB DEMAND AND EMOTIONAL DISTRESS

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Prolonged states of negative affect (NA) have been linked to a poor physical and mental health outcomes. Because people are working into older ages, it is important to understand the factors that moderate the effects of occupational stress on NA. We examined how intelligence (measured by the Shipley vocabulary and Ravens progressive matrices tests) and age influences the relationship between self-reports of job demand and NA in a diverse midlife sample of adults ( $N=132, M[SD] \text{ age}=45.06[10.53]$ ). Regression analysis indicated high levels of job demand were associated with more NA and that this effect was amplified in those with lower scores on the Shipley ( $\beta = -2.00, p < .05$ ) and Ravens ( $\beta = -3.53, p < .01$ ). The relationship between job demand and NA was equivalent across age. Implications of these findings for the effects of occupational burnout and job stress among an aging workforce are discussed.

### ASSESSING THE INFLUENCE OF CHRONIC STRESS AND SPOUSAL SUPPORT ON GLYCEMIC CONTROL IN DIABETIC ADULTS: DO GENDER AND RACE/ETHNICITY MATTER?

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**BACKGROUND:** Better management of HbA1c levels in adults with diabetes can prevent negative sequelae associated with poor glycemic control. Chronic stress may hinder, and social support may help, diabetics' ability to maintain healthy HbA1c levels. This study assesses the association between chronic stress, spousal support, and HbA1c in married/partnered US adults with diabetes. **METHODS:** We analyzed data for 3,533 US married/partnered adults >50 year who responded to the 2006 Health and Retirement Study core interview and participated in both Psychosocial and Lifestyle Questionnaire and HbA1c biomarker collection. Three indices were created: chronic stressors persisting for  $\geq 12$  months, positive spousal support, and negative spousal support. HbA1c served as the measure of diabetes management. Differences by gender, race, and Hispanic ethnicity were assessed. **RESULTS:** Chronic stress is positively associated with HbA1c ( $F=8.30, p=0.004$ ), more so in women than in men ( $F=5.18, p=0.023$ ;  $F=4.21, p=0.040$ ). This relationship is significant in Whites ( $F=6.80, p=0.0091$ ), but not Blacks ( $F=0.0, p=0.9654$ ) or Hispanics ( $F=2.59, p=0.1076$ ), even though these groups have higher average HbA1c and chronic stress levels than Whites. There is a significant decline in HbA1c for Whites and men with high spousal support ( $F=4.52, p=0.0336$ ;  $F=5.28, p=0.0216$ ). Negative spousal support was significantly related to increased HbA1c ( $F=9.39, p=0.0022$ ), but to a greater degree in Hispanics compared to non-Hispanics. **CONCLUSION:** Perceived high quality of spousal support may help to mitigate the detrimental effects of chronic stress on HbA1c. Further examination of differences of the impact on HbA1c, particularly for women and minorities, are needed.

### SOCIAL SUPPORT AND PSYCHOLOGICAL DISTRESS AMONG OLDER ADULT CANCER SURVIVORS

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The purpose of this study is to explore the role of social support as a protective factor for psychological distress among older adult cancer survivors, a rapidly growing population. The secondary data for this research is from the Health Information National Trends Study (HINTS), a biennial, cross-sectional survey conducted with a nationally-representative sample of adults age 18 and older. Data used for this study were collected from HINTS interviews conducted in 2012, and included all participants who were age 65 and older with a reported history of cancer ( $n=261$ ). Demographic data show that 50.2% were males and 49.8% were females. The average age of respondents was 75. Non-Hispanic Whites made up 84% of the sample. Approximately 54% were married. The average annual income was between \$35,000-50,000. Bivariate findings indicate that older cancer survivors who reported greater years of education, higher incomes, and non-minority status were at lower risk for psychological distress. Multiple regression results suggest that protective factors against psychological distress among older adult cancer survivors include having emotional support, better health status, and being Non-Hispanic White, after controlling for other demographic differences. Findings indicate that social support, particularly emotional support, is an important coping resource for older cancer survivors when they have had to deal with cancer treatment or mortality issues. Further research is needed to understand why older adult cancer survivors from racial/ethnic minority groups are at greater risk for psychological distress.



## DOES STRESS IMPACT THE RELATIONSHIP BETWEEN RISK FACTORS AND VASCULAR FUNCTION?

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African Americans experience exceptionally high rates of hypertension and diabetes, which are risk factors for poor vascular functioning and mortality. Possessing at least one e4 allele of the apolipoprotein E (APOE) gene is also associated with greater cardiovascular disease risk, and evidence suggests that APOE4 and diabetes are synergistically associated with cerebrovascular changes. Psychosocial stress is an additional cardiovascular risk factor; however, the extent to which stress may further contribute to complex pathophysiological vascular changes remains largely unexplored in African Americans. In the present study, we investigated the interactive associations of stress, hypertension and diabetes co-morbidity, and APOE4 status with pulse pressure, a measure of vascular functioning, in a composite sample (N = 664) of middle-aged and older African American adults from the Carolina African American Twin Study of Aging (CAATSA | n=285) and the Baltimore Study of Black Aging (BSBA | n = 379). Univariate models adjusted for age, sex, and education showed significant main effects for co-morbidity and APOE4 status (p's < .05). Specifically, pulse pressure was higher among individuals with at least one APOE4 allele and either hypertension, diabetes, or both. There was a significant interaction between co-morbidity and stress such that individuals with co-morbid disease and higher stress levels exhibited significantly higher pulse pressure compared to non-diabetic, hypertensive participants (p < .05). For individuals with at least one APOE4 allele and those without, pulse pressure was highest among individuals with co-morbid disease and higher stress. These results support the view that stress is an additive factor in vascular disease risk.

## AGING INMATES USE THE ARTS TO COPE WITH STRESS

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Purpose: Among the coping strategies used in response to stress, the arts constitute a creative coping mechanism. We can learn about resilience from people who face chronic stress and prisoners certainly live in a stressful environment. Design & Methods: The participants were male inmates in a maximum security prison in the midwest U.S. who participated in the Stress & Health in Prison (SHiP) Study. A 314-item questionnaire was distributed to 1,200 inmates residing in the general population and 192 returned their questionnaires (16% RR). One open-ended question asked participants to describe how they cope with stress and how they manage their health. Results: The mean age of the inmates was 41.8 [SD=11.1], 62% were African American, 45% had at least a high school education, 62% were married, average time served was 14.7 years [SD=8.1], average sentence length was 67.7 years (SD = 108.31), and 35.4% had life sentences. Among the open-ended responses, art-specific replies accounted for 13% (16/125) and included references to music, artwork, drawing, poetry, and writing. For example, one participant stated, "I write R&B and rap music (to cope with stress)!" Another noted, "[I] write about what bothers me and how to prevent it." Implications: The arts are used to alleviate the stressful effects of prison life, to self-regulate emotional, spiritual, and physical

well-being, and to tell personal incarceration stories. Future analyses will link the use of arts to discrete health outcomes which may have implications for older community-dwelling adults living in isolation or in other institutional settings.

## DISTRESS, COPING, AND END-OF-LIFE PLANNING IN ADVANCED CANCER PATIENTS WHO WANT TO KNOW PROGNOSIS

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Background. This study examined differences in distress, quality of life, coping, and end-of-life care planning in advanced cancer patients who reported wanting to know versus not wanting to know their life-expectancy. Methods. Patients (n=645; Mean age=59.6 years) with advanced cancer were asked "If your doctor knew how long you had left to live, would you want him or her to tell you?" (0=No, 1=Yes). Participants were interviewed to obtain information on their socio-demographic characteristics, suicidal ideation, quality of life, and coping, and indicated whether they had discussed end-of-life care with their doctor. Regression analyses examined relationships between wanting to know life-expectancy (predictor variable) and outcome measures, controlling for confounding socio-demographic factors. Results. 72.1% of patients wanted to know life-expectancy. Patients who were white and married were more likely to want to know. Patients who wanted to know had worse existential and physical quality of life, were more likely to report suicidal ideation, and reported higher levels of coping by planning and lower levels of positive religious coping. They were also more likely to discuss end-of-life care with their doctor than patients who did not want to know. Discussion. Patients' desire to know their life expectancy may reflect an underlying suspicion that death is near and/or be driven by psychological distress, indicating the importance of proactive measures to prevent painful death. Patients who want to know their life expectancy may be more actively involved in care planning which may reduce distress and result in enhanced preparation for death.

## ASSESSING THE EFFECT OF DAILY STRESSOR REACTIVITY ON FINANCIAL WELL-BEING ACROSS ADULTHOOD

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Emotional reactivity to stressors affects both proximal and long-term health and well-being outcomes. Current economic times also beg greater examination of the drivers of financial well-being. As such, the present analyses examined the effect of an individual's stressor reactivity (within-person negative affect change in response to a stressor experience) on his/her financial net worth 10 years later. Two waves (1995-96 and 2004-05) in the national Midlife in the United States study provided N=526 participants (Mage=54.94, SDage=11.90) who responded to both a paper survey, including demographic, health, well-being, and lifestyle behavioral questions, as well as daily diary telephone interviews recording stressor experiences for 8 consecutive nights. Participants were categorized into two, self-identified groups: positive or non-positive net worth, and separately categorized into octiles based on their self-reported net worth dollar amount. After controlling for income, age, gender, ethnicity, household characteristics, and stressor reactivity at wave 2, we found that greater wave 1 stressor reactivity predicted greater odds of having non-positive net worth as compared to positive net worth (OR=3.0, p<0.01). Further, a one standard deviation increase in stressor reactivity predicted a lower net worth category 10 years later (e.g. from the average net worth category: \$59,000-\$110,000, to the next category lower: \$18,000-\$50,000) (p<0.05). These results did not depend on age. Results will be contextualized by comparing stressor reactivity effects to age effects on net worth, and examining potential drivers of the effect of stressor reactivity

on net worth. Implications for financial well-being in older age will also be discussed.

#### **ASSOCIATION OF SELF-REPORTED ANXIETY AND DEPRESSION WITH COGNITIVE TESTING AND NEUROIMAGING MEASURES IN INDIVIDUALS WITH TYPE 2 DIABETES FROM THE DIABETES HEART STUDY**

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Increased anxiety and depression, accelerated cognitive decline, and increased risk of dementia are observed in individuals with type 2 diabetes (T2D). Anxiety and depression may contribute to lower performance on cognitive tests and to the changes in neuroimaging measures often observed in individuals with T2D. We examined these relationships in the family-based Diabetes Heart Study. 739 European American individuals with T2D from 529 families completed cognitive testing, brain magnetic resonance imaging, the Brief Symptom Inventory-anxiety, and the Center for Epidemiologic Studies Depression Scale 10 item measure. We hypothesized that self-reported anxiety and depression would be associated with cognitive performance, including the Digit Symbol Substitution Task, the Modified Mini-Mental State Examination, the Stroop Task, the Rey Auditory-Verbal Learning Task, and the Controlled Oral Word Association Task for Phonemic and Semantic Fluency, and neuroimaging measures, including assessments of brain volume, white matter lesion volume, diffusion imaging scalars, and cerebral blood flow. Association was examined using marginal models with generalized estimating equations in SAS 9.3. Analyses were adjusted for age, sex, and use of psychotropic medications. Self-reported anxiety and depression were associated with lower performance on all cognitive testing measures assessed ( $p \leq 0.002$ ). Anxiety and depression were also associated with increased white matter lesion volume ( $p \leq 0.004$ ), decreased gray matter cerebral blood flow ( $p = 0.001$ ), and increased white matter mean diffusivity ( $p \leq 0.007$ ). Effects were strongest for individuals reporting both anxiety and depression symptoms. Anxiety and depression were important predictors of cognitive testing and neuroimaging measures in an aging ( $66.0 \pm 9.9$  years) cohort affected by T2D.

#### **SOCIAL SUPPORT, PSYCHOLOGICAL RESOURCES, MENTAL HEALTH, AND INFLAMMATION: POTENTIAL PATHWAYS?**

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Social support serves important social, psychological, and behavioral functions in later life. Accordingly, a body of literature examines the impact of social support on health (e.g., Cohen, 1985), with much attention being drawn to self-reported mental and physical health. Much less is known about how social support influences objective, clinically measureable health outcomes. We address this gap in the literature by focusing on chronic inflammation as a modifiable risk

factor for disease. There is compelling evidence that a circulating level of inflammatory protein, measured by C-reactive protein (CRP), is an objective indicator of physical health and mortality because it signals early physiological dysregulation preceding disease. However, research yields inconsistent findings on how social support ‘gets under the skin’ and affects CRP, signifying the need to investigate potential pathways linking them together. Therefore, the current study examines how social support affects inflammation indirectly through self-esteem and mental health. To answer the research questions, this study uses two-wave data from the National Social Life, Health, and Aging Project (NSHAP), a nationally representative sample of older adults in the United States. Findings from structural equation models suggest that net of controls, social support affects self-rated mental health both directly and indirectly through self-esteem. At the same time, mental health serves as an intermediate pathway linking social support and inflammation. These findings not only suggest a significant role of social support on multiple aspects of health but also specify complex psychological and physiological processes linking them together.

#### **FINANCIAL STRAIN AND SLEEP QUALITY BEFORE AND AFTER THE GREAT RECESSION: ROLE OF SOCIAL SUPPORT?**

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**Objective:** This study examines financial strain and sleep quality among older adults before and after the Great Recession. Guided by cumulative inequality theory, this study poses three main questions. First, does initial financial strain lower sleep quality? Second, do increases in financial strain over time lower sleep quality? If so, does social support play a role? **Methods:** This research draws on 5,415 respondents from the Health and Retirement Study (2006-2010) to examine whether the economic downturn affected changes in sleep quality over a four-year period. The Health and Retirement Study contains measures of financial strain and sleep quality before and after the economic downturn, thereby creating an “experiment in nature.” Residual change models estimate the effect of financial strain in 2006 and change in financial strain between 2006 and 2010 on four measures of sleep quality. **Results:** Results reveal that greater financial strain in 2006 and increases between 2006 and 2010 both contribute to poorer sleep quality, even after adjusting for household income and wealth. This finding was observed for trouble falling asleep and feeling rested in the morning, but not for sleep disturbances during the night. Additionally, positive social support lowered the probability of poor sleep quality, whereas negative social support increased the probability of poor sleep quality. **Discussion:** This study builds on the literature on financial strain using a novel study design. The findings reveal the impact of financial strain on sleep quality following the Great Recession, and highlight the importance of social support in understanding this relationship.

#### **WHY CONNECT DOCTORS OF MEDICINE AND JURISPRUDENCE TO EFFORTS TO PREVENT ELDER FINANCIAL ABUSE?**

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Neurodegenerative changes in neuronal cells and brain networks lead to changes in executive functioning and financial capacity. Declining financial capacity, in turn, adversely affects elders, their families, and society as a whole. MetLife (2011) found elder investment fraud and financial exploitation (EIFFE) cost society \$2.9 billion in 2010. Widera (2011) posited that when financial losses force elders to choose between paying routine living expenses and out-of-pocket health care costs, their frail conditions can spiral down quickly. Plassman (2008) revealed that 35% of persons over age 71 had mild cognitive impair-

ment (MCI) or full dementia. Triebel and Marson (2009) showed that declining checkbook skills in persons with MCI are associated with impending conversion to Alzheimer's disease. Denburg (2007) concluded that damage to the prefrontal cortex of the brain can make elders less risk averse. Older adults' increased vulnerability to EIFFE necessitates involving physicians and lawyers in detection and prevention efforts. Following overviews of clinical factors and EIFFE, presenters will reveal (1) four-year results of the Investor Protection Trust (IPT)/Baylor College of Medicine partnership to educate clinicians (N=6500) about EIFFE in 28 states, the District of Columbia and Puerto Rico; and (2) early results of a similar new IPT/American Bar Association partnership to educate lawyers. Presenters also will discuss what these initiatives teach us about how to connect physicians and lawyers to efforts to detect and prevent EIFFE, and how these critical connections help to prevent vulnerable elders from the adverse outcomes described in the Widera paper.

#### **ELDER MISTREATMENT AWARENESS AMONG SENIOR CENTER AND FAITH-BASED ELDER MINISTRY PERSONNEL: A PILOT STUDY**

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Elder mistreatment (EM) is a gross infringement on the human rights and dignity of its victims. It affects the quality of life of those affected, their families and society. Unfortunately, although about 90% of EM occurs among community dwelling older adults, much of this abuse and mistreatment is hidden, and goes undetected because of a lack of knowledge and awareness about EM - definition, risk factors, signs and appropriate responses. Studies have shown that appropriate knowledge and awareness increases confidence in identifying, and responding to EM among personnel who work with older adults. As the population ages, more seniors are served by social and recreational service providers (SRSPs), such as those who work at senior centers and faith-based elder ministries, providing a rich opportunity to interact with service personnel. These personnel are well placed to be watchful eyes for actual or suspected EM. This pilot study identifies gaps in senior center and faith-based elder ministries personnel's knowledge and awareness about EM, along with the barriers to identifying and responding to EM among their clientele. Preliminary findings indicate a need for sensitivity awareness and the benefits of training interventions designed to address knowledge gaps where they exist.

#### **SELF-NEGLECT: RESEARCH RESULTS AND POLICY ISSUES**

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Background: Self-neglect has been described as the inability or unwillingness to provide for one-self the goods and services needed to live safely and independently. It is a complex multidimensional phenomenon and accounts for 18-20% of referrals to Senior Case Workers in Ireland. Aim: To investigate health and social care professional's perspectives and knowledge of self-neglect and ascertain sources of knowledge. Methodology: Ethical approval granted by Local Research Ethics Committee. A descriptive quantitative cross sectional design was used. A multi item researcher developed self-neglect questionnaire was posted to a national convenience sample of 549 community health and social care professionals in Ireland and 341 (60%) responded. Analysis: Data analysed using SPSS20 and descriptive statistics (mean  $\pm$  S.D., frequency, average) and multiple linear regression. Findings: The most common professional grouping was community nurses (n=305) and social workers (n=34). One third (n=112: 33.8%) had been in contact with 3 to 5 self-neglect cases in previous 12 months. The main source of knowledge related to practice and personal experience. Community nurses were less likely than social workers to use literature and books as a source of knowledge. Knowledge was significantly associated with higher level of education, gender and number of self-neglect cases.

Some professionals had deficits in relation to legal and policy aspects of self-neglect. Conclusions The majority of health and social care professionals had no educational preparation on self-neglect. The findings emphasize the need to develop training programmes on self-neglect and promote more use of literature and books.

#### **PREVALENCE OF ELDER SELF-NEGLECT IN A CHICAGO CHINESE POPULATION: THE ROLE OF COGNITIVE, PHYSICAL AND MENTAL HEALTH**

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Backgrounds: Elder Self-neglect is an increasingly prominent public health issue that occurs in all socio-demographic groups. However, very little is known about the prevalence and factors associated with elder self-neglect among minority older adults. This study examined the cognitive, physical and psychological characteristics associated with elder self-neglect in an U.S. Chinese older population. Methods: Data were from a population-based epidemiological study in the greater Chicago area. In total, 3,159 Chinese older adults aged 60 years and above were interviewed in person from 2011-2013. Participant's personal and home environment was rated on hoarding, personal hygiene, house in need of repair, unsanitary conditions, and inadequate utility. Results: The prevalence of elder self-neglect of all severities was higher among older adults who were with lower cognitive function, lower physical function, and those with more depressive symptoms. Lower physical function (ADL moderate/severe self-neglect OR 1.09, 95% CI1.05-1.13; IADL mild self-neglect: OR 1.04, 95% CI1.03-1.06; IADL moderate/severe self-neglect: OR 1.06, 95% CI1.04-1.07) and cognitive function (mild self-neglect: OR 1.05, 95% CI1.03-1.07; moderate/severe self-neglect: OR 1.07, 95% CI1.04-1.09), and more depressive symptoms (mild self-neglect: OR 1.05, 95% CI1.02-1.07; moderate/severe self-neglect: OR 1.08, 95% CI1.06-1.11) were significantly associated with increased risk for elder self-neglect of all severities. Conclusion: Older adults with lower levels of cognitive, physical, and psychological health were more likely to report elder self-neglect and its phenotypes. Health care professionals should improve screening for self-neglect among older patients who report cognitive impairment, physical disability and depressive symptoms.

#### **SESSION 1645 (POSTER)**

##### **SUCCESSFUL AGING II**

#### **HUMAN CAPITAL, STATUS INCONSISTENCY AND RETIRED ELDERS' LIKELIHOOD OF VOLUNTEERING**

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Education (human capital) and income (just plain capital) have long been recognized as significant predictors of increased likelihood of volunteering among American elders (Morrow-Howell, 2010). Relatively unexplored is the differential impact that socioeconomic "status inconsistency" (Lanski, 1954) might have on volunteering, which raises an important question: Do low education / high income and high education / low income elders volunteer to the degree that additive models would predict? Additionally, do predictors of volunteering differ across status inconsistent and status consistent groups? To answer these questions, we employ data on 13,036 individuals 65+ and out of the labor force from the 2011 Volunteering Supplement to the Current Population Survey (CPS). Contrary to expectations, results showed that high education / low income elders were more likely to volunteer than either of the other two groups, especially low education / high income elders. Furthermore, logistic regression and difference of slopes analyses showed that education and income operated differently across the three subsamples, highlighting especially the importance of a high school degree among low

education / high income elders and the significance of income increases for the status consistent subsample but not for either status inconsistent subsample. Other predictors also operated differently across status groups, lending support for the idea that status inconsistency is a viable concept in examining volunteering. The findings are discussed in terms of the significance of human capital in relation to role expectations, especially as education relates to marginalized individuals (Homans, 1962, Moen, 1992; Greenfield & Marks, 2004).

### CONDITIONAL INDEPENDENCE: A GROUNDED THEORY TO ENABLE PRODUCTIVE AGING

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Today's retirees already understand some of the basics of successful aging, attending to physical and mental fitness, and continuing an active lifestyle. Productive aging represents the next step, choosing roles and occupations that keep them engaged with others and with their communities. However, as they continue to age, emerging health challenges could compromise their ability to live and function independently. The basis for this grounded theory, authors conducted a qualitative productive aging study (PAS) over the past 3 years. They interviewed forty successful agers, defined by their current engagement in 3 of 6 productive occupations: self-manager, home manager, caregiver, volunteer, paid worker, and lifelong learner. The findings resulted in three main themes: 1) self-manager role, 2) social connections, and 3) self-fulfilling activities. Considering these themes, three interactive strategies serve to preserve occupational and social roles through occupational therapy interventions: 1. Because self-management guides the choices for self-care, social, and occupational engagement, supporting intentional abilities that enable this role are paramount. 2. Situational adaptation facilitates maximum functioning by addressing issues such as home safety, transportation, accessibility of public spaces, social expectations and support. Adaptive equipment and strategies, compensate for compromised abilities, so that the client can continue to participate in life. 3. Structured performance is deliberate, conscious planning and preparation in anticipation of activity participation. The theory of conditional independence helps older adults to define under what conditions, and with which supports, they are able to continue to engage in meaningful productive occupations that preserve their autonomy, social identity, and independence.

### HELPING OTHERS AND CARDIOVASCULAR DISEASE RISK FACTORS: DOES VOLUNTEERING GET "UNDER THE SKIN" LATER IN LIFE?

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Research has shown that engaging in productive activities is positively related to better mental and physical health and negatively related to mortality risk. Volunteering is among the more consistent indicators of productive aging associated with well-being in later life. Uncovering the pathways through which volunteering is related to the proximate determinants of health is gaining ground, but the results from previous studies are equivocal. This study examined the relationships among volunteering and four risk factors for cardiovascular disease (CVD): obesity (waist circumference), blood pressure (hypertension), cholesterol (low HDL), and glucose (HbA1c), using the 2006 Health and Retirement Study. Logistic regression results showed that volunteer status was consistently related to the four indicators of CVD risk in the predicted negative direction for middle-aged persons (age 51-64 years). Middle-aged volunteers were less likely than non-volunteers to be obese, to be hypertensive, have low levels of HDL cholesterol, and have high levels of glucose. Middle-aged volunteers were also less likely to show evidence of a modified version of the metabolic syndrome. For middle-aged persons, volunteering more than 100 hours annually was related to a lower likelihood of CVD risk compared to

persons who did not volunteer. With few exceptions, volunteering was not a protective factor for persons 65 years and older. Further research is required to determine at what point in the life course volunteering ceases to be a benefit for the volunteer. These results supported the idea that helping others is beneficial for both the community and for the older volunteer.

### FINDINGS FROM THE MASSACHUSETTS HEALTHY AGING DATA REPORT

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The aging of the population has piqued interest in optimal aging. Policymakers, service providers, philanthropists, researchers, and lay people in Massachusetts have formed a Healthy Aging Collaborative to work together to better understand and promote healthy aging in Massachusetts (see [mahealthyagingcollaborative.org](http://mahealthyagingcollaborative.org)). Approximately 14% of the state is age 65 or older (N=891,303) and by 2030 this is expected to exceed 21%. We developed community profiles reporting nearly 100 indicators of healthy aging for the 351 cities and towns in the state and 16 Boston neighborhoods. Never before has data been reported at such a local community level. Analyses were conducted using data from CMS, BRFSS, US Census and other sources using small area estimation techniques to determine age/sex adjusted community rates. We then compared community and state rates, as well as state rates to national rates. State rates for MA adults 65 or older ever being diagnosed with chronic disease indicators were: diabetes (32%), hypertension (78%), stroke (13%), Alzheimer's disease or related dementias (14%), depression (29%), and 4+ chronic conditions (59%). Disparities among communities were pronounced; several communities face immense challenges to healthy aging scoring worse than state averages on 24 or more indicators. Compared to national rates, Massachusetts ranked better on arthritis and COPD, but worse on diabetes, hypertension, and Alzheimer's. This poster describes both the methodology and findings of the report and includes examples of how communities have used these data for developing new partnerships, identifying priorities and promoting positive change.

### THE MEANS AND ENDS OF SUCCESSFUL AGING: THE MANITOBA FOLLOW-UP STUDY

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Along with trying to define successful aging, researchers continue to struggle with whether it should be considered a predictor (i.e., a means), an outcome (an end), or both. Since 1996, the men of the Manitoba Follow-up Study (MFUS) cohort have been repeatedly surveyed for their lay definitions of successful aging. Our recently-published coding manual outlines 86 themes that emerged from the narrative data. In an earlier top-down attempt to narrow the gap between lay definitions and theories of successful aging, we found that the 86 themes mapped almost completely onto a number of prominent theoretical paradigms in the field. Among the theoretical paradigms considered were Baltes and Baltes' (1990) SOC model; Rowe and Kahn's (1997) successful aging definition, and Bowling's (2007) framework. In our present bottom-up approach, we conceptually mapped the components of these three prominent theories onto the 86 themes (from the MFUS men's successful aging definitions) and found the degree of overlap to be less complete, highlighting the disjoint between lay vs. researcher-defined successful aging. Bowling's theoretical framework showed 77% overlap with the successful aging themes, whereas the SOC model and Rowe and Kahn overlapped by 20% and 13%, respectively. In all cases, the psychological adaptation components of the theories showed the greatest degree of overlap with the themes from the narrative definitions. Close inspection of the themes not subsumed in the overlap suggested that they may

represent the means used by individuals to age successfully, whereas the mapped themes could represent the ends of successful aging.

### ACTIVE AGING: OUTCOMES FROM VITAL AGING® PROGRAM IN MEXICO

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Introduction Vital Aging® is a program designed to promote individual active aging in older persons 60 years and over, currently in 3 versions (presential-course, multimedia, and e-learning) has been successfully applied in Spain. The objective of this study is to assess the effectiveness of this program in Mexico (presential and multimedia versions). Methods Intervention study. Participants were n=71 divided in four groups (1-Experimental: presential n=19, 2-Experimental: presential/multimedia n=15, 3-Experimental: presential n=17, 4-Control n=20), mean age 64.5 years, women. The program consisted in 19 theoretical-practical sessions (2-hours/twice-week). A pre-post battery assessed activities, opinions on aging, physical-activity, nutrition, life satisfaction, health (objective/subjective), memory (subjective/objective), social participation, self-efficacy, and socio-demographics. Descriptive and ANOVA comparisons were performed. Results After the program, all experimental groups improved their opinions ( $p < .01$ ) and self-efficacy on aging ( $p < .001$ ) compared to control. Presential groups showed improvements on subjective memory ( $p < .05$ ), and satisfaction with social relationships ( $p < .05$ ) compared to control. While multimedia group reported better life satisfaction ( $p = .027$ ) and increases in activities ( $p = .005$ ). 1-Experimental group showed better subjective health ( $p = .012$ ) and less memory problems ( $p > .000$ ). Control group remained without changes. Conclusion Findings show that Vital Aging® Program promotes personal improvements toward active aging in Mexican older persons. Maintaining health and quality of life across the lifespan will do much towards building fulfilled lives, a harmonious and an intergenerational community.

### THE EFFECTS OF RESILIENCE FACTORS ON SUCCESSFUL AGING: FINDINGS FROM THE GEORGIA CENTENARIAN STUDY

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Purpose: The purpose of this analysis was to examine the effects of resilience factors (Big-5 personality traits) on the components of successful aging (cognition, volunteering, activities of daily living, and subjective health) by using the data of the Georgia Centenarian Study. The data collection used in this study consisted of 72 octogenarians and 234 centenarians. Methods: Exploratory factor analysis was conducted to reduce the number of resilience (personality) factors. The chi-square difference test using MPlus was used to test two competing factor models. And, in order to test the effects of two resilience factors, blocked regression analysis was conducted. Results: Two factors were extracted, which were named as inter-personality and intra-personality resilience. Inter-personality resilience consisted of Extraversion and Openness whereas intra-personality resilience included Neuroticism, Agreeableness, and Conscientiousness. The chi-square difference test indicated that a two-factor model was found to fit better than a one-factor model. After controlling demographic variables, intra-personality resilience was associated with higher level of cognition ( $\beta = .15, p < .05$ ), higher possibility of doing a volunteer work ( $\beta = .16, p < .05$ ), and higher level of activities of daily living ( $\beta = .16, p < .05$ ). Inter-personality resilience was also a significant predictor for successful aging. It was positively associated with cognition ( $\beta = .17, p < .05$ ) and volunteering ( $\beta = .18, p < .05$ ). Conclusion: Resilience is an important source that helps older adults adapt successfully with the aging process. Two resilience factors including personality traits were associated with successful aging.

### SUCCESSFUL AGING TRAJECTORIES IN LATER LIFE

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Background: Successful aging is premised on the acknowledgement of the heterogeneity of aging trajectories. To date there has been little investigation into these longitudinal trajectories using latent class analysis. Methods: A previously validated, a priori model of successful aging, including both biomedical and psychosocial components, was mapped into a longitudinal population-based cohort study: the Cognitive Function and Ageing Study (CFAS). Using latent class analysis the trajectories of successful aging were mapped longitudinally. Results: Several different successful aging trajectories were identified. Each of these trajectories was associated with a unique demographic profile. Discussion: The heterogeneity of successful aging trajectories highlights the many and varied ways in which individuals can age. Identifying the specific trajectories and their associated characteristics highlights the unique ways in which individuals can age and provides the opportunity for policy and practice interventions.

### DOES SPIRITUALITY COMPENSATE FOR LOW MASTERY IN CONGESTIVE HEART FAILURE?

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Congestive heart failure (CHF) is a chronic condition which is associated with poor quality of life, including diminished mastery in older adults, leading to higher rates of depression. Coping strategies for loss of perceived control include a search for meaning in life and reestablishment of control or mastery. In this study, we examined the interaction of spirituality and mastery on physical and mental health using data from the Religion/Spirituality and Congestive Heart Failure Study (Park, 2006). The participants in this study consisted of 189 CHF patients (121 men, 68 women) whose mean age was 68.65 (SD = 10.14). Mastery was measured by the Hope Scale (Snyder et al., 1991), and spirituality by the Daily Spiritual Experiences Scale of the Brief Multidimensional Measures of Religiousness/Spirituality (BMMR/S; Fetzer, 1999). Mental and physical health outcomes were measured by 12-item Short-Form Health Survey (SF-12; Ware, Kosinski, Keller, 1996). We used mean scores of all scales and reverse coded these items when necessary in order to create scales in which higher scores indicated higher mastery, spirituality, and mental and physical health. Hierarchical multiple regression equations supported previous studies showing that high mastery predicted mental health,  $\beta = 55.05, p < .05$ , but the direct effect of spirituality was not significant. However, spirituality moderated the relationship between mastery and mental health,  $\beta = -5.82, p < .05$ . Spirituality did not moderate relationship between mastery and physical health. Thus, spirituality was a buffer and improved mental health in CHF patients with low mastery, but not physical health.

### HOW IS ENGAGING IN PRODUCTIVE ACTIVITIES ASSOCIATED WITH DEPRESSION AMONG OLDER ADULTS WITH CANCER?

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Older adult's participation in productive activities generally has a positive relationship with well-being. Past research on this topic tends to be limited to studies of very healthy older adults. Yet, the benefits may be even more important for less healthy adults. We explored this in older adults with cancer and examined the association between depression and productive activities. A better understanding of this issue is critical to extend the remaining life for those patients and improve quality in the end phase of life. The purpose of this study is to explore the associa-

tion between four productive activities (employed, formal volunteering, grandparenting, and helping friends) with depression in older adults with cancer. Drawing on data from the 2010 Health and Retirement Study (HRS), this study examines 2,148 respondents who aged 50 years and above and are diagnosed with any kind of cancer (except normal skin cancer). Depression is measured by the short scale of CES-D form (8 items) and is dichotomized into yes (4-8 scores) and no (0-3 scores). The higher score, the more likely the individual is depressed. Logistic regression analyses showed that older cancer patients who had paid employment experienced less depressive symptoms. Similarly, formal volunteering was associated with less depression. Helping friends and grandparenting were not significantly related to depression. These findings suggest that even though being sick, engaging in certain productive activities is important in relieving depression.

#### EFFECTS OF ACTIVITIES ON MEMORY BELIEFS: A QUANTITATIVE CROSS-SECTIONAL DESIGN WITH A LIFESPAN SAMPLE

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Do our hobbies influence our aging? Research shows that both memory beliefs and some leisure activity engagement each relate to memory ability. The question arises then whether activity engagement influences these beliefs. The goal of the current study was to examine relationships between leisure activities and beliefs about perceived memory change and control for adults across the lifespan. The present study used data on personal memory beliefs, as assessed by the Personal Beliefs about Memory Instrument (Lineweaver & Hertzog, 1998), and leisure activity engagement measured with the Extended Victoria Longitudinal Study Activity Questionnaire (Jopp & Hertzog, 2010). The sample included 261 adults aged 18-85. Regression analyses were conducted to determine which activities predicted memory beliefs among young (18-30 years), middle-aged (31-59 years), and older (61-85 years) adults. For younger adults, results revealed that more engagement in technology-related activities predicted worse perceived future memory change. Technology use also predicted perceived memory change for middle-aged adults, but in relation to retrospective memory. Specifically, engagement in more technology-related activities predicted worse perceived change from the past. For older adults, more public social activity engagement predicted better perceived future memory change, and engagement in all activities predicted future control beliefs. Regression analyses with interaction effects confirmed the findings. In sum, findings reveal differential relationships between leisure activities and personal memory beliefs at different ages, and extend prior research by showing that leisure activities are related to memory beliefs. Thus, findings provide a deeper understanding of the relationships among memory beliefs and leisure activities.

#### PREDICTORS OF ADULT EDUCATION PROGRAM SATISFACTION AMONG LAS VEGAS COMMUNITY-DWELLING OLDER ADULTS

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Life-long learning has received growing attention as the American population ages. Both formal (e.g., organized) and informal (e.g., self-learning) education is beneficial for physical health, emotional well-being and social networks in later life. One key determinant of successful learning among older adults is the continuation of learning activities. In general, participants who are satisfied with their educational programs/learning activities are more likely than others to continue their participation over the long term. However, little is known about what factors predict satisfaction with educational programs among older adults in urban communities. Data were collected from 1,075 middle-aged to older adults (age 50 and older) who participated in organized adult education programs provided by the Osher Lifelong

Learning Institute (OLLI) in Las Vegas. A total of 318 respondents completed an online survey. Partial proportional odds ordinal logistic regression was used to model program satisfaction as a function of demographic, socioeconomic, OLLI program-related and health/well-being variables. Results showed that being older (OR = 1.08,  $p < 0.05$ ), more years participating in OLLI (OR = 3.90,  $p < 0.01$ ), greater well-being (OR = 1.03,  $p < 0.001$ ) and an active social life (OR = 2.6,  $p < 0.05$ ) were associated with higher satisfaction with the OLLI programs. In contrast, white participants (OR = 0.36,  $p < 0.05$ ) and those who were employed (OR = 0.18,  $p < 0.05$ ) had lower satisfaction. The findings were evaluated with regard to the existing relevant literature, participants' characteristics, and a content analysis of the qualitative comments from respondents.

#### ATTITUDES TOWARDS CENTENARIANS, LIFE-EXTENSION AND THE WISH TO REACH 100 YEARS OLD

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Presently there are numerous debates surrounding the topic of human life extension and issues from diverse scientific backgrounds, mainly from bioethical debates, have been extensively brought to discussion; yet, public beliefs and attitudes regarding life extension have not been particularly studied nor their potential associations with attitudes towards living an extremely long life. This study aims to analyze the relationship between pro- and anti-longevity attitudes; attitudes towards very old people and the willingness to live until the age of 100 years in a sample of older adults. Selected items from the Life-Extension Questionnaire (LEQ), the Aging Semantic Differential (ASD) using centenarians as an attitudinal target and a question about the willingness to live until the age of 100 were administered to a sample of 141 individuals aged 60+ years old. Socio-demographic information (age, gender, marital status, children and grandchildren's existence, educational level), perceived health status and perceived quality of life were also obtained. Overall findings suggest that there are no overwhelmingly pro- and anti- attitudes toward life extension in the considered sample, but that there is a prolongevist trend. Marital status (being married/living together), higher educational level, positive perceived health status and willingness to live to age 100 were found to be significantly related with this trend. Further studies are needed on the public opinion regarding human life extension and on the contextual variables and psychological constructs that may affect a more positive or negative attitude towards extreme longevity. Further analyses of the LEQ instrument are also needed.

#### NO TIME LIKE THE PRESENT TO PLAN FOR THE FUTURE

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Future time perspective (FTP) is the extent to which one enjoys thinking about the future. Previous literature demonstrates that high FTP levels predict effective planning outcomes, but few investigations have examined the relationship between FTP and behavioral outcomes in multiple domains of life. In addition, there are many measures to assess FTP, but the relationships among measures are not well understood. The present investigation had two goals. The first was to examine FTP in five different domains requiring planning for late life: social, work, leisure, finances, and health. The second was to compare how different FTP scales captured relationships between time perspective and behavioral outcomes. Sixty-four individuals between the ages of 24 and 65 completed self-report FTP scales and behavioral outcome scales in five domains. The FTP scales were the Zimbardo Time Perspective Inventory, the Consideration of Future Consequences Scale, and five

other FTP scales specific to each domain. The behavioral outcome scales tapped adaptive life planning behaviors in each of the domains. Bivariate regressions were carried out in which FTP was regressed onto each of the behavioral outcome measures. Of the five domains, health consistently showed the strongest relationships. Overall, there were more significant relationships when domain-specific measures of time perspective were used than when either of the two general measures were used. Results suggest that FTP is more important in some domains of life than others (i.e., health) and that domain-specific measures of FTP may be more sensitive to the relationships among FTP, planning, and late-life outcomes.

### **PERCEPTIONS OF PAIN AND PAIN MANAGEMENT AND THEIR IMPACT ON WILLINGNESS TO USE PAIN MEDICINE**

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Despite the growth of the economic impact of pain and pain management, there remains a lack of knowledge about disparities, especially, evidence regarding individual attitudes and beliefs about accepting pain treatments. This study provides preliminary information on the prevalence of public concerns about pain management and reports the mediating influence of the perceptions. A cross-sectional survey of community-dwelling adults 18+ in US was conducted. Using a random selection method, 123 respondents were telephone-interviewed in 2012. Based on the modified Protection Motivation Theory, hierarchical logistic regression was conducted to examine factors influencing willingness to use pain medicine. Perceptions on pain and pain management were applied for multiple mediation analyses. Thirteen items about beliefs of pain and pain management were grouped into 5 factors: threat/coping appraisal, attitude/subjective norm/perceived control. Threat appraisal was most common, and subjective norm was least common. Regarding the hierarchical regression, threat appraisal, income, and military service experience were significantly associated with the intention to use pain medicine. Through the mediation analyses with the bootstrapping method, four mediation relationships were found; 1) race and income on subjective norm through education, 2) gender on threat appraisal through medical work experience, 3) medical work experience on the intention to use pain medicine through threat appraisal. Threat of pain might be an important predictor of using pain medicine and a mediator to bridge past experience to behavior of pain management. Education programs targeting minorities, men, and low income families might reduce the gap of pain management disparities.

### **THE TYPES OF EXPERIENCES REMEMBERED CAN AFFECT PERCEPTIONS OF AGING**

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Personalized contact with an out-group, and imagining inter-group interactions, leads to reduced prejudice towards, and more positive perceptions of, the out-group. The purpose of this study was to examine whether aging and death anxiety, as well as perceived familiarity and comfort with the elderly, can be affected by having young adults remember an experience with an older adult. Participants (N=178) were randomly assigned to one of three conditions, and asked to think about either a positive, negative, or non-valence experience they had had with an elderly person. Participants were then administered the Aging Anxiety Scale (AAS) and Templer's Death Anxiety Scale (DAS); they also indicated their familiarity and comfort with the elderly on continuous line scales. ANOVA was used to examine differences among the memory conditions, and partial correlations to examine the relationships among the measures; in all analyses, we controlled for social desirability. Both AAS ( $p=.70$ ) and DAS ( $p=.15$ ) scores were not significantly different among memory conditions. For the positive memory

group, (1) familiarity was reported to be significantly ( $p=.013$ ) higher; (2) the relationship between the AAS and DAS ( $r=.34$ ) was less; (3) and, familiarity was more predictive of aging anxiety ( $r=-.47$ ). For all three memory conditions, as participants' comfort level with the elderly decreased, their aging anxiety increased. We conclude that evoking positive memories in young adults can lead to increased perceptions of familiarity with the elderly; and, the more familiar and comfortable with the elderly young adults report being, the less aging anxiety they report.

### **EXPANDING MIDDLE-AGE? TRANSFORMING AGE CATEGORIES IN PEOPLE'S SELF-IDENTIFICATIONS**

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Literature on age relations and ageism suggests that old age is a marginalized status and therefore when people identify themselves in terms of age, they are reluctant to call themselves "old" irrespective of their chronological age. This presentation uses data collected from 32 personal interviews and 4 focus groups with working aged (aged 50-55) and retired (aged 65-70) Finnish engineers to explore 1) how these men self-identify in terms of age categories; and 2) whether the change in occupational status influences the extent to which men all themselves middle-aged. Our findings suggest that, rather than adopting new terms used by scholars or the general public (such as "third-agers" or "senior citizens"), these men are expanding the time of life to which middle age might refer, and indeed, may be creating new categories of middle age rather than challenging or changing terms relating to old age. Further, neither labor force transitions nor one's chronological age and distance from what otherwise might be considered middle age led them to see themselves as anything other than middle aged. Retired respondents eagerly called themselves "middle-aged", and some respondents also drastically downplayed their chronological age. And among the working aged interviewees some respondents even hesitated to call themselves "middle-aged", instead describing themselves as "early middle-aged". What middle age means in these contexts bears greater research.

### **SESSION 1650 (POSTER)**

#### **FAMILY AND INTERGENERATIONAL RELATIONSHIPS**

##### **A PRELIMINARY ANALYSIS OF INTERGENERATIONAL RESOURCE TRANSFERS ACROSS MULTIPLE GENERATIONS AND TIME**

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Guided by life course perspective, contingency theory, exchange model, and intergenerational solidarity theory, this study sought to examine whether earlier intergenerational resource transfers (IRT) were related to later IRT between American middle-age adults and their adult children and parents. Two waves of Midlife in the United States (MIDUS) panel data were analyzed for 5,519 middle-aged adults using structural equation modeling. Intergenerational resource transfers were measured using reports of giving and receiving unpaid assistance, emotional support, and finances at Time 1 and Time 2. Results indicated an acceptable fit for the measurement ( $\chi^2(224) = 2077.56, p < .001, CFI = .04, RMSEA = .96$ ) and structural model ( $\chi^2(276) = 43,931.70, p < .001, CFI = .04, RMSEA = .96$ ). Respondents who received from their children in T1 were more likely to give to their children in T2. Respondents who gave to their children and parents in T1 were more likely to receive from their children in T2. Respondents who gave to their parents in T1 were more likely to give to their parents in T2. Finally, respondents who gave to their parents in T1 and did not receive from their parents or children in T1 were more likely to receive from their parents in T2. This longitudinal perspective on IRT begins to provide

a more unified and complete picture of how resources are given and received across multiple generations of American families.

### THE ROLE OF GRANDPARENTS IN THE EARLY IDENTIFICATION AND DIAGNOSIS OF AUTISM SPECTRUM DISORDERS

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Autism spectrum disorder (ASD) now affects 1 in 88 children in the U.S. (CDC, 2012). Little is known about the first person experience of grandparents of these children or what role they may play in early identification of the disorder. The Kennedy Krieger Institute's Interactive Autism Network, therefore, launched an online survey to examine grandparents' experiences. 1,881 grandparents with at least one grandchild with ASD (83% grandmothers; 95% Caucasian; 60% lived in suburbs; 37% completed college) completed an anonymous 30 minute survey, representing the first national study of such grandparents. Results revealed that 76% of the grandparents played an active role in the diagnosis of their grandchild's ASD, and that 28% "independently identified" the initial symptoms of ASD. Multinomial regression analysis revealed that the odds of participation in early detection increased significantly for grandparents who were grandmothers, middle-aged, currently employed, or who lived within 25 miles of their grandchild. Pearson correlation showed that having a grandparent identify concerns sooner about their grandchild's development was associated with receiving an earlier formal diagnosis,  $r=.42$ ,  $p<.001$ . Grandparents also reported that health care professionals such as pediatricians (20%), and teachers and daycare providers (10%) expressed denial regarding their grandchild's ASD. The majority of grandparents engaged in advocacy including fundraisers and walks (48%), educational programs (32%), and political advocacy (30%). Thus, grandparents of children with ASD appear to represent a significant resource within the extended family, despite often being ignored or excluded by treatment professionals. Recommendations to incorporate grandparents into the diagnostic process are offered.

### PTSD AND MARITAL QUALITY AS PREDICTORS OF REPORTED PAIN IN BABY-BOOMERS

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Data from a sample of 3401 individuals who completed the 2010 follow-up survey of the Life and Family Legacies Study were examined to assess the levels of marital quality, post-traumatic stress disorder, and reported pain for the respondents. Associations between marital quality, post-traumatic stress disorder (PTSD), and reported pain levels were examined among this sample of Baby-Boomers. Regression models indicated that after controlling for various demographic and social influences, marital quality was not significantly related to reported pain levels. PTSD, however, was found to be strongly predictive of increased reported pain levels. Contrary to previous research and theory, further regression analyses indicated that the interaction of higher marital quality and higher PTSD was also predictive of higher reported pain levels. Possible explanations are discussed, within the framework of family stress theory, for these counter-intuitive findings as well as possible ramifications for practitioners. Also, recommendations are offered for future research direction and focus.

### RELATIONSHIP QUALITY IN MOTHER-DAUGHTER CAREGIVING DYADS: A REVIEW

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Background: Seventy percent of adult-child caregivers for aging parents in the US are women; 85 percent of those they care for are mothers. Much is known regarding the instrumental and physical aspects of

caregiving, yet considerably less is known of the emotional quality of the lifelong mother-daughter relationship, particularly in the context of cognitively intact mothers. Purpose/Aim: To synthesize empirical literature pertaining to relationship quality between cognitively intact aging mothers and caregiving daughters. Search Strategy: A systematic appraisal of peer-reviewed, English language research on relationship quality in aging mothers over 60 and their adult caregiving daughters was conducted, 1990-present. MEDLINE, CINAHL, PsycINFO, and Google Scholar were accessed combining MeSH terms including "chronic disease" with "mothers," "children," and "caregivers." Nineteen articles met criteria. Findings: Research supports a mother-daughter caregiving relationship characterized by complexity and multi-dimensionality, including conflict and its management. Via caregiving, mothers and daughters are often able to transform their relationship to a deeper, more mature level. Several researchers were surprised to discover improvement in daughters' mental health and emotional commitment to caregiving relationships as mothers' health deteriorated. Research and Clinical Implications: How mothers and daughters personally perceive multi-dimensional aspects of their relationship is still largely undiscovered, as is how the relationship may further change towards the mother's end of life. These factors require additional exploration if we are to offer mothers and daughters the care they may require at this complex, poignant time.

### THE INFLUENCE OF CLOSENESS WITH MOTHERS & MOTHERS-IN-LAW ON MARRIED AND COHABITING PARTNERS' RELATIONSHIP SATISFACTION

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Relationships with parents and in-laws influence adults' lives and their other relationships, including marriage. Close and supportive intergenerational relationships can improve marital quality, while distant or conflictual relationships can have adverse effects. Yet marriage can be a greedy institution, weakening intergenerational ties. Cohabitation is analogous to marriage, yet lacks its legal status and may be less binding. The present study examined whether closeness with one's own mother and one's partner's mother influenced relationship satisfaction for married and cohabiting partners. Reports of relationship satisfaction were collected from both members of 421 married and 209 cohabiting couples from the Married and Cohabiting Couples Study (2010). A series of multilevel models (MLMs) were conducted separately for married and cohabiting couples. Results support the greedy marriage thesis, as cohabitators reported significantly greater closeness with both mothers and partners' mothers than did married participants. Moreover, closeness with both one's own mother and one's partner's mother were significantly related with greater relationship satisfaction for cohabitators, but not for married persons. However, mother and mother-in-law closeness significantly moderated one another for married persons. Further analysis revealed that discrepancies between closeness with one's mother and one's mother-in-law—regardless of whom one was closer to—exerted a negative effect on satisfaction for married persons, but not for cohabitators. That is, married persons are most satisfied when they are equally close with mothers and mothers-in-law; satisfaction suffers when they report being closer to one or the other. Implications for the literature on marriage, cohabitation, and intergenerational relationships are discussed.

### PROCESS EVALUATION OF TRAINING TO ENHANCE EVIDENCE-BASED PRACTICE USE IN ELDER AND CHILD PROGRAMS

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We utilized a community-based participatory research approach to enhance and sustain the use of evidence-based intergenerational best practices (BPs) at four elder and three child care programs. Contact theory informs us that certain conditions, including authority support (e.g.,



providing staff with resources to build needed skills), facilitate positive intergroup contact (Pettigrew, 1998). Programs supported by tradition and authority are more sustainable as staff gain knowledge, time, and other resources to implement best practices and optimize intergroup contact. Our presentation explores staff comprehension of different training formats of BPs. Our 5-year program began with daylong workshops to share evidence-based practices with staff. Retrospective pre/post-evaluations indicated staff confidence that they could implement these practices. Observational data indicated otherwise as levels of BP indicators were low and intergenerational interaction did not increase. We developed multi-media training modules (Year 2) that increased access and flexibility to train new hires and support different learning styles. Twenty-nine staff, including seven program directors, completed the multi-media training and associated reflections. Thematic analysis of reflections (Year 3) indicated that staff conceptually understood most BPs, demonstrating they know *what* to do, but do not consistently know *how* to implement the BPs in the context of each unique programs. For example, the BPs of age and role appropriateness of programming, incorporating participant interests, and facilitating interaction are more challenging to implement, as staff focus on product-focused activities. The challenges of implementation reveal the need for collaborative efforts to determine and provide appropriate administrative support in years 4-5.

### **DOES DISTANCE MATTER? POTENTIAL BARRIERS TO GRANDPARENTING FROM THE SUN-BELT**

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Grandparents who maintain close family ties have been extensively studied. Yet, little is known about grandparents' relationship with their distant grandchildren, particularly when grandparents relocate to age segregated retirement communities in the sun-belt. In many of these adult communities, young children are not welcome. Our study investigated the relationship between distant grandparents and their grandchildren in comparison to their residentially stable counterparts. Utilizing data from a longitudinal study of successful aging, we compared emotional ties as well as the importance of being grandparents between residentially stable elderly grandparents living in a Midwestern city (N= 221; Mage= 77.36, SD= 7.337) and older adults who migrated to an adult retirement community in Florida (N= 90; Mage= 82.59, SD= 6.973). Our findings revealed that the geographic distance significantly affects the relationships between grandparents and their grandchildren. For instance, the distant grandparents reported significantly lower levels of emotional closeness to their grandchildren than their residentially stable counterparts ( $t = -7.372, p < .05$ ). Grandparents living in retirement communities also viewed being a grandparent as less important to them ( $t = -4.948; p < .05$ ) and spent significantly less time with their grandchildren than the residentially stable grandparents ( $t = 8.297, p < .05$ ). Both selection factors in older adults choosing to relocate to the sun-belt and residential distance can serve as barriers to maintenance of close intergenerational family ties.

### **CONNECTING GENERATIONS: EVIDENCE FROM COMMUNITY ENGAGED INTERGENERATIONAL LEARNING**

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Disconnection of generations by the information revolution, culturally embedded ageism and age grading of society exacerbates elder isolation and undermines self-efficacy. (AGE, 2009; Silverstein and Bengston, 1997; Markides and Krause, 1985). To address these concerns and advance knowledge of intergenerational studies/programming, the

AGHE Committee on Intergenerational Learning and Research (ILR) has evolved as a support network for educators and students in Gerontology. Professors Sally Newman, Paul Roodin and Roma Hanks initially convened the group as a task force of the AGHE Academic Program Development Committee. Reports given at the most recent ILR meeting, co-chaired by Laura Donorfio and Roma Han50 during the AGHE 2014 conference revealed that colleagues from academic institutions across the US and in the Netherlands and China have developed a surprising range of innovations in intergenerational learning and research. This presentation disseminates evidence of educators' disconnected but widespread use of Community Engaged Intergenerational Learning and Research to address barriers to generational solidarity and the consequent isolation of elders from their communities. Innovations range from design of a multi-year, multi-state NIH funded study and novel service learning projects in the US to development of honors programs for multi-generational cross-disciplinary experiential learning within the study of aging in the Netherlands. Project structures, stakeholders, and objectives are described. Evidence for efficacy is examined and critiqued to identify strategies for assessment and replication of the innovations, and plans to connect this network of innovation, especially through the AGHE Intergenerational Learning Web Page are discussed.

### **DIFFERENCES IN HOUSEHOLD STRUCTURES AMONG ASIAN AMERICANS**

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Traditional norms encourage extended households (especially upward extension) among Asian Americans. However, few studies have examined household structures among Asian Americans. A better understanding of this issue is important to assess familial obligations and potential support needs among Asian Americans. Drawing on data from the American Community Survey (ACS) 2009-2011 3-year sample, this paper examines differences in household types (especially upward and downward extension) among selected groups of Asian Americans, namely Chinese, Japanese, Filipino, Korean, South Asian, and Vietnamese. We restrict the analyses to households with heads aged 35 and over as younger respondents are unlikely to have grandchildren (downward extension; N=93,970). Four household types are defined by the relationship to household head: upward (households including the head's or his/her spouse's parents), downward (households including the head's grandchildren), and among households including grandchildren, whether or not the grandchild's parent also lives in the household. Our analyses, using logistic regressions with Chinese as reference group) confirm differences among Asian subgroups even after controlling for demographic, economic, and acculturation characteristics. Generally, nuclear households prevail among all groups. Inclusion of parents predominates among Vietnamese and Filipinos, whereas inclusion of grandchildren is most common among Vietnamese, Japanese, Filipino, and South Asians. Among households with grandchildren, skipped generation household are more prevalent among Filipinos and South Asians. These findings suggest that Vietnamese and Filipinos may require supports with both parent and grandchild care, whereas Japanese and South Asians may need supports primarily with grandchild care.

### **INTERDEPENDENT LIVES OF MIDDLE AGED COUPLES: IMPLICATIONS OF EXCHANGES OF SUPPORT WITH ADULT OFFSPRING**

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Parents and children maintain active relationships throughout their adult lives, and these interactions may affect the older couple's marriage. In particular, family events such as exchanges of support with

other family members influence the lives of middle-aged couples' marriage. Indeed, prior research has found strong interdependence in flows of support between middle aged mothers and their children. However, relatively less is known about the association between exchanges of support with adult children and husband's well-being. Using a sample of 197 couples from the Family Exchange Study, we conducted a dyadic analysis (e.g., Actor Partner Interdependence Model) to examine how exchanges of support between middle aged parents and their adult children is associated with their feelings of stress/reward and ambivalence. Findings indicate that more support provision from each spouse has positive associations with his or her own feelings of stress in helping offspring ( $\beta=.34, .25$ , for husbands and wives each,  $p<.05$  for both). We also found a significant partner effect, in that wives' support for adult offspring has positive association with husband's stress ( $\beta=.26$ ,  $p<.05$ ), indicating that higher wives' support increased husband's stress in helping offspring, but not vice versa. Furthermore, each spouse's support provision has also positive association with their own feelings of ambivalence towards adult children ( $\beta=.23, .31$ , for husbands and wives each,  $p<.01$ ,  $p<.01$ ). These results show the importance of gender roles, that is, wives' support for adult children may affect more husbands' well-being and relationship with children than did husbands' provision of support for children.

#### **SUPPORTING SCIENCE EDUCATIONAL OUTCOMES OF GRANDPARENTS-HEADED FAMILIES**

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Purpose: Based on a needs assessment with grandparents raising grandchildren, a three-week science camp to grandparent-headed families was provided to foster quality of life within the family system and support the grandchildren's success in Science, Engineering, Technology, and Math (STEM) areas. Individual interviews and focus groups with the grandparents and graduate students from Physics and Social Work evaluated the impact of interdisciplinary collaboration in working with the intergenerational families and explored factors related to the effectiveness of the interdisciplinary education in the graduate students' respective pre-service professional preparation. Methods: Graduate students from Physics and Social Work and grandparents raising grandchildren participated in focus groups and interviews to evaluate the impact of interdisciplinary collaboration in working with the intergenerational families and explored factors related to the effectiveness of the interdisciplinary education. Two focus groups and four individual interviews were conducted after the three-week service. Data analysis was conducted in three steps: (1) open coding, (2) axial coding, and (3) selective coding (Strauss, 1987). Results: Four major themes relating to the effectiveness of the interprofessional education and implications for practice emerged: (1) benefits of collaborative experiential learning environment, (2) importance of recognition of complementary roles in working with intergenerational families with multifaceted needs, (3) challenges to interdisciplinary communication, and (4) benefits of intergenerational and interdisciplinary communication on topics of science and mental health. Implications: The interdisciplinary collaboration between Physics and Social Work not only benefited the intergenerational families but also strengthened the quality of pre-service professional preparation the graduate students received.

#### **ADULT GRANDCHILD FAMILY CAREGIVING FOR GRANDPARENTS: THE ROLE OF INTERGENERATIONAL SOLIDARITY**

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An ever-expanding population of older adults requires further involvement of family members in care activities. Adult grandchildren are among those who provide care for older relatives, but little is known about their involvement in grandparent caregiving. Through the lens of Intergenerational Solidarity Theory, a theory typically used to understand relationship patterns in older adults, this study seeks to understand

the factors that foster adult grandchildren's involvement in care for grandparents. Drawing on data from Wave 7 of the Longitudinal Study of Generations (Bengtson, 2009), this study examines the following research question "If and how do affectual, associational, consensual, and conflict types of solidarity explain variations in the likelihood of grandchildren performing functional solidarity tasks for grandparents (when controlling for structural solidarity)?" Results from a logistic regression show that levels of affection (affectual solidarity) and amount of contact (associational solidarity) with grandparents were the most influential factors in determining grandchildren's involvement in care, above and beyond factors of structural solidarity. This study provides a foundation for understanding the factors that may foster grandchildren's caregiving. Future research should expand on these findings to explore how these levels of solidarity shape the caregiver experience for grandchildren and the implications it may have for their emotional and psychological well-being.

#### **INTRAFAMILY STRAIN, FAMILY LIFE STRESS, AND FAMILY FUNCTIONING IN GRANDMOTHER CAREGIVERS**

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Prior research indicates that perceptions of poor family functioning by grandmothers are related to factors within individual family members and the family unit. Grandmothers raising grandchildren perceive more difficulties in overall family functioning than non-custodial grandmothers. McCubbin & McCubbin's Resiliency Model of Family Stress, Adjustment and Adaptation was used as a framework to examine whether (1) intrafamily strain and family life stress affected grandmothers' perceptions of their family functioning and (2) social support and resourcefulness moderated the effects of intrafamily strain and family life stress on the grandmothers' perception of family functioning. We examined these questions in a secondary analysis of cross-sectional data from wave two of a longitudinal study of 346 mid-western grandmothers (159 grandmothers raising grandchildren without parents in the home and 187 grandmothers who did not live with grandchildren) using hierarchical multiple regression, controlling for demographics and grandmothers' health. In the total sample, grandmothers who reported more intrafamily strain and mental health concerns, less instrumental and subjective support, and lower resourcefulness perceived more problems in family functioning. For grandmothers raising grandchildren, more intrafamily strain and mental health concerns and lower resourcefulness led to worse perceptions of family functioning. There were no significant moderating effects. For non-custodial grandmothers, more intrafamily strain, less support, lower resourcefulness, and White race contributed to more problems in family functioning. Significant moderating effects of resourcefulness and support (instrumental and subjective) were found; more support in the face of high strain reduces problems in family functioning. Implications of resourcefulness training and support are discussed.

#### **MOVING IN, MOVING OUT, AND STAYING WITH MOM: CONTINUITY AND CHANGE IN ADULT CHILDREN'S CORESIDENCE WITH OLDER MOTHERS**

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Interest in parent-adult child coresidence has waxed and waned across the last three decades, generally following the course of changes in economic well-being in the U.S. Given the economic factors fueling interest in this topic, it is not surprising that the focus of research in this area has been on the role of social structural factors in these processes—in particular adult children's acquisition and loss of normative adult statuses such as employment and marriage. We suggest that this focus on structural characteristics has led scholars to ignore the role

of interpersonal factors, which we propose play as important a role in parent-adult child coresidence as children's social structural characteristics. To address this question, we examine structural and interactional characteristics of middle-aged adult children and the mother-child dyad using a within family approach. Our research is guided by classical theories of interpersonal relations and exchange processes and homophily theory using a life course framework. We used data collected as part of the first and second wave of the Within-Family Differences Study (WFDS). The final analytic sample for this paper includes 132 mothers' reports on 538 children in families in which at least one child who coresided at one or both waves. Findings indicate that both structural and socioemotional characteristics of the mother-adult child dyads, including history of support, parent-child conflict at T1, children's marital status, and children's deviant behaviors in adulthood played important roles in change and continuity in coresidence.

#### **PATIENT AND FAMILY MEMBER PROGNOSTIC UNDERSTANDING IN OLDER ADULTS WITH ADVANCED CANCER**

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Background Family members are an integral part of the cancer care experience and play an important role in treatment decision-making. Family involvement is particularly important for older patients, who tend to rely more heavily on family members to make decisions as prognosis worsens and functional status declines. Methods Dyads consisting of a patient aged 65 and older with metastatic lung, pancreatic, or esophageal cancer and a family member were invited to participate. Participants filled out questionnaires regarding recall of discussions with the physician, estimates of prognosis, and perception of treatment goals. Results The sample consists of 34 dyads (n = 34 patients and n = 34 family members). Patients and family members largely agreed in their recall of conversations with the treating oncologist, with more reporting discussions about reasons to continue (88%) than discontinue (21%) chemotherapy (SIG). A majority (82.5%) agreed on the current goal of treatment: 19% agreed the goal was to cure the cancer and 58% agreed the goal was to palliate or control the cancer. A majority of dyads (51.7%) share a belief that the likelihood of survival of 12 months or longer was greater than 90%. Conclusions Patients and family members largely share in their recall of conversations and understanding of treatment goals, yet maintain an optimistic perception of prognosis.

#### **MEMORY AND EXECUTIVE FUNCTION IN THE LONG LIFE FAMILY STUDY**

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Long-lived participants of the Long Life Family Study (LLFS) have a reduced prevalence of cognitive impairment and perform better than referent groups on brief tests of cognitive function. Here, we performed more in-depth neuropsychological testing focusing on tests of episodic memory and executive function. A 2.5 hour battery of neuropsychological tests was administered to a subset (n=69) of LLFS proband participants and age-matched referents (n=56), mean age=91 years. Also tested were 100 offspring cohort participants and 84 referents (mean age 63 and 68.1 respectively). Tests included word list learning, complex figure drawing, verbal fluency, clock drawing, logical memory, digit spans, and a sorting test. Cognitive reserve proxies were collected. Generalized estimating equations adjusted for age, sex, intellectual ability, and familial relatedness were used to compare the LLFS proband and offspring generations to respective cohorts. LLFS proband generation participants had significantly more education and

greater participation in mid- and late-life cognitive activities than the referents but no differences on cognitive tests. The offspring generation showed borderline significant differences on the clock drawing test and forward digit spans and significantly less late-life cognitive activities (p=.01). Conclusion: Older people without familial longevity may be more reliant on better education and higher indices of cognitive reserve in order to achieve similar cognitive performance of LLFS proband generation participants. Offspring generation participants showed a tendency toward better executive function and attention indicating that better cognitive function is associated with familial longevity. Larger sample sizes and continued follow-up to determine cognitive changes over time are warranted.

#### **ASSOCIATING ADVERSE CHILDHOOD EXPERIENCES WITH MID-LIFE DEPRESSIVE SYMPTOMS AND QUALITY OF LIFE AMONG INCARCERATED MALES: EXPLORING MULTIPLE MEDIATION**

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Purpose: We explored the association of experiencing family death and abuse during childhood with mid-life depressive symptoms and quality of life among prisoners. Using a stress and coping framework, we examined social support and coping strategies - spirituality, physical activity, poor diet, and meaning in life - as potential mediators. Design & Methods: Participants were male inmates residing in the general population of a maximum security prison who completed a 314-item questionnaire (192/1200 respondents [16% response rate]). Adverse childhood experiences were measured via 15 questions related to experiencing death (e.g., family member was murdered, parent died) and 6 questions related to experiencing abuse during childhood. Depressive symptoms were measured using the 10-item CES-D and quality of life was measured using the 26-item World Health Organization Quality of Life - Brief Scale. Results: In both unadjusted and adjusted multiple mediation models, associations between death and abuse and depressive symptoms were not explained by social support and coping. However, both the death (point estimate = -.5052; CI.95 = -1.0364, -.0429) and abuse (point estimate = -.7792; CI.95 = -1.6369, -.0381) associations with quality of life were partially explained by the total of the indirect effects, primarily via the specific indirect effect of social support. Discussion & Implications: We found cross-sectional evidence that social support partially mitigates the deleterious effects of death and abuse experienced at childhood on overall quality of life in middle-age, among prisoners. Interventions to enhance social support in institutionalized settings may have beneficial effects at both the person- and environment-levels.

#### **ROLE CONFLICT AND SOCIAL SERVICE USE IN BABY BOOMER CAREGIVERS**

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Baby boomers (BBs) are unique in their experience of intergenerational burden and conflicts during caregiving. However, there is limited information available on the generational differences among pre-BBs, BBs, and post-BBs regarding caregiving role and social service use. This study describes the socio-demographic and caregiving-related differences of BBs compared to their pre-BB and post-BB caregiver groups. This secondary data analysis was completed using the survey data conducted by the National Alliance for Caregiving in 2009. Chi-

square statistics, ANOVA, and ANCOVA were performed based on Pearlin's stress process model (N = 1,588). BBs represented the largest proportion (44.1%) of US caregivers followed by post-BBs (39.5%) and pre-BBs (15.4%). The majority of BB caregivers were likely to be women, care-recipients' children or grandchildren, employed while caregiving, and current caregivers (p < 0.05). Compared to other caregiver cohorts, BB caregivers were more likely to share caregiver responsibility with secondary caregivers and functioned as mediators between care-recipients and healthcare providers (p < 0.01). After controlling for age, BB caregivers experienced higher levels of role conflict between job and caregiving, spent fewer hours for caregiving, and provided more informal medical care. By increasing caregivers' age, BB caregivers used more respite care and transportation services (p < 0.05), but not financial help. In conclusion, the study found BB caregivers' unique characteristics and challenges of their caregiving roles and services use. These findings will assist multidisciplinary healthcare teams to identify what types of resources may best be designed to resolve role conflict and the caregiving burden of BBs.

## SESSION (POSTER)

### CHRONIC DISEASE MANAGEMENT

#### IDENTIFYING EFFECTIVE METHODS FOR NURSING ASSESSMENT AND TEACHING ABOUT MEDICATION SIDE EFFECTS IN A HOME CARE SETTING

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**Purpose:** To identify HC patients' self-perceived needs regarding knowledge of medication side effects and methods to improve nursing interventions regarding medication side effect teaching during HC visits. **Methods:** A researcher created survey was examined by four HC experts and then administered to a focus group of five older adults to establish content validity. After minor revisions it was mailed to all patients over age 65, without a dementia diagnosis at one VNA (n=241) in the Northeastern USA. Participants returned signed consent and surveys via a pre-addressed, stamped envelope and received a \$5.00 gift card incentive for completion. Qualitative data was analyzed and categorized by theme to determine this population's preferences on medication side effect teaching. **Results:** Data is currently being analyzed. Preliminary results suggest that older adults in this setting have unmet needs regarding medication side effect education and they harbor fears about adverse drug effects, yet some wish to be informed of potential side effects while others do not. **Implications:** It is critical to teach patients about medication side effects to decrease potential adverse drug events (ADEs) from occurring. This kind of research is warranted so that HC nurses can better meet the needs and expectations of the over 8 million people (Joint Commission, 2011) who receive HC services annually. It is hoped that by addressing medication side effects in a way that patients desire and expect, it may be possible that a more proactive approach to teaching this material can be instituted.

#### SELF-EFFICACY AND DISABILITY IN PARKINSON'S DISEASE

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**Background:** Self-efficacy for managing chronic disease is defined as an individual's confidence in his/her ability to successfully perform specific tasks or behaviors related to one's health in a variety of situations. High self-efficacy has been associated with improved outcomes in chronic health conditions but has rarely been examined in Parkinson's disease (PD). This study examined whether greater self-efficacy for managing chronic disease was associated with less self-reported disability. **Methods:** Cross-sectional data were collected from 391 PD

patients seen at the University of Maryland PD and Movement Disorders Center. **Measures:** Lorig Self-Efficacy for Managing Chronic Disease (6-items, range 6-18, high scores favorable); Older Americans Resources and Services Disability subscale (14-items, range 14-70, low scores favorable). Additional variables were captured from chart review, self-reported questionnaires, and neurologist examination. Linear regression models examined whether self-efficacy was associated with disability, controlling for confounders. **Results:** Mean self-efficacy score was 13.7 (SD=2.93) and mean disability score was 21.1 (SD=9.6). After adjustment for disease severity (Unified Parkinson's Disease Rating Scale motor subscale, Hoehn & Yahr stage), duration of disease, cognitive impairment (Mini Mental State Examination score), and psychological symptoms (Brief Symptom Inventory 18 score), greater self-efficacy was associated with less disability (b=-0.45, p<0.01, full model R<sup>2</sup>=0.661). **Conclusions:** Greater self-efficacy was associated with less disability in PD cross-sectionally. Future analysis should examine whether self-efficacy is associated with long-term disability in PD patients. Understanding the association between self-efficacy and disability can aid in patient management as self-efficacy can be targeted through interventions.

#### DEVELOPMENT OF THE PROMIS® SELF-EFFICACY FOR MANAGING CHRONIC CONDITIONS ITEM POOL

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**Background:** Self-efficacy for Managing Chronic Conditions is defined as an individual's confidence in his/her ability to successfully perform specific tasks or behaviors related to one's health in a variety of situations. As part of the NIH-funded Patient Reported Outcomes Measurement Information System (PROMIS®), we developed a self-efficacy tool designed to be used across chronic conditions utilizing patient and expert input. **Methods:** Item pool was developed through 5-step process: 1-systematic literature review; 2-subdomains of interest adjudicated through online Delphi review with 23 international experts through 3 rounds; 3-12 focus groups with 78 neurological disease patients elucidated subdomains and item content; 4-binning and winnowing of items by 6 investigators to create unique items; 5-cognitive interviews with 30 patients to finalize item content. **Results:** Literature identified 64 self-efficacy instruments with total 1033 items. Final subdomains included Self-Efficacy for Managing: 1-Daily Activities (Delphi rating=9.4, 0=completely disagree/10=completely agree; 36 items retained), 2-Medications and Treatments (Delphi=8.0; 27 items), 3-Symptoms (Delphi rating 8.6; 28 items), 4-Emotions (Delphi=7.4; 28 items), 5-Social Interactions (Delphi=6.7; 24 items). Social Interactions was more endorsed in focus groups than higher Delphi-rated (dropped) subdomains of Take Preventive Measures (Delphi=8.4) and Communicate with Clinician (Delphi=7.7). Focus groups and cognitive interview patients (n=108) were 62% male, mean age=55 (range 23-80), 33% minorities. Primary diagnosis: Parkinson's disease (27%), epilepsy (23%), multiple sclerosis (19%), neuropathy (17%), stroke (14%). **Discussion:** PROMIS® Self-efficacy for Managing Chronic Conditions item pool has been developed encompassing 5 subdomains and 143 items, which are undergoing calibration testing in over 1,000 patients.

#### CHRONIC PAIN FROM AGE 70 TO 90

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**Background:** The natural history of chronic pain among older people is poorly documented. We present longitudinal data from age 70 to 90 concerning chronic musculoskeletal or joint pain, abdominal pain and

chronic headache. Methods: Data was collected by the Jerusalem Longitudinal Study, which prospectively follows a representative sample, born 1920-1921. Subjects underwent comprehensive assessment and examination at home in 1990, 1998, 2005, and 2012 at ages 70 (n=605), 78 (n=1023), 85 (n=1222), and 92 (n=674). Mortality data were collected. Results: At ages 70, 78, 85, and 92, chronic musculoskeletal pain was present among 41.5%, 59.2%, 39.6%, and 15.5% of subjects respectively; chronic joint pain was present among 42.9%, 60.6%, and 45.4%, and 26.0% respectively. In contrast abdominal pain was less common, and among the oldest old was very infrequent: 14.7%, 13%, 1.5%, and 1.5%, with a similar pattern for chronic headache: 16.9%, 18.8%, 1.9%, and 0.5%. Consistent gender differences existed throughout follow-up, with pain being significantly more common (X1.5-2) among women. Headache at age 78 was associated with lower survival from age 78-85 among both males and females; otherwise Kaplan-Meier survival curves adjusted for gender showed no significant differences in longevity according to either abdominal pain or headache. In contrast, there was a tendency for improved survival associated with chronic MSS and joint pain. Conclusion: In contrast to musculoskeletal and joint pain which remains common at all ages, visceral pain is very infrequent among the oldest old, and generally unrelated to survival.

### MANAGING MULTIPLE CHRONIC CONDITIONS: PERCEPTIONS OF OLDER ADULTS, CAREGIVERS AND PROVIDERS

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Purpose: The purpose of this study was to understand how older adults, family caregivers and healthcare providers manage multiple chronic conditions (MCC). Methods: A qualitative interpretive description approach was used. Qualitative interviews were conducted in Ontario, Canada with 21 older adults who had three or more chronic conditions, 24 family caregivers and 22 healthcare providers. Data were analyzed using repeated immersion in the data, coding using NVivo, and identification of themes. Findings were repeatedly reviewed, discussed and revised by the research team. Results: Older adults had an average of seven chronic conditions while family caregivers provided care to individuals with an average of eight chronic conditions. Six main themes were identified: (1) system navigation is complex with many barriers to the use of services, (2) patients and family are seldom involved in setting goals for their care, (3) family caregivers are the main care providers, however they do not feel supported in their caregiving roles; (4) care is fragmented and uncoordinated across multiple chronic conditions, (5) there is minimal emphasis on prevention and health promotion, and (6) social aspects of patients' and caregivers' wellbeing were not addressed because the approach was predominantly biomedical and disease-focused. Conclusion: Improved health and social system navigation is critical to fully address the complexities of managing MCC. Older adults and family members must be included as key members of the interdisciplinary team and should be actively involved in setting their health goals spanning healthcare care and social care domains.

### NON-PHARMACOLOGICAL INTERVENTIONS FOR ELDERLY PATIENTS WITH PARKINSON'S DISEASE: A META-ANALYSIS

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Purpose: With population aging, non-pharmacological interventions are emerged as important long-term management to improve health-related quality of life (HRQOL) of patients with chronic disease. The purpose of this study was to examine the effectiveness of non-phar-

macological interventions for improving the HRQOL of patients with Parkinson's disease (PD). Method: Studies which were published in peer-reviewed journals from January 2000 to June 2013 were searched through PubMed and Cumulative Index for Nursing Allied Health Literature (CINAHL). We used combinations of the keywords such as PD, intervention, and therapy. A meta-analysis was performed to summarize effectiveness of non-pharmacological intervention studies. Results: A total of 13 studies were included in this study. Negative effect sizes indicated that interventions had positive impacts on HRQOL. The overall effect size for the studies (n = 13) was -0.46 with a 95% CI from -0.83 to -0.08 (Z = 2.39, p = .02). Additionally, the effect sizes were calculated for the following subgroups with regard to types of interventions: exercise programs (n = 6), education interventions (n = 2), cognitive-behavioral therapies (n = 2), and self-management programs (n = 3). The effect size of exercise programs was -0.47 with a 95% CI of -0.89 to -0.06 (Z = 2.22, p = .03). Other types of interventions did not have significant effectiveness. Conclusion: The findings of this study demonstrated that non-pharmacological interventions, especially exercise programs were effective in improving HRQOL in PD. We suggest that non-pharmacological interventions focusing on physical function should be developed and applied to patients with PD for their HRQOL.

### AMERICAN INDIAN/ALASKAN NATIVE AND CHRONIC DISEASES: A REVIEW OF THE LITERATURE

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The American Indian and Alaska Native (AI/AN) population in the United States is aging. The leading causes of death for AI/ANs aged 55 and older include cancer, heart disease, diabetes, and sequelae from these diseases. The goals of this systematic review are to synthesize the current state of the science involving studies related to chronic disease and older AI/ANs and identify gaps in knowledge to guide future research in this area. Empirical studies targeting older AI/ANs with chronic disease were sought using PubMed, CINAHL, and Google Scholar through Boolean and keyword searches. MeSH terms included the keywords, "American Indian," "AI/AN," "Elders," "Older Adult," and/or "Chronic Disease." Peer-reviewed studies published between 2000 and 2014 were included. Dissertations, non-peer reviewed government reports, book chapters, and secondary sources were excluded from this review. A total of seven studies targeting AI/AN elders with chronic disease were identified and analyzed for this review. Four studies used cross-sectional designs to evaluate chronic disease, lower body functioning, and disability. Two other studies used a community-based participatory research approach to implement interventions focusing on diabetes education and elder abuse. One ethnographic investigation focused on Zuni elders with chronic disease. Findings indicate that there are few studies on chronic disease among older AI/ANs. Future research needs to give more attention to an extensive, in depth research involving AI/AN elders. Partnering with AI/AN communities by involving key stakeholders in the research process can move research in this area in a positive direction, build community capacity, and develop culturally-tailored programs.

### AGE COHORT COMPARISON OF PSYCHOLOGICAL AND PHYSICAL HEALTH IN ADULTS WITH PULMONARY HYPERTENSION

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To compare physical and psychological health status between three age cohorts (older, middle, and younger) of adults with Pulmonary

Hypertension (PH). A convenience sample of Pulmonary Clinic patients with a confirmed PH diagnosis (n=115). Cross-sectional survey design. We abstracted patients' demographic and physiologic data, including 6-minute walk test, from medical record and administered the following questionnaires: Patient Health Questionnaire, Perceived Stress Scale (PSS-10), and Cambridge Pulmonary Hypertension Outcome Review (CAMPHOR). Comparative statistics were conducted on target variables across three age groups. There were no differences by age group in etiology of PH, severity of disease, CAMPHOR-total, or the psychological distress variables. Older adults' physical performance (6-minute walk test,  $p < 0.001$ ) and their perception of activity performance (CAMPHOR-activity,  $p < 0.002$ ) were significantly lower than the younger age groups. Older adults with PH had lower levels of perceived stress than their younger cohorts (12.0, 17.3, and 17.0,  $p < 0.04$ ). Twenty-nine percent of patients reported experiencing at least one type of psychological disorder. Eight (8) patients - ranging in age from 46 to 77 (median = 64) endorsed "thoughts that you would be better off dead or of hurting yourself in some way" at least several days in the past two weeks. Older adults with PH experience psychological distress at rates similar to the younger PH patients. Older adults perceived lower stress level despite poorer physical performance and perceptions of physical function. This study highlights the importance of routine psychological assessment and treatment referral for older adult patients with PH.

#### IMPACT OF DIABETES SHARED MEDICAL APPOINTMENTS ON VA CLINICAL VISITS: A LATENT GROWTH CURVE MODEL

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Data were collected from VA medical records of 988 patients with diabetes, age 50 and older at a large Midwest VAMC hospital. There were 371 cases who attended SMAs and 617 cases who attended UC only. The mean age of the patients was 70.1 years (S.D.= 9.4), 19.6% were black and 71.6% were white, with a mean A1c of 7.88 (s.d.= 1.55). The mean A1c value for individuals who attended SMAs was 8.55 (sd=1.72) and 7.49 (sd=1.28) for those who only had UC ( $p < .001$ ). A nested latent growth curve model comparing number of clinical visits between SMA and UC visits. The nested model fit the data well (Chi Square=34.20; df=6;  $p < .001$ ; TLI=.97; CFI=.97; RMSEA=.07). When constraining the mean intercepts and slopes of each group to be equal, significant differences were found in health care utilization over a 3 year period for clinical visits [SMA (mean intercept = 10.15) vs. UC (mean intercept = 6.13); SMA (mean slope = -.50) vs. UC (mean slope = .04)]. Individuals who attend SMAs vs. UC visits have higher initial numbers of clinical visits that decline over 3 years. Future studies need to focus on how the amount of health service utilization impacts these patients.

#### NUTRITION STATUS, FATIGUE, QUALITY OF SLEEP, AND DEPRESSION OF OLDER PATIENTS IN HEMODIALYSIS WITH CHRONIC RENAL FAILURE

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Objectives: This study was to explore status of nutrition status, fatigue, quality of sleep, and depression, and their relationships with one another as well as influencing factors on depression of the older patients in hemodialysis. Methods: The participants were 126 older patients in hemodialysis 2 to 3 times a week regularly with chronic renal failure in hemodialysis center of hospital, older than 55 years old. Data were collected from April 6 to July 4, 2013 using MIS((Malnutrition-Inflammation Score), Fatigue Scale, PSQI(Pittsburgh Sleep Quality Index), and Beck Depression Inventory(BDI). Data were analyzed using the SPSS/WIN 20.0 program. Results: In common, Exercise and level of appetite showed statistically significant differences in nutrition status, fatigue, quality of sleep, and depression by general and health

related characteristics. Depression had statistically significant positive correlation with nutrition status( $r=.40$ ,  $p < .001$ ), fatigue( $r=.59$ ,  $p < .001$ ), and quality of sleep( $r=.47$ ,  $p < .001$ ) of the hemodialysis older patients. Fatigue, quality of sleep, education level, and appetite were included in the factors affecting depression of older patients in hemodialysis with chronic renal failure. These variables explained 42.9% of depression in older patients in hemodialysis. Conclusion: The results of this study suggest necessity of careful assessment on exercise, appetite, nutrition status, fatigue, quality of sleep, and depression of the older patients in hemodialysis.

#### THE IMPACT OF COMORBIDITIES IN PSYCHOLOGICAL STATUS FOLLOWING HIP FRACTURE OF OLDER PERSONS IN TAIWAN

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Objectives. More than 80% elderly in Taiwan suffered chronic diseases, and the high prevalence of hip fracture in Taiwan usually impacts their health. Previous researches had demonstrated that the cognitive impairment and depression increased after hip fracture, but very few studies on the impact of comorbidities on psychological status for elderly following hip fracture. Therefore, the purpose of this study was to examine the influences of comorbidities on post-operative cognitive impairment and depression for hip-fractured elderly in Taiwan. Data and Methods The secondary data of 461 elders with hip fracture from two clinical trials (162,299 respectively) in Taiwan was analyzed by generalized estimating equation approach. Elder's membership among the two studies, their assigned groups and pre-fracture ADL performance were controlled in the analysis to reduce the bias. Outcomes were measured for one year after discharge by the Taiwan mini-mental state examination (as cognitive status) and Taiwan geriatric depression score (GDS, as depression). Results There were 105(22.8%) elderly with no comorbidity, 136(29.5%) with one, 220(47.7%) with more than 2 comorbidities. After controlling the covariates, there was no significant difference between the elderly who without and with one comorbidity. However, elderly who with more than 2 comorbidities associated with more cognitive impairment ( $B=-0.815$ ,  $p=0.000$ ) and higher GDS score ( $B=0.906$ ,  $p=0.000$ ) than those who with  $\leq 1$  comorbidity in admission and lasted to one year after discharge. Conclusions More comorbidities negatively influenced the cognitive status and depression of the hip-fractured elderly. The results could provide a reference for further development of related interventions.

#### THE LONGITUDINAL RELATIONSHIP BETWEEN DEPRESSIVE SYMPTOMS AND CHRONIC DISEASE FOR OLDER ADULTS: A POPULATION BASED STUDY

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Background. Although depressive symptoms in older adults are common, their relationship with chronic disease and the influence of chronic disease on the development of depressive symptoms over time is not well understood. This longitudinal study investigates the change trajectories of both depressive symptoms and chronic disease, as well as their associations over time. Methods. Participants included 442 community-dwelling older adults living in Taiwan, aged 65 years or older, who completed six waves of survey interviews. Depression was scored with the Short Psychiatric Evaluation Schedule (SPES) and chronic diseases measure during each consecutive data collection wave. The autoregressive latent trajectory (ALT) model and parallel latent growth curve modeling (LGCM) were adopted for analysis of the data. Results. The ALT model highlights that previous depressive symptoms (and diseases) significantly contributed to the advancement

of more severe depressive symptoms (and diseases). This model also indicates that chronic disease significantly contributed to the onset of depressive symptoms and vice versa. The parallel LGCM highlights that the disease intercept had significant effects on the depressive symptoms intercept, as did the depressive symptoms on disease. Furthermore, the disease slope had significant effects on the slope of the depressive symptoms. Conclusions. These findings demonstrate that disease is a stronger predictor of depressive symptoms, than depressive symptoms are of chronic disease. In addition, the prior existence of a health condition will lead to further deterioration of health conditions and that they often coexist.

#### **OLDER ADULTS WITH OSTEOARTHRITIS DO NOT HAVE AN INCREASED RISK OF COGNITIVE IMPAIRMENT**

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**Background:** Recent studies suggest an association between osteoarthritis (OA) and dementia. The objective of this analysis was to determine if older adults with OA have a higher risk of cognitive impairment (CI). **Methods:** We used data from the Health Aging and Body Composition (HABC) study, a multicenter prospective cohort study of community dwelling adults, ages 70-79, to determine if participants with OA at baseline (self-reported OA or OA defined by HABC prevalent disease algorithm) have an increased risk of developing CI. CI was defined as a Modified Mini-Mental State examination (3MS) score <70. Baseline and year 3, 5, 8, and 10 scores were analyzed. **Results:** There were 2577 participants with 3MS scores of  $\geq 70$  at baseline (n=1277 with OA, n=1300 without OA). The OA group had more women (54% vs 44%,  $p < 0.001$ ), higher baseline CES-Depression scores (4.9 SD5.4 vs 4.2, SD4.9,  $p = 0.003$ ) and hypertension (46% vs 40%,  $p = 0.028$ ). There was no significant difference in development of CI after 9 years amongst those with OA (n=165, 12.9%) versus without OA (n=197, 15.1%).  $\chi^2$  (1, n= 2577) = 2.66,  $p > 0.10$ . On logistic regression analysis there was no association between OA and incident CI (odds ratio= 0.8: 95% confidence interval 0.6-1.0). There was no significant association between baseline OA and the development of CI at the 3, 5, 8 and 10 year time points. No differences were found upon sensitivity analysis using racially adjusted cut-points for 3MS scores. **Conclusions:** These results do not support the hypothesis that there is an association between OA and CI

#### **PERSISTENT RESPIRATORY SYMPTOMS AMONG MIDDLE-AGED AND OLDER ADULTS WITH COPD WORSEN HEALTH STATUS**

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Clinical series have found worse outcomes for COPD accompanied by persistent respiratory symptoms (wheezing/cough/sputum production). However, the effect of symptoms on health status (HS) at the population level, particularly in the context of multimorbidity, is not clear. We investigated (1) COPD prevalence with and without persistent symptoms among American adults  $\geq 51$  years and older and (2) association of symptoms with baseline and 2-year change in HS. We analyzed participants age  $\geq 51$  years (n=16,785) in wave-2008 of the Health and Retirement Study, a nationally-representative longitudinal health interview survey. COPD and symptoms were self-reported. Respondents reported baseline (2008) HS (excellent to poor) and 2-year (2010) HS compared to previous interview (better/same/worse). Covariates included 7 chronic diseases (hypertension/heart/cancer/diabetes/stroke/musculoskeletal/psychiatric); 5 geriatric conditions (cognitive impairment/falls/incontinence/vision/hearing impairment); dependency

in activities of daily living, and sociodemographic characteristics. We used logistic regression to examine the association between COPD, persistent symptoms, and baseline/change in HS. COPD was reported by 10.9% of respondents (n=1,839, representing 7.6 million nationally), 49% of whom had persistent wheezing/cough/sputum production (3.7 million). In fully adjusted models, persistent symptoms were associated with higher odds of fair/poor baseline HS (odds ratio [OR] 2.6, confidence interval [CI] 2.0-3.4) and with 2-year worsening HS (OR 1.6, CI 1.2-2.0). The impact of symptoms on HS was greater than that due to individual comorbid diseases and comparable to having  $\geq 3$  comorbidities. Persistent respiratory symptoms are an important factor impacting HS in COPD. These symptoms should be a target for therapy and identification of patients at high risk for worsening HS.

#### **THE LONGITUDINAL RELATIONSHIP BETWEEN CHRONIC DISEASE, DISABILITY AND DEPRESSION FOR OLDER ADULTS**

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**Background:** Although health decline in older adults are common, the relationship between chronic disease, disability and depression and the influence of each other over time is not well understood. This study explores change trajectories among three health domains when the effects of contextual and other structural factors are simultaneously considered. **Methods:** Participants included 442 community-dwelling older adults living in Taiwan, aged 65 years or older, who completed six waves of survey interviews. The study investigated changes of status in three health domains at six time points during 1994-2004. Health status was assessed using 27 items of chronic diseases, 12 items of Physical and Instrumental Activities of Daily Living, and 15-items from the Short Psychiatric Evaluation Schedule. The autoregressive latent trajectory model and parallel latent growth curve modeling were adopted for analysis of the data. **Results:** This study confirmed that continuous health decline is a major public health problem among the elderly population. The results also show strong change trajectories among the three health domains, with initial poor health status (i.e. existence and level of chronic disease and disability) predictive of further problems across health domains. **Discussion:** A focus on causal pathways linking chronic disease to change in depression and disability is strongly indicated. In addition, interaction between chronic disease and disability may be a concurrent or a precursor of depression. This provides important information to support the development of future clinical and public health interventions that may help to slow the process of health decline, especially in an ageing population.

#### **OCCUPATIONAL EXPOSURES IN MIDLIFE AS DETERMINANTS OF MORTALITY: A 28-YEAR PROSPECTIVE FOLLOW-UP OF PUBLIC SECTOR EMPLOYEES**

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**Objectives** The aim of this study was to investigate how physical and chemical exposures in the work environment were associated with mortality among middle-aged public sector employees. **Methods** Data come from the Finnish Longitudinal Study on Municipal Employees, a cohort of public sector employees aged 44-58 with follow-up since 1981. 5464 participants had answered nine questions asking to which extent physical or chemical exposures in the work environment such as e.g. cold, hot or temperature changes, noise and acids, alkali or oils decreased their

job satisfaction. Mortality was followed up from January 1981 to July 2009 from the Finnish Population Register. Cox regression models were estimated separately for men and women working in white-collar and blue-collar professions. Results Of the 5464 participants, 670 (22.7%) women and 1093 (43.5%) men died during the follow-up. White-collar men with a higher number of work-related physical or chemical exposures had an increased risk of mortality which was not explained by adjustment for life-style factors (smoking, alcohol consumption and physical activity) or chronic diseases (cardiovascular disease, metabolic disorders and cancer), HR 1.03, 95% CI 1.01-1.06 per one unit increase in work-related exposures. Blue-collar women with a higher number of work-related exposures had an increased risk of mortality compared to those with fewer exposures, but adjustment for life-style factors and chronic diseases attenuated the association, hazard ratio (HR) 1.02, 95% confidence interval (CI) 0.99-1.04. Conclusion Work-related physical and chemical exposures have long-term effects on health, but they may vary according to gender and occupational status.

#### **ENVIRONMENTAL POLLUTION AND THE HEALTH EFFECTS ON THE ELDERLY**

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Due to improvement in technology and industry, environmental air pollution is consistently increasing. Many low-income urban-dwelling elders live in private homes or nursing homes that are located close to industrial areas or freeways where there is a high concentration of these pollutants. The effects of air pollution on childhood asthma are well studied. Theoretically, among older adults (65+ years) who are experiencing physical changes due to normal and pathological aging, exposure to pollutants is also associated with more respiratory and cardiopulmonary morbidity and more hospitalizations for respiratory illnesses. The purpose of this systematic review of the research literature was to explore the degree to which environmental and gerontological research has focused on the relationship between air pollution and health care utilization among older individuals living in urban areas. Due to dearth of literature, a major gap noted relates to the effect of environmental air pollution in older adults living in long term care facilities. Electronic databases from Google scholar, Cochrane Library, and PubMed were used. In addition to summarizing findings of the review, future research is needed to explore this impact of environmental pollution on older adults, which will help inform policy makers and urban planners about environmental health risks of elders living in long term care facilities.

#### **SESSION 1660 (POSTER)**

##### **PHYSICAL ACTIVITY**

#### **EVALUATION OF A SIT-TO-STAND TASK IN YOUNG AND OLDER ADULTS**

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Ability to rise from a chair is an important task for older adults and is associated with functional independence. Although, performing the sit-to-stand task (STST) itself is important, the phases of the task: preparatory, rising, and stabilization are imperative to study. Evaluation of these STST phases will identify areas older adults find more challenging in order to correct issues and decrease fall risk. Purpose: This investigation examined relative power and time spent in the phases of a STST between younger and older adults. Methods: Twenty (12 females, 8 males) community-dwelling older (71.6 ± 5.6 yrs) and 20 (15 females, 5 males) younger adults (22.3 ± 1.9 yrs) completed 10 STST. Subjects were instructed to place their feet on a force plate and rise from a chair

as quickly as possible. Muscular power was measured using the Tendo Weightlifting Analyzer. Kinetic data were used to analyze the time spent in each phases. Results: The one-way ANVOA yielded statistically significant differences between groups for both relative power ( $p < .01$ ) and total time to stand ( $p < .01$ ). Further, the older subjects spent significantly ( $p < .01$ ) more time in all phases of the STST as compared to their younger counterparts (31% PP; 31% RP; 56% SP). Conclusion: Findings of the study suggest community-dwelling older adults generate less relative power and require significantly more time to rise from a chair. Further, older adults need more time to stabilize following a STST suggesting increased fall risk after rising from a seated position.

#### **MEASUREMENT OF SPEED AS A PREDICTOR OF AUTONOMY LEVELS IN ELDERLY PEOPLE**

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Purpose: The Purpose Of The Study Was To Examine The Use Of Maximal Running Distance Performed As A Predictor Of Autonomy Levels. In This Particular Case, The Relationship Among Power (Wingate Test), Velocity Displacement Over Distances Of 15, 30 And 45 Meters And Morphological Variables (Fat Free Mass/ Fat Mass/Areas/ Perimeters) Were Estimated In Older Senior Athletes To Analyze Their Autonomy Levels. Methods: Twenty Elderly Men (54, 7 ± 3,7 Years) From Athletics Groups (Bogotá- Colombia) Were Evaluated Three Times On Each Test Day And On Three Different Test Days. Test-Retest Reliability Was Highest In All Tests. Results: Velocity Displacement Over Distances Of 30 And 45 Meters Correlated Negatively With Average Power ( $r = -0,61$ ,  $p = 0,024$ /  $r = -0,66$ ,  $p = 0,001$  Respectively), Body Weight And IMC Correlated Positively With Maximum Peak Power ( $r = 0,80$   $p = 0,001$ ;  $r = 0,77$   $p = 0,004$  Respectively) And Thigh Perimeter Corrected By The Thigh Skinfold Thickness Correlated Positively With Average Power ( $r = 0,55$   $p = 0,03$ ). Conclusion: Velocity Displacement Over 30 And 45 Meters Can Be Used To Evaluate The Levels And Functional Autonomy In Elderly Individuals.

#### **CORRELATES OF PHYSICAL ACTIVITY IN ADULTS**

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Research suggests that factors like neighborhood safety, age, and education may be important determinants of physical activity, although these results are not consistent across studies. The goal of the current study is to examine correlates of physical activity in a diverse sample of adults. Two-hundred forty-one participants from the Effects of Stress on Cognitive Aging, Physiology, and Emotion (ESCAPE) project completed data on physical activity engagement, measured by the RAPA (Rapid Assessment of Physical Activity) and various items thought to be correlates of physical activity. Using cross-sectional data, physical activity correlated with neighborhood violence ( $r = -.17$ ) and marginally with social cohesion ( $r = -.12$ ). Physical activity was not correlated with neighborhood aesthetic quality or neighborhood safety. Because the participants all live in the same neighborhood, this suggests that perceptions of the neighborhood may be related to physical activity engagement. Implications for future research will be discussed.

#### **TRANSLATION OF DANCE-BASED RESEARCH INTO PRACTICE**

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Dance-based movement programs have been shown to improve physical function in community-dwelling older adults, including improving balance and mobility. Besides the health benefits, these



group programs provide social support and are cost effective. Dance-based movement programs promote enjoyment while also engendering interest in continued participation for both healthy and impaired older adults. We report on the experiences from two research projects to inform translation to practice. The first was a study of individuals with Parkinson's disease using Argentine tango which was implemented in 2009. In the second study, the Healthy-Steps dance program was tested in older adults with and without lower extremity pain in a senior housing site and implemented in practice in 2013. The experiences of implementing and sustaining these dance programs are discussed using the Texas Christian University Change Model, Stages of Transfer that includes 1) Exposure, 2) Adoption, 3) Implementation, and 4) Practice. The Adoption of dance-based programs by both the older adults and practice partners is a critical and challenging stage; successful strategies for Adoption include building start-up dance instructor funding into the research budget and using a wait-list control research design. This change model for moving dance-based research to practice can be applied to other facility-and community-based movement programs. This model also has implications for improved mobility and maintenance of independence for older adults, while adding to the emerging research on dance-based therapy for this population.

### THE EFFECTS OF INTERVENTIONS TO INCREASE PHYSICAL ACTIVITY ON HEALTH OUTCOMES AMONG OLDER ADULTS

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**PURPOSE:** Interventions designed to motivate community-dwelling older adults to increase physical activity (PA) behavior are modestly effective. The purpose of this meta-analysis is to determine these intervention effects, if any, on anthropometric, quality of life (QOL), depression, and pain outcomes in this population. **METHOD:** Exhaustive search strategies identified published or unpublished, two-group PA intervention studies among community-dwelling adults age 65 and older reporting PA plus anthropometric, QOL, depression, or pain outcome data. Primary study outcomes were duplicate coded to ensure accuracy. Standardized mean difference effect sizes (ES) were analyzed using a random-effects model. Q and I<sup>2</sup> statistics were used to explore heterogeneity of effects. **RESULTS:** Outcomes were synthesized from 6 anthropometric, 19 QOL, 10 depression, and 12 pain primary studies. The ES for anthropometric outcomes was 0.08 (p=0.18). For QOL outcomes, the ES was 0.07 (p=0.19). The ES for depression was 0.02 (p=0.70). The ES for pain was 0.02 (p=0.80). ESs were not significantly heterogeneous. **CONCLUSION:** Interventions designed to improve PA behavior among community-dwelling older adults do not appear to impact anthropometric, QOL, depression or pain outcomes. Furthermore, the lack of significant heterogeneity across studies suggests that studies were relatively similar. Additional primary research is needed. Future PA intervention research should identify interventions more effective in increasing PA to determine their effect on important health outcomes among older adults.

### PHYSICAL ACTIVITY AND SEXUAL FUNCTION IN AGING WOMEN

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**Introduction:** The aging process and the menopause arrival tend, both, negatively influence a series of health related factors in women, including their quality of life and sexual function. **Objective:** To investigate the relationship between physical activity level and sexual function in ageing women. **Methods:** A cross-sectional study with a sample of

370 women (40-65 years old), treated at public health care facilities in a Brazilian city. A questionnaire was used containing enquiries on socio-demographic, clinical and behavioral characteristics: the International Physical Activity Questionnaire (IPAQ), short form, and the Female Sexual Function Index (FSFI). **Results:** The average age of the women studied was 49.8 years ( $\pm 8.1$ ), 67% of whom exhibited sexual dysfunction (FSFI  $\leq 26.55$ ). Sedentary women had a higher prevalence (78.9%) of sexual dysfunction when compared to active (57.6%) and moderately active (66.7%) females (p = 0.002). Physically active women obtained higher score in all FSFI domains (desire, arousal, lubrication, orgasm, satisfaction and pain) and total FSFI score (20.9), indicating better sexual function than their moderately active (18.8) and sedentary (15.6) counterparts (p < 0.05). **Conclusion:** As it was demonstrated, the physical activity factor proved to have a positive influence on sexual function of the surveyed aging women.

### INFLUENCE OF PHYSICAL ACTIVITY ON HEALTH AND QUALITY OF LIFE IN AGEING WOMEN

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**Objective:** To evaluate physical activity influence on health and quality of life of women in the menopausal period. **Methods:** A cross-sectional study surveying 60 women aged 45-65 years, being 30 physically active in a supervised physical exercise program and 30 diagnosed as sedentary. **Methods:** We applied a questionnaire related to the sociodemographic and clinical characteristics of the surveyed women. To assess the factors health and quality of life the used instrument was the Women Health Questionnaire (WHQ). **Results:** Physically active women, as compared to the sedentary ones, had higher scores in all domains of the menopausal symptoms addressed by the Women Health Questionnaire. In another words, this result indicating that the active group was less stricken by the menopausal symptoms. Significant differences (p < 0.05) were observed for depression, somatic symptoms, anxiety, sleep problems and memory/concentration being all better for the active women group. Among all the reported symptoms, back and body members pain (8.3%), hot flushes (3.3%), impatience (3.3%) and headache (3.3%) were the ones that most annoy both groups. However, approximately 75% of the women in each group reported as having no difficulties as to deal with such symptoms. **Conclusion:** As the results show, regular physical activity appears to be a positive way to the menopausal symptoms reduction, fact that may be thought as capable of improving health and quality of life of women during this period of life.

### ASSOCIATION BETWEEN PHYSICAL ACTIVITY AND SLEEP ONSET LATENCY AMONG COMMUNITY-DWELLING OLDER PEOPLE IN JAPAN: A CROSS-SECTIONAL STUDY

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**Purpose** Sleep onset latency (SOL) is an important indicator of sleep quality. Previous studies have reported shorter SOL was related to amount of light intensity physical activity. However, there are few studies using objectively measured physical activity in this area, especially for older adults. The aim of this study was to investigate the relationship between objective physical activity and SOL among Japanese elderly people. **Methods** Participants of this study were individuals (n=721) who were 65 years or older. Participants were categorized into two

groups based on their SOL (shorter SOL, <30min; longer SOL, >30min) by using Pittsburgh Sleep Quality Index. Physical activity (PA) was measured by a tri-axial accelerometer (HJA-350IT, Omron Healthcare, Japan). Two PA indices were defined as: volume of light PA (LPA) (1.6 to 2.9METs, METs\*hour/day) and that of moderate-to-vigorous PA (MVPA) ( $\geq 3.0$ METs, METs\*hour/day). Results Overall, 31.9% of participants (n=230) were categorized as longer SOL. Higher LPA was significantly associated with decreased risk of long SOL with adjusted odds ratio 0.91 (95% confidence interval, CI, 0.862-0.966), while there was no significant association between MVPA and SOL with adjusted OR 0.98 (95%CI, 0.909-1.065), after controlling for a number of demographic, lifestyle and health factors. Conclusions This study showed objectively measured LPA was associated with longer SOL, while MVPA was not associated with longer SOL. Consistent with previous studies, results of this study provide evidence to support the relationship of LPA and SOL by using objective PA data. To establish the cause and effect relationship, future prospective studies are needed.

### PHYSICAL ACTIVITY IN COMBINATION WITH SLEEP DURATION AND THE RISK OF LONG-TERM CARE IN OLDER ADULTS

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It is well-known that physical activity (PA) has benefit to maintain functional independence, also recent studies have revealed that sleep plays an important role in overall health. This study investigated how the combination of PA and sleep duration is associated with the risk of long-term care in older adults. A total of 4,422 community-dwelling older Japanese individuals (age $\geq 65$  years) participated in present survey (average age 72.7 $\pm$ 6.2 years; 53.3%men). We used the International Physical Activity Questionnaire short version to assess PA, and sleep duration was evaluated by Pittsburgh Sleep Quality Index. A basic checklist of long-term care prevention was used to screen the high risk senior. Participants were categorized into 4 groups by status of PA and sleep duration: 1) sufficiently active [meeting the World Health Organization (WHO) recommendation] and adequate sleep ( $\geq 6$  hours), 2) sufficiently active and short sleep (<6 h), 3) inactive (not meeting WHO recommendation) and adequate sleep and 4) inactive and short sleep. A logistic regression analysis adjusted for age and hypnotic use was conducted. In both men (OR=0.293, 95%CI=0.196-0.437) and women (OR=0.392, 95%CI=0.233-0.660), sufficiently active with adequate sleep had low risk of long-term care compared to inactive with short sleep. Either of sufficient activity (men: OR=0.392, 95%CI=0.233-0.660; women: OR=0.433, 95%CI=0.270-0.694) or adequate sleep (men: OR=0.432, 95%CI=0.289-0.646; women: OR=0.526, 95%CI=0.372-0.744) were also associated with lower risk for long-term care. For obtaining general well-being, our findings suggest that it is important for older adults not only to be physically active, but also to sleep well.

### PHYSICAL ACTIVITY AND ENERGY EXPENDITURE OF A GROUP OF ELDERLY IN ABEOKUTA, NIGERIA.

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Physical activity is necessary to promote health and increase longevity for elderly people. Thus, the study assessed the physical activity and energy expenditure of the urban elderly. This study was conducted on 220 elderly in the Abeokuta Southwest Nigeria. Three wards were purposively selected from 15 wards of Local Government because of its standard infrastructural facilities compared to other areas within the

Local Government. By mean of a structured questionnaire, there was information on Demographics characteristics, types of activities and time allocated for each activity. The duration of various activity was calculated by energy cost and summed up using NutriSurvey2007 database software. Nutritional status was determined by means of anthropometric measurements Both descriptive and inferential statistics were used to illustrate and determine the relationship between variables. The result indicated that 36.4% of the respondents engaged in routine activities that consumed little energy. Majority of the time was spent sitting down. The energy expenditure ranged from 612 to 1296 kcal/day. BMI classification demonstrated that more than half were overweight (55.91%) 21.36% were Obese 1, and about 1% Obese 2. There was a significance relationship between Energy Expenditure and anthropometric measurements (p<0.05). This result disclosed that, energy expended affects the Body Mass Index. Regular exercise for elderly at-least 30minutes road walk a day is encouraged.

### DEVELOPMENT OF PREDICTION MODELS FOR SIT-TO-STAND LOWER-BODY POWER AND VELOCITY IN OLDER ADULTS

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Maintaining sit-to-stand speed and lower-body power is an issue in older adults, but difficult to evaluate without specific, expensive equipment. Purpose: The purpose of this investigation was to develop prediction models for lower-body power/velocity in older adults using validated functional fitness field measures. Methods: Sixteen males (78.2 $\pm$ 7.1 years) and 41 females (78.1 $\pm$ 6.3 years) from a senior living community, volunteered for this study. Functional fitness measures included isometric handgrip (HG) and 30-second chair stand (CS). Lower body power/velocity was evaluated using the TENDO Weightlifting-Analyzer (TENDO). From a seated position, participants performed a sit-to-stand five times with 60-seconds rest between trials. The TENDO was attached to the hip at a 90-degree angle with the floor. Average power (AP) and velocity (AV) were calculated as mean power generated throughout the sit-to-stand. Peak power (PP) and velocity (PV) were the highest power generated at any point throughout the movement. Regression analysis determined the ability of HG and CS to predict lower-body power and velocity assessed via TENDO. Results: Significant ( $\alpha < .05$ ) regression equations were calculated for AP (R<sup>2</sup>=.66), PP (R<sup>2</sup>=.69), AV (R<sup>2</sup>=.63), and PV (R<sup>2</sup>=.63) using HG and CS as predictors. When evaluating AP and PP, the HG accounted for the greatest percentage of variance (46% and 52%, respectively); however, when predicting AV and PV, the CS accounted for the greatest percent of variance (52% and 47% respectively). Conclusions: Using validated field measures of functional fitness to predict lower body power in older adults is beneficial for technicians as it minimizes need for expensive equipment.

### EFFECTIVENESS OF PHYSICAL ACTIVITY INTERVENTIONS WITH HEALTHY OLDER WOMEN: A SYSTEMATIC REVIEW PROTOCOL OF RANDOMIZED CONTROLLED TRIALS

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Strong scientific evidence shows that physically active people have higher levels of health-related fitness, a lower risk profile for developing a number of disabling medical conditions, and lower rates of various chronic diseases than people who are inactive. Yet, older women's participation in physical activity is suboptimal. The objectives of this systematic review were to appraise randomized controlled studies of laboratory-, home- and community-based physical activity interventions with the specific goal of improving the physical health of older women living independently in the community. The Joanna Briggs

Institute (JBI) systematic review method was used to assess studies including one of the following outcome measures: 1) cardiorespiratory (e.g. pulse, heart rate, blood pressure, aerobic capacity); 2) body composition (e.g. BMI, waist circumference, hip/waist ratio, % body fat); 3) flexibility (e.g. stretching, balance); and 4) muscular strength and endurance (e.g. grip strength, walking speed). The review included only randomized controlled trials published between 2000 and 2013 where the majority of women were 50 years of age or older and healthy. Papers were assessed by two independent reviewers for methodological validity using standardized critical appraisal instruments from the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI). Data were extracted from papers using the standardized JBI data extraction tool. Twenty six studies met the inclusion criteria with 14 studies adequately rigorous for data extraction. Specific details about the interventions, populations, study methods and outcomes of significance are discussed with particular attention to recommendations for healthcare policy and practice.

### **IMPACT OF “STANDING UP FROM A LONG SITTING POSITION ON THE FLOOR” ON MEDICAL EXPENDITURES IN OLDER JAPANESE POPULATION**

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This study was conducted to examine the impact of “standing up from a long sitting position on the floor” on medical expenditures in older Japanese population. The subjects were those aged  $\geq 65$  years who participated in the baseline health-check (2006), bought the national health insurance and used medical services at least one time in 2006 and 2008 in Tome, Miyagi, Japan. Out of them, 1,033 individuals underwent “the tests of length of time standing up from a long sitting position on the floor”. We followed-up these individuals for 2 years. We determined whether baseline (2006) “standing up from a long sitting position on the floor” affected medical expenditures in 2008 independently from the impact of key confounders (gender, baseline age, self-rated health and medical expenditures), using log-linear models. Increase of one second of baseline “length of time standing up from a long sitting position on the floor” increased medical expenditures per month per capita 3.0% in 2008 significantly ( $P=.020$ ). Also using log-linear models adjusted for baseline age, self-rated health and medical expenditures, only in women ( $n=603$ ), increase of one second of baseline “length of time standing up from a long sitting position on the floor” increased medical expenditures per month per capita 3.7% in 2008 significantly ( $P=.009$ ). Decline of physical strength in Japanese elderly, especially in women, could be an independent risk-factor of condition (locomotive syndrome) and had a strong impact on future medical expenditures.

### **PAIN BEHAVIORS DURING FUNCTIONAL TASKS AND EXPERIMENTAL PAIN INDUCTION IN OLDER ADULTS WITH KNEE PAIN**

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Assessment of overt pain behaviors can complement self-report pain measures. Several studies report ethnic/racial differences in clinical and experimental pain ratings, but ethnic/racial differences in overt pain behaviors have not been examined. We coded overt pain behaviors from videotapes of 29 older African American (AA) and 29 White (W) adults with symptomatic knee osteoarthritis completing functional tasks (chair, walking) and experimental pain procedures (heat/cold). Three participants did not have complete video data and were excluded from analysis, leaving a sample size of 55 participants. The average age was

58.2 years, 60% female. The pain behavior coding methodology developed by Keefe (1987) was utilized to code the following pain behaviors: bracing, grimacing, guarding, joint flexion, rubbing, withdrawal, and non-verbal/verbal pain. Two experimenters underwent two phases of training and calibration. After training, inter-rater reliability was acceptable ( $K = 0.68-1.00$ ) for pain behaviors assessed across clinical and experimental pain tasks. The experimenters independently coded 55 participant videos. When experimenters' coded pain behavior differed by more than one unit, consensus was reached by viewing the videos together. Experimenter ratings of pain behaviors correlated strongly with participant pain rating following the chair task ( $r = .69-.73$ ,  $p = 0.01$ ), moderately for the walking task ( $r = .45$ ,  $p = 0.01$ ), but poorly for the experimental pain tasks ( $r = .13-.19$ , ns). The distribution of pain behavior scores did not differ between AA and W according to the Mann-Whitney U statistic. Thus, assessed pain behaviors were similar across race groups in both clinical and experimental pain tasks.

### **MICROSTRUCTURAL INTEGRITY IS RELATED TO FASTER GAIT IN THE PRESENCE OF WHITE MATTER HYPERINTENSITIES**

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White matter hyperintensities (WMH) are associated with slowing gait in older adults, but some individuals maintain a faster gait with WMH. We characterize microstructure of normal appearing white matter (NAWM) and grey matter atrophy (GMA) in relation to slow gait in those with high WMH. Diffusion tensor imaging data were acquired in 2006-08 on a 3T scanner concurrent with GMA, WMH, and cognitive and physical performance measures in 279 participants of the Healthy Brain Project (78-90 yrs, 58% women, 41% black). Tract Based Spatial Statistics and Voxel Based Morphometry was used to test the association between fractional anisotropy (FA) and GMA with gait speed (above the median=0.91 m/s) in those with high WMH burden (above the median), before and after adjustment for muscle strength. Significant clusters were identified using a threshold-free cluster enhancement ( $p < 0.05$  FWE corrected). Among those with high WMH, higher FA was related to faster gait speed in interhemispheric tracts and in tracts related to sensory-motor function and information processing. Adjustment for muscle strength attenuated but did not substantially change results. Lower GMA of the temporal gyrus and cerebellum was associated with faster gait speed among those with high WMH. Results were not robust to adjustment for muscle strength. Greater integrity of white matter throughout the brain may provide compensation to WMH for gait speed in older adults. Future studies to examine the factors to promote NAWM integrity in older adults and its impact on mobility are warranted.

## **SESSION 1665 (POSTER)**

### **DISABILITY, FALLS & MOBILITY**

#### **FALLERS IN COMMUNITY CAN BE IDENTIFIED BY TIMED UP AND GO TEST: DATA FROM THE INCHIANTI -FARSEEING**

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Purpose and methods: Still uncertain the best way to assess risk of falling in relatively healthy and not disabled subjects. There is some evidence that the Timed up and go test (TUGt) cannot well discriminate

between fallers and non-fallers in healthy older subjects. We explored the hypothesis that the discriminative value of TUGt in the identification of fallers could be improved by the information collected through inertial sensors (IS) built-in a Samsung Galaxy SII/III placed in a belt-pocket on the back. An automatic algorithm developed ad-hoc (uTUG) identified total and partial times needed to perform the test and other biomechanical features computed by the IS signals (gyroscope and accelerometer). Data from 84 participants (51F; 78.6±6.9ys, MMSE 26.9±2.6) able to maintain tandem (T) or semi-tandem (ST) stance for 10 sec without ADL disability, were considered. Analysis was conducted by multiple linear regression models. Results: 18.9% of those who maintained T experienced at least a fall in the last 12 months versus 37.5% of those who maintained ST (p=0.05). Independent of age and gender, uTUG total and partial times were not associated to fall history (p>0.10). Unlike timing, the way in which subjects approached the final sitting position, quantified by a morphological analysis (through the jerk function) of the IS signals, was instead highly associated to fall history (p=0.04 for the lateral acceleration, p=0.03 for the torsional angular velocity). Conclusion: uTUG application could be helpful in the discrimination of fallers versus non-fallers in a community setting providing detailed biomechanical information.

#### RELATIONSHIPS BETWEEN STRENGTH AND STEP EXECUTION TIME: ROLE OF ACE INSERTION/DELETION GENOTYPES

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Introduction: Executing a rapid step is a response strategy used by older adults to avoid falling. Many factors are implicated in the ability to execute a rapid step, including balance, fear of falling and lower extremity strength. Polymorphisms in the angiotensin-converting enzyme (ACE) gene are associated with strength of the lower extremity in older adults. The purpose of this study was to examine the association between strength and step execution time (SET) in older adults with the ACE deletion (DD+), and without the ACE deletion (DD-) genotype. Methods: Twelve adults (mean age 74.5 years) performed trials of rapid stepping in a university research laboratory. SET was assessed using a reaction timer and foot pads. Hip flexor, knee extensor, ankle dorsiflexor and grip strength were assessed using hand-held dynamometry. After isolating DNA from mouthwash samples, allelic discrimination of the ACE genotypes was accomplished using a 5' nuclease assay. Spearman's correlations evaluated relationships between strength and SET within the DD+ and DD- groups. Statistical significance was set at p<0.05. Results: Strength was associated with SET in the DD+ group (hip flexors r=-0.90, p=0.02; knee extensors r=-0.77, p=0.07; ankle dorsiflexors r=-0.83, p=0.04; grip r=-0.90, p=0.02). Associations between strength and SET were weak in the DD- group (r values -0.09 to -0.37; p>0.05) Discussion/conclusions: Strength appears to be associated with stepping performance in older adults with the DD genotype, but not in those without the DD genotype. Studies are warranted to determine predictors other than strength of stepping performance in DD- individuals.

#### MUSCLE COMPONENTS IN RELATION TO INCIDENT MOBILITY DISABILITY AND GAIT SPEED DECLINE; THE AGES-REYKJAVIK STUDY

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Background: Aging is associated with lower muscle strength and changes in muscle composition. We examined associations of muscle components with incident mobility disability and gait speed decline.

Methods: Data were from 2725 participants (43% men) aged 74.8±4.7 years from the AGES-Reykjavik Study. At baseline, maximal isometric thigh strength was assessed by a dynamometer chair, and mid-thigh muscle area and fat infiltration were assessed by computed tomography imaging. Mobility disability and usual gait speed were assessed at baseline and after 5.2±0.3 years. Incident mobility disability was defined as having much difficulty or unable to walk 500 meter or climb-up 10 steps. A decrease of ≥ 0.1 m/s in gait speed was considered clinically relevant. Results: After adjustment for demographics, BMI, lifestyle indicators and comorbidities, greater strength and area were protective for mobility disability risk and gait speed decline. After adjustment for other muscle components, greater strength was independently associated with lower mobility disability risk in women; OR; 0.76 (95% CI 0.60; 0.96), and lower decline in gait speed risk among both men; 0.68 (0.57; 0.80), and women; 0.71 (0.62; 0.81). Larger muscle area was independently associated with lower mobility disability risk in women; 0.68 (0.52; 0.89), and lower decline in gait speed risk in men; 0.74 (0.61; 0.91). Conclusion: Greater muscle strength and area, but not muscle fat infiltration, were independently associated with 15-30 percent decreased risk of mobility disability and gait speed decline. Interventions aimed at maintaining muscle strength and area in old age might delay functional decline.

#### DEPRESSIVE SYMPTOMS AND FUNCTIONAL DECLINE IN AN ELDERLY SAMPLE OF URBAN CENTER IN NORTHEASTERN BRAZIL

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BACKGROUND: The decline of mobility can be considered as an important parameter to measure the initial states of the process of disability in the elderly. Population studies in developed countries have revealed the importance of the impact of depressive symptomatology on physical performance in older people. In Brazil, where over the last decades have seen an accelerated process of population aging, still there are few population studies on depressive symptoms and functional status in the elderly. The regional cultural diversity, as well as the contrast of socioeconomic conditions observed in the demographic picture, does assume that the Brazilian population aging has important variations with regard to aspects of mental and physical health of this contingent. OBJECTIVE: To examine the association between depressive symptoms and functional status in elderly people living in an urban center in northeastern Brazil. METHODS: In this cross-sectional, observational, analytic study, 313 community-dwelling elderly (age≥65 years) individuals of both sexes who resided in Natal, Rio Grande do Norte, were evaluated. The Brazilian version of the Center for Epidemiologic Studies Depression Scale was used to screen for depressive symptoms. Physical performance was assessed using the Short Physical Performance Battery. A multivariate linear regression model adjusted for clinical and socioeconomic variables was used to analyze the association between depressive symptoms and functional performance. RESULTS: Our findings showed that the presence of depressive symptoms influenced functional performance, even when analyses controlled for variables such as age, sex, poor perceived health, cognitive status, and body mass index (BMI). CONCLUSION: The results of this study reinforce the association between depressive symptoms and functional performance in an elderly population in an urban center in northeastern Brazil. These findings provide useful information for the identification of potential targets for research and therapeutic interventions aimed at preventing a decline in mobility in elderly individuals.

## SARCOPENIA INFLUENCES FALL-RELATED INJURIES IN COMMUNITY-DWELLING OLDER ADULTS

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This study aimed to determine the relationship between sarcopenia and fall-related injuries in community-dwelling older adults in Korea. The study population comprised 2,848 subjects aged 65 years or older who participated in the Korea National Health and Nutrition Examination Surveys during 2010–2011. Sarcopenia was considered to be present if the subject's appendicular skeletal muscle mass divided by his or her weight was less than 29.9% in men, or less than 25.1% in women. The incidence of fall-related injuries during the past year among all the respondents was 4.3%, and the prevalence of sarcopenia was 32.2%. After controlling for sociodemographic variables and morbidity due to chronic diseases, the incidence of fall-related injuries remained significantly elevated among older adults with sarcopenia (odds ratio = 1.61, 95% confidence interval = 1.01–2.54). Sarcopenia should be considered when investigating means of preventing of fall-related injuries in community-dwelling older adults. To prevent falls among these persons, it is vital to implement intervention programs that increase muscle mass.

## DIFFERENCES IN SELF-REPORTED PHYSICAL ACTIVITY AMONG COMMUNITY-DWELLING FALLERS AND NON-FALLERS

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Falling and fear of falling increase with age and decrease quality of life. It is well-documented that exercise decreases fall risk. However, conflicting evidence exists among fallers and non-fallers with regard to physical activity (PA) and the relationship to balance and balance confidence. Purpose: The present investigation compared differences and relationships of PA, balance, and balance confidence among community-dwelling fallers and non-fallers. Methods: Fifty-nine older adults (n = 32 fallers; n = 27 non-fallers) participated in the study (74.98 ± 6.98 years). Fallers answered "yes" to "have you fallen within the past 12 months?". PA was measured by the Physical Activity Scale of the Elderly (PASE). The Activities Specific Balance Confidence Scale (ABC) assessed balance confidence. Functional balance was measured by the Berg Balance Scale (BBS). Results: MANOVA indicated significant differences between groups (p < .0001). Fallers had significantly lower BBS (fallers = 49.41 ± 7.23, non-fallers = 53.75 ± 3.03; p = .003) and ABC (fallers = 77.10 ± 13.52, non-fallers = 91.38 ± 8.63; p < .0001), but were not different on PASE scores (fallers = 123.02 ± 53.16; non-fallers = 140.86 ± 70.84; p = .286). PASE demonstrated a significant, small relationship with ABC (r = .36, p = .005) and BBS (r = .37, p = .003), but not fall history (p = .31). Conclusion: PA is related to balance and balance confidence, but not fall history. There is no difference in PA between groups despite balance and balance confidence being lower among fallers when compared to non-fallers.

## GAIT SPEED AND EXECUTIVE FUNCTION, AND CEREBRAL GLUCOSE METABOLISM IN OLDER ADULTS

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Slower gait speed is related to lower executive function in older adults. However, little is known about the neural basis underlying this association. This study investigated the relationship between regional cerebral metabolic rates of glucose (rCMRglc), and gait and executive function in physically and mentally high-functioning community-dwelling older adults. Ninety-eight older adults (mean age [SD], 74.0 [5.1] years) who were independent in performing instrumental activities of daily living and had no mobility limitation underwent positron emission tomography using 18F-fluorodeoxyglucose (FDG-PET) to assess brain activity at rest. We measured rCMRglc in 16 regions of interest.

Within 6 months after the FDG-PET, maximum gait speed, MMSE, TMT-A and TMT-B were measured. Associations between rCMRglc, gait speed and executive function were examined using multiple linear regression analyses adjusted for demographics (age, sex and educational attainment), and height, body weight, blood pressure and past illnesses. Slower maximum gait speed was associated with lower TMT-B score. However, only lower TMT-B score was associated with lower rCMRglc in the posterior cingulate, parietal and primary sensorimotor cortices. There was no significant association between maximum gait speed and rCMRglc, except marginally significant association between gait speed and rCMRglc in the posterior cingulate. Executive function was more vulnerable to reduced metabolic activity in certain regions of the brain. Such metabolic change in the brain may be a neural basis linking executive function and gait speed in highly functioning older adults.

## PILOTING A SELF-ADMINISTERED BALANCE PROGRAM FOR LOW VISION OLDER ADULTS: CLINICAL FIELD-TEST FINDINGS

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The risk of falling and experiencing serious injury in a fall increases with age and nearly doubles for older adults with vision impairment. However, impaired balance is a modifiable falls risk factor. An evidenced-based individualized balance improvement program for older adults has been adapted and tested specifically with those with visual impairment (corrected vision of 20/70 or less) as part of an NIH-funded clinical trial. Instructions and exercise descriptors of this self-administered, in-home program were modified for older adults with visual impairment then field-tested. Training materials were adapted to Braille, large font print, and audio for subjects. Think-Aloud protocols were used to determine the understandability of training materials, subject ability to perform exercises from the descriptors, and clarity of verbal instructions for validated assessments. Community-dwelling older adults (M=77 years; range: 56–95 years) with low vision were recruited through a vision services agency to participate in field-testing. The majority was female, and white. Half was widowed and half used an assistive ambulatory device. The mean Timed Get Up and Go (TUG) was 16.35 seconds with 50% of individuals meeting the minimum clinical trial mobility criteria of TUG ≥ 12 seconds. Findings underscore the importance of: a high-touch recruitment process, self-selection from a variety of material formats, strong program orientation, instructional language that provides clear reference points in the absence of visual aids, and recognizing fear of falling as a potential implementation barrier. Findings have been applied to this clinical trial and can be applied to other research with vulnerable, sensory-impaired older adults.

## EFFECTS OF ENVIRONMENTAL CONSTRAINTS ON ELDERLY GAIT DYNAMICS

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Elderly gait has been found to be characterized by altered stride time dynamics during treadmill walking (Hausdorff et al., 1997). Prior theoretical work has shown that environmental constraints can alter the organization of motor behavior (Newell, 1986). The present study examined the effects of different levels of environmental constraints on gait in the elderly during treadmill walking. Seven elderly (age 65 – 70 years) and 8 young (age 18–25 years) adults walked at their preferred speed for 10 minutes on a treadmill with lengths of 1 and 1.5 m. The SD and long-range correlations (using Detrended Fluctuation Analysis) in stride time were examined to determine possible age and treadmill length effects and interactions. There were no significant differences in the SD of stride time. Consistent with prior research (Hausdorff et al., 1997) the elderly had significantly lower stride time Detrended Fluctua-

tion Analysis  $\alpha$ -exponents when walking on a 1.5 m long treadmill ( $p = 0.009$ ). However, when walking on a treadmill of 1 m length the elderly stride time  $\alpha$ -exponents increased to a level that was not significantly different than those of the young adults ( $p = 0.398$ ). These results indicated that constraining the treadmill length reversed the age-associated change in stride time dynamics. Future research is needed to determine possible retention of this alteration in gait dynamics during long-term gait training.

#### EFFECTS OF DUAL TASK ON GAIT, STATIC AND DYNAMIC BALANCE AND MANUAL CONTROL IN ELDERLY PEOPLE

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The efficient execution of daily activities includes the ability to perform more than one task simultaneously, which is a prerequisite for a functional life, independent and safe; these situations are called dual task. Difficulties in dual task performance are associated with high risk of falling and functional limitation, especially for the elderly people. The aim of this study was to compare the effects of dual task on gait, static and dynamic balance and manual control in young adults and elderly people. This is a cross-sectional study, conducted in São Paulo, Brazil. The study participants were 20 young adults and 17 elderly people. The performance of the 37 participants was observed during the execution of four functional tasks: gait, static and dynamic balance and manual control. The four functional tasks were evaluated when performed alone (called simple task), and also in dual task, performed simultaneously with a secondary motor task (dual motor task) and also associated with a secondary cognitive task (dual cognitive task). The performance of secondary tasks was analyzed too. Statistical analysis was performed using repeated measures ANOVA and post hoc Tukey test. Comparing young and elderly people, the four functional tasks proposals identified differences in dual task performance associated with aging, particularly walking and manual control task. The results showed different pattern of prioritization in groups. As conclusion, the aging process could be associated with decline of capacity to execute dual task that could cause more susceptibility to falls and functional dependence of elderly people

#### EVALUATION OF THE CLINICAL PREDICTION RULE FOR SPINAL MANIPULATION IN CHRONIC LOWER BACK PAIN

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Spinal Manipulative Therapy (SMT) and Active Exercise Therapy (AET) have both demonstrated efficacy in the treatment of Chronic Lower Back Pain (CLBP). A Clinical Prediction Rule (CPR) for responsiveness to SMT has been studied in the acute lower back pain (LBP); however there is a need to evaluate the CPR for SMT in CLBP. Design: Randomized controlled trial. Setting: Veteran Affairs (VA) and civilian outpatient clinics. Patients: 181 CLBP older adults. Interventions: SMT or Active Exercise Therapy (AET) twice a week for four weeks. Methods: CLBP patients were randomized based on their status on the CPR. Measurements: Visual Analogue Scale, Oswestry Disability Index, and Bodily Pain subscale of the SF-36 taken at baseline and 5, 12 and 24-weeks post baseline Results: Of the 89 AET subjects, 69 (78%) completed the study and of the 92 SMT subjects, 76 (83%) completed the study. As hypothesized, compared to baseline all subjects showed statistically significant improvements in both SMT and AET groups. Our hypothesized interaction of CPR treatment and time, which would suggest better responsiveness of patients who were positive and underwent SMT, was not supported. Regardless of treatment, those negative on the CPR had greater self reported pain and disability at baseline and

follow up compared to those positive on CPR. Conclusions: Further studies are needed to further clarify the patient characteristics that will predict responsiveness to specific interventions for CLBP. Trial Registration: ISRCTN30511490

#### DEFICITS IN RAPID STEPPING ARE ASSOCIATED WITH RECURRENT FALLING IN COMMUNITY-DWELLING OLDER ADULTS

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Introduction: Although risk factors for falls have been well-studied in older adults, there have been relatively few studies investigating risk for recurrent falling in older adults. The ability to step rapidly is associated with reduced falls risk. The purpose of this study was to determine the ability of a rapid stepping test (RST) to discriminate between older adult recurrent fallers ( $\geq 2$  falls annually), single fallers and non-fallers. Methods: Seventy-one adults (range 60-87 years) were timed as they stepped out to a dime-sized marking on the floor 18 inches in front of them and returned to the starting position as rapidly as possible 30 times. Number of falls in the past 12 months was reported by participants. One-way analysis of variance compared RST among the 3 falls status groups. A receiver operating characteristic (ROC) curve evaluated ability of the RST to discriminate between recurrent fallers and those who are not recurrent fallers (single fallers and non-fallers). Statistical significance was set at  $p < 0.05$ . Results: RST performance was slower in recurrent fallers compared to single fallers (43% slower;  $p = 0.014$ ) and non-fallers (31% slower;  $p = 0.028$ ), but was similar in single fallers and non-fallers ( $p > 0.05$ ). ROC analysis indicated AUC was 0.74 ( $p = 0.02$ ). RST cut-off time of 46.4 seconds exhibited sensitivity of 77.8% and specificity of 67.7% in predicting recurrent fallers. Discussion/conclusions: The RST is able to discriminate between older adult recurrent fallers and individuals who are not recurrent fallers. RST may be a useful test of risk for recurrent falling in community-dwelling older adults.

#### SOMATOSENSORY COMPONENT OF BALANCE MAINTENANCE SYSTEM IS SIMILAR IN OLD ADULT AND OLDEST OLD

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Loss of balance limits the life of the elderly as it is related to falls. The balance is maintained by the action of four Balance-Maintenance-Systems (BMS): Vestibular, visual, somatosensory, and visual preference. The oldest-old (80 years or older) is the age group with the highest prevalence of falls and least studied. Propose is to compare the participation of SME in two groups: 32 elderly (60-69 years) and 30 oldest-old (80 years or more) performing cognitive assessment (Mini Mental State Examination - MMSE), risk of falls (Timed Up and Go - TUG), fear of falling (Falls Efficacy Scale - FES) and Sensory Organization Test (SOT) by dynamic posturography. The oldest-old performed worse in all SOT, significantly in those with somatosensory conflict. Significant differences were observed between elderly and oldest-old in the systems: visual ( $91.1 \pm 6.1$  and  $54.8 \pm 43.7$ ), vestibular ( $76.5 \pm 9.8$  and  $38.3 \pm 33.3$ ) and visual preference ( $78.9 \pm 17.8$  and  $64.2 \pm 23.3$ ), with similar performance in somatosensory ( $86.8 \pm 7.9$  and  $83.8 \pm 17.3$ ). TUG and FES differ significantly between the groups and associated with scores of SME. The association between TUG and the visual system was affected by the MMSE and FES. Physical activity and education were associated with scores of SME. We conclude that SME most affected were the vestibular and visual. Differences between elderly and oldest-old were higher than expected for the visual and vestibular systems, but smaller in the somatosensory system. Dynamic posturography may be efficient to guide rehabilitation programs encouraging the use of more appropriate strategies for each elderly or oldest-old.

## PREVALENCE OF DISABILITY AND ASSOCIATED FACTORS AMONG OLDER ADULTS IN INDIA: FINDINGS FROM THE LONGITUDINAL AGING STUDY IN INDIA

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**Background:** India is undergoing unprecedented sociodemographic and economical changes with its unexpected growing aging population and burden of chronic diseases. **Objective:** To estimate the prevalence of disability and associated factors among older adults in India. **Methods:** Epidemiological data of 1,284 participants from the 2010 pilot wave of Longitudinal Aging Study in India (LASI) was investigated. The LASI survey was conducted in four states to capture cultural and geographic variations across India. The four states included were: Karnataka, Kerala, Punjab, and Rajasthan, with rural and urban districts. Disability was defined as limitation in one or more activity of daily living (ADL). Measures included sociodemographic characteristics, medical conditions (hypertension, arthritis, diabetes, lung, and cardiovascular disease), falls, depressive symptoms, and disability. Logistic regression was used to examine the factors associated with disability. Pooled weights were applied to make a sample representative across the four states. **Results:** Average age was 62.6 years (standard error=0.3), with 54.3% of the 1,284 participants being female. Hypertension (20.1%), diabetes (10.7%), and arthritis (9.6%) were the top three prevalent medical conditions. Ninety-nine (8.4%) participants reported at least one ADL disability. Multiple logistic regression analyses (full model) found that hypertension (OR=2.10, 95% CI=1.0-4.0), lung disease (OR=2.4, 95% CI=1.0-5.7), and arthritis (OR=4.1, 95% CI=2.1-7.9) were the medical conditions associated with disability. **Conclusions:** Older adults with arthritis, hypertension, and lung disease were more likely to develop disability, during the life course. Understanding public health perspective of the burden of disability is vital for resource allocation in the Indian healthcare system.

## DIFFERENTIAL IMPACT OF DISABILITY ON MORTALITY ACCORDING TO RENAL FUNCTION AMONG OLDER ADULTS

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**Background:** We tried to investigate the temporal association between renal function and disability, and to identify the influence of disability on mortality according to renal function in an elderly Korean cohort. **Methods:** A total of 984 community-dwelling Koreans  $\geq 65$  years of age were followed for 5 years with a 70.9% participation rate. Activities of Daily Living (ADL) and Instrumental ADL (IADL) were evaluated and mortality data were obtained. **Results:** The participants were categorized into 3 groups according to their baseline estimated glomerular filtration rates (eGFR) (group I,  $\geq 60$ ; group II, 45–59; and group III,  $<45$  mL/min/1.73 m<sup>2</sup>). Group III had a 3.0-fold higher risk for the presence of IADL disability over group I (95% CI: 1.57–5.75,  $p=0.001$ ). Baseline eGFR was substantially higher in participants who maintained functional status compared with participants who died or had disability at follow-up examination. Renal function deterioration was associated with ADL/ IADL decline. The incidence of ADL/ IADL decline was 13%, 12.5%, and 29.5% in participants who showed improvement, no change, and aggravation in renal function, respectively ( $p=0.01$ ). The impact of disability on mortality differed according to the renal function. The hazard ratio for mortality in the subgroup with IADL disability was 1.87 (95% CI: 1.10–3.20,  $p=0.022$ ) in group I, and 2.53 (95% CI: 1.57–4.09,  $p<0.001$ ) in group II and III after adjustment. **Conclusions:** Impaired renal function was related to disability and ADL/ IADL decline. The effect of ADL/ IADL disability on mortality was more prominent in participants with impaired eGFR.

## PROGRESSION OF DISABILITY AMONGST COMMUNITY-DWELLING WOMEN IN THE TENTH DECADE OF LIFE

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More women are living to very old age, but there is little prospective data on changes in functioning in this age group. We examined 930 women  $\geq 90$  years old (mean 92.6, SD 2.6) enrolled in the Study of Osteoporotic Fractures with functional status assessment in 2009 and followed for an average of 2.6 years. Among the cohort, a minority (21.6%) were initially residing in a nursing home (NH). Of the 729 living in the community, 68.4% reported no major impairment in performing basic ADLs (bathing, dressing, transferring, toileting, or eating); of these, 166 (33.3%) also reported no major impairment in performing IADLs (shopping, preparing meals, housework, managing money, using telephone). Another 16.7% reported much difficulty with or inability to perform 1 basic ADL; 14.5% reported much difficulty with or inability to perform 2+ basic ADLs. Of the 499 community-dwelling women able to perform basic ADLs without much difficulty at initial assessment, 35.7% died and 15.6% moved to a NH during follow-up. Of the 243 (48.7%) still community-dwelling, 30.1% continued to report no major impairment in basic ADLs, 32.1% developed impairment in 1 basic ADL, and 37.0% developed impairment in 2+ basic ADLs. Only 14 reported no major impairment in performing all basic ADLs and IADLs (5.8%). These results indicate that amongst women in the tenth decade of life living in the community with little impairment of ADLs, a range of significant functional decline occurs over 2-3 years. Future work should explore factors associated with preserved function in this group.

## PHYSICAL PERFORMANCE AND BALANCE CONFIDENCE AMONG NONAGENARIANS

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**Introduction:** Given the population of older adults in the United States is living longer and staying more active in the community, there is a need to establish age-referenced physical performance values to track gait and balance performance. Moreover, balance confidence constraints and associated fear of falling can significantly impede functional mobility. **Objectives:** The purpose of this cross-sectional study was to 1) Determine age-referenced gait, balance, and balance confidence values for community-dwelling older adults age 90 years and older and 2) Describe relative fall risk in this population. **Methods:** Fifty-four participants (age 92.02 $\pm$ 2.10; 31 female-57%) completed the: demographic questionnaire, Timed Up and Go (TUG) Test, Dynamic Gait Index (DGI), and Activities-specific Balance Confidence (ABC) Scale. Statistical analyses included descriptive statistics, confidence intervals, relative fall risk, and Pearson Product correlations for variable associations. Significance was set at the 0.05 level. **Results:** Findings of the study demonstrated the following mean times: 20.1  $\pm$  8.8 seconds on the TUG Test, 15.5  $\pm$  3.2 seconds on the DGI, and a mean ABC scale score of 65.7  $\pm$  19.4 percent. Pearson product-moment correlation demonstrated a significant inverse relationship between the ABC scale and TUG time ( $r = -.35$ ,  $p = .01$ ). All physical performance mean times fell within fall risk ranges. **Conclusions:** Data provide reference norms for the oldest old population of elders. **Future Directions:** Performance data warrant follow-up for fall prevention strategies and interventions to facilitate continued community-dwelling residence.

## COGNITION AND FUNCTIONALITY: HOW DO THEY RELATE TO TIME LIVED AFTER 100 YEARS OF AGE?

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**Introduction:** The number of centenarians has greatly increased in Portugal in the last decades. Therefore, the analysis of survival time after becoming a centenarian and related factors constitute an important issue for the quality of care provision. The objective of this study is to identify health related factors associated with the time lived after being 100 years of age. **Methods:** Data come from the population-based study PT100 (Oporto Centenarian Study) and considers information gathered through face-to-face interviews with centenarians and their proxies during 2013. Study eligibility criteria included being 100 and more years old and living in the Oporto Metropolitan Area. Survival analyses were performed in order to identify factors associated with survival after the 100. Functional status (e.g., walking, being bedridden) and specific health conditions (e.g. presence/absence of cognitive impairment) were considered as potential factors. **Results:** The sample comprises 140 centenarians with approximately 14.5 months as median survival time after their 100th anniversary. Centenarians who were bedridden presented a higher probability to live after 100 years when compared with functionally independent centenarians. Presence of cognitive impairment was not associated with the time lived after 100 years old. **Conclusions:** Given the increasing number of centenarians in Portugal, different studies based on this population need to be considered. The present study, focused on the life after 100 years old, provides new information about this topic contributing to the formulation of new scientific questions for this population.

## FACTORS AFFECTING THE PHYSICAL ACTIVITY AMONG MIDDLE AGED ADULTS: FOCUS ON THE EXPECTATIONS REGARDING AGING

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**Purpose:** Physical activity is important as a health promoting behavior in aging society. Individuals' belief about aging is known to be related to health promoting behaviors, which is needed for middle aged adults preparing for their old age. The purposes of this study were to measure level of expectations regarding aging (ERA) and identify relationship between ERA and physical activity of middle aged adults. **Methods:** Data was collected from middle aged adults who resided in community of two cities in Korea using questionnaires. A self-reported questionnaire consisted of International Physical Activity Questionnaire (IPAQ), individual characteristics, behavior-specific cognitive factors including Expectations Regarding Aging-12 (ERA-12). Hierarchical multiple regression was conducted to examine whether ERA would predict physical activity when controlling other factors. **Results:** The mean age of the participants was 51.1±6.9 years. The mean score of ERA (possible range=0 to 100) was 40.04±14.31. Findings demonstrated that more than half of the participants (62.6%) were not engaged in health promoting physical activity. Gender, employment status and exercise confidence were associated with level of physical activity in middle aged adults ( $F=7.14$ ,  $p<.001$ ,  $R^2=36$ ). After controlling individual factors and behavior-specific cognitive factors, ERA was independently related to physical activity in middle aged adults ( $F=7.19$ ,  $p<.001$ ,  $R^2=38$ ). **Conclusion:** Our results demonstrated that individuals' belief about aging influenced physical activity of Korean middle aged adults. Thus, focusing on ERA could help increase physical activity in middle aged adults.

## WHICH INFLAMMATORY MECHANISMS ARE ASSOCIATED WITH INCIDENT MOBILITY DISABILITY?

### THE FRAMINGHAM OFFSPRING AND OMNI STUDIES

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**BACKGROUND** Inflammation is associated with mobility disability, but the precise mechanisms need further clarification. We examined ten biomarkers representing inflammation and oxidative stress to determine the pathways involved with incident mobility disability. METH-ODS Framingham Offspring and Omni Study participants who attended two exams (1998-2001 and 2005-2008), were > 60 years of age, and without mobility disability at baseline were examined. Biomarkers included C reactive protein, interleukin-6 (IL-6), tumor necrosis factor- $\alpha$  receptor 2 (TNF- $\alpha$ R2), 8-epi-FGF $\alpha$  isoprostanes, lipoprotein-associated phospholipase A2 mass and activity, osteoprotegerin (OPG), intercellular adhesion molecule-1, monocyte chemoattractant protein-1, and P-selectin. Mobility disability was defined as unable to walk up stairs and/or walk a half mile. Multivariate logistic regression assessed the relationships between each individual biomarker and incident mobility disability. Individual biomarkers significant individually at  $\alpha=0.10$  were included in a logistic regression model using backward elimination at  $\alpha=0.05$ . Covariates were age, sex, BMI, smoking, cardiovascular disease, diabetes, cancer, total cholesterol/treatment, hormone replacement therapy, and cohort (Offspring or Omni). Odds ratios (OR) per one standard deviation increase in log-transformed biomarker were calculated. **RESULTS** Of 1,321 participants (706 (53%) female, mean age 67.4±5.4 years, mean follow-up of 6.7± 0.7 years), 192 (15%) developed mobility disability. IL-6 (OR 1.18 [95% CI 1.00,1.39]), TNF- $\alpha$ R2 (OR 1.31 [95% CI 1.11,1.55]), and OPG (OR 1.22 [95% CI 1.02,1.47]) were associated individually with the outcome. In the stepwise model, TNF- $\alpha$ R2 remained associated with incident mobility disability (OR 1.29 [95% CI 1.09,1.53]). **CONCLUSION** Findings suggest the inflammatory mechanism(s) associated with TNF- $\alpha$  may contribute to incident mobility disability.

## ANTICHOLINERGIC USE AND RECURRENT FALLS: HEALTH ABC STUDY

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**Design:** Longitudinal. **Data source:** Health ABC Study years 1-7 (1997-2004). **Participants:** 2,948 participants at year 1 (black 40.8%, female 51.6%, age 70-79 years) with data collected via interview. **Main outcome measures:** Recurrent falls (2+) in 12-month periods starting at year 2 through year 7. **Main independent variables:** Anticholinergic use at years 1, 2, 3, 5, and 6 as defined by a list from the 2012 AGS Beers criteria. **Results:** At year 1, 16.0% reported anticholinergic use; 49.3% took them for 2+ years, and 25.5% took > 2 summated standardized daily dose (SDD; 1 = minimum recommended daily dose for one anticholinergic). Yearly, at least 7.5% of participants reported having 2+ falls. Multivariable GEE models, controlling for demographic, health status/behaviors and access to care factors, found no statistically significant increase in risk of recurrent falls in anticholinergic users (adjusted odds ratio [AOR] 1.34; 95% confidence interval [CI] 0.93-1.93). We found no increase in risk among those taking higher SDDs (>2 SDD, AOR 1.54, 95% CI 0.84-2.82 and 1-2 SDD, AOR 1.40, 95%CI 0.80-2.45), or those with long or short duration of use (AOR 1.36, 95% CI



0.84-2.21, AOR 1.32, 95% CI 0.83-2.10, respectively). Conclusions: Increased point estimates suggest an association of anticholinergic use with recurrent falls, but the associations did not reach statistical significance. Future studies are needed to examine other measures of anticholinergic burden, and their associations with other outcomes such as cognitive function.

### CROSS-CULTURAL ADAPTATION OF THE FALLS EFFICACY SCALE-INTERNATIONAL (FES-I) IN THAI COMMUNITY OLDER ADULTS

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The FES-I was developed to assess concerns about falling by the Prevention of Falls Network Europe (ProFaNE). It has been translated for use in various countries. The purpose of this study was to translate and culturally adapt the FES-I into the Thai language. The ProFaNE ten-step translation protocol was used. The FES-I was translated and back-translated by 5 bilingual persons. Discrepancies between the three-translated versions were solved through discussion and consensus. The three English versions (the original and the two back-translated versions) were compared to identify discrepancies by the second author, who is monolingual in English and an expert in the area of fear of falling. Any inconsistencies were identified, discussed with the back translators, and a consensus reached. The translation process was conducted in the United States, and the revised version was then tested in Thailand with Thai community-dwelling older adults. Although the FES-I was developed to be suitable for translation and use in a wide range of languages and cultural contexts, the three-forward translators encountered difficulty in finding Thai words with the same meaning and conceptual equivalence as the original version for a few words. In the pilot testing, participants mentioned that they understood the content and all items and that each item was clear and understandable. However, they suggested that they preferred to be interviewed rather than to self-report to correctly report their level of concern.

## SESSION 1670 (POSTER)

### ASSESSMENT

#### INTERLEUKIN-6 PREDICTS SHORT-TERM GLOBAL FUNCTIONAL DECLINE IN THE OLDEST OLD: RESULTS FROM THE BELFRAIL STUDY

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Background The chronic inflammatory state with old age may be detrimental by contributing to the pathophysiology of chronic conditions that results in functional loss across different aspects of functioning. Our objective was to examine the predictive value of interleukin (IL)-6, C-reactive protein (CRP) and 12 potential serum inflammatory markers, as risk factors for a combined endpoint of global functional decline and the specific determinants. Methods Global functional decline and specific aspects of physical and mental functional decline were assessed over a mean 1,66 ( $\pm 0.21$ ) years in a heterogenic and representative sample of 303 older persons aged 80 years or older of the BELFRAIL study. Serum levels of 14 inflammatory proteins, including cytokines, growth factors and acute phase proteins, were measured at baseline. Results IL-6 serum levels remained positively associated with global functional decline after correction (Odds ratio: 1.51). The odds ratios for composite scores of physical and mental decline were not significant and those for the individual aspects (physical dependency, physical performance, cognition and depression) of functioning were lower. The predicted probabilities or proportion of individuals with

limited or global functional decline increased from the lowest to the highest quintile of IL-6 and decreased for a stable functional state. Conclusions IL-6 is an independent risk factor for an accelerated decline in a representative sample of persons aged 80 years and older. Our results suggest that serum levels of IL-6 may be more useful in short-term identification or evaluation of global functional status among the oldest old, than for the individual aspects of functioning.

#### INFLAMMATORY MARKERS AND PROGNOSIS IN HOSPITALIZED OLDER PATIENTS: RESULTS FROM THE CAPE HORN STUDY

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Objectives. Hospitalization May Have Poor Long-Term Prognosis in Older Patients. Using Data from the Comprehensive Assessment of Prognosis in Elderly Hospitalized Patients Returning Home (CAPE HORN) Study, We Aimed at Assessing the Prognostic Role of Inflammatory Markers, such as White Blood Cell (WBC) Count, C-Reactive Protein (CRP), Tumor Necrosis Factor Alpha (TNF $\alpha$ ) and Interleukin-1 Receptor Antagonist (IRAP), in Older Patients Discharged from Acute Care for the Elderly (ACE) Units. Methods. Comprehensive Geriatric Assessment Data Were Collected Pre-Discharge in Subjects Aged 75+ Years Admitted to ACE Units in Florence, Italy, Able to Walk Pre-Admission and with a MMSE Score  $\geq 18$ . Short Physical Performance Battery (SPPB), Handgrip Strength (HS), Disability Status, Comorbidity (Index of Coexistent Diseases, ICED) and Inflammatory Markers Were Assessed at Baseline. Follow-Up Was Conducted after 6 Months with Phone Interview. Results. Eighty Participants (53% Men, Mean Age 82 Years) Were Enrolled. Average Length of Hospital Stay (LoS) Was 9 Days. IRAP Was Negatively Associated with SPPB ( $p=0.028$ ) and HS ( $p=0.006$ ) and Positively with LoS ( $p=0.020$ ). WBC Was Positively Associated with ICED ( $p=0.014$ ) and LoS ( $p=0.008$ ). TNF $\alpha$  Correlated only with Age ( $p=0.040$ ). After 6 Months, 29% of Subjects Had Fallen, 34% Were Re-Hospitalized and 9% Died (61% Incidence of the Combined Outcome). CRP Was Associated with Death ( $p=0.014$ ) and the Combined Outcome ( $p=0.028$ ), and TNF $\alpha$  only with Death ( $p=0.009$ ). WBC and IRAP Were not Predictors of Long-Term Outcomes. Conclusions. Inflammatory Profile at Discharge May Contribute to Predict Long-Term Prognosis in Older Patients after ACE Units Hospitalization.

#### VALIDATION OF THE GERMAN SENSE OF COMPETENCE QUESTIONNAIRE AMONG INFORMAL CAREGIVERS AFTER STROKE

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A main outcome domain in psychosocial caregiver intervention research is carer burden. One of the available instruments for measuring this domain is the Sense of Competence Questionnaire (SCQ) which was adapted from the Zarit Burden Interview. Its potential for future caregivers' research was emphasized by a consensus paper from the INTERDEM network. The 27-item SCQ measures three domains: "satisfaction with the care recipient", "satisfaction of one's own performance", and "consequences of involvement in care". Some items showed an inconsistent association to the factors in later studies. Goals of this study were: (1) the validation of the German version of the SCQ with informal caregivers of older stroke patients and (2) the identification of items with consistent factor loadings over all validation studies. A psychometric evaluation was performed among 198 stroke caregivers (mean age 64.9 years; 74.2% female). An exploratory principal component analysis was used to investigate whether the SCQ comprises

the three subscales. The German SCQ showed satisfactory to good psychometric properties. Cronbach's alpha of the total SCQ score was 0.86 (subscales 0.66-0.85). The factor structure of the SCQ was mostly confirmed. Clinical validity was determined by lower SCQ scores which were associated with higher burden ( $r = -0.51$  with Caregiver Strain Index) and more depressive symptoms ( $r = -0.52$  with Center for Epidemiological Studies-Depression Scale). 16 items with consistent factor loadings were extracted from all present studies and proposed as a new short version of the SCQ (Cronbach's alpha: 0.84). This short version seems promising but needs further validation.

#### **EFFECT OF AGE AND GENDER ON JUMPING MECHANOGRAPHY AND OTHER MEASURES OF MUSCLE MASS AND FUNCTION**

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Age-related loss of physical function (PF), muscle function (MF) and muscle mass is associated with negative health outcomes. Computerized MF tests, e.g., jumping mechanography (JM), may have advantages over traditional PF/MF tests. However, JM has only been analyzed in small or non-US adult cohorts. Traditional PF/MF tests document a decline with age, some differ by gender. We hypothesized that JM parameters are higher in males and lower in older adults. MF (Leonardo JM, grip strength), PF (short physical performance battery=SPPB), and appendicular lean mass (ALM) measured by DXA available from several studies examining community-dwelling young to old adults were included (N=157 females and 102 males; ages 26-97, mean 68.1 $\pm$ 17.6 SD years). JM measures force to calculate parameters including jump power (JP) and jump height. Univariate analysis using T-tests evaluated differences between gender and linear regressions assessed correlation between age and MF/mass and physical function. Men had higher JM parameters, grip strength and ALM/ht<sup>2</sup> ( $p < 0.0001$ ) vs. women. No significant gender differences were found in timed chair rise, total SPPB or gait speed. JP was negatively correlated with age ( $R^2 = -0.61$  M/0.47F,  $p < 0.0001$ ). Age was unrelated to gait speed but associated with poorer grip strength, chair rises, SPPB, ALM/ht<sup>2</sup>, and jump height ( $p < 0.01$ ).  $R^2$ -values generally were lower for these traditional PF/MF tests than for JM. In this cohort of US community-dwelling men and women, JM parameters were highly correlated with age with higher  $R^2$  values than traditional PF/MF tests. JM is a promising tool to monitor MF decline in adults.

#### **THE PREDICTIVE VALUE OF HAND GRIP STRENGTH AMONG THE VERY OLD**

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Background: Hand grip strength (HGS) is an easy and feasible clinically tool. We examined its value in predicting subsequent decline in functional outcomes, and mortality among the oldest old. Methods: Comprehensive data was collected by the Jerusalem Longitudinal Study, which prospectively follows a representative sample born 1920-1921, assessed at home in 1998, 2005, and 2012 at ages 78 (n=1023), 85 (n=1222), and 91 (n=674). Dependence in basic activities of daily living (ADL), cognitive impairment, depression, and all-cause mortality were assessed. HGS was dichotomized to lowest quartile versus upper three quartiles. Adjusted Relative Risks (RR) and Hazards Ratios (HR) were determined (adjusting for gender, education, body mass index, fatigue, physical activity, ischemic heart disease, diabetes, kidney dis-

ease, hypertension, cancer history). Results: Low HGS at age 78 was associated at age 85 with subsequent ADL decline (RR 3.20, 95% CI, 1.29 - 7.93), but neither cognitive decline (RR 0.56, 95%CI, 0.09-3.52) nor depression (RR 0.65, 95%CI, 0.1-4.8). Low HGS at age 85 was associated at age 91 with subsequent ADL decline (RR 2.50, 95% CI, 1.10 - 5.67), and depression (RR 3.1, 95%CI, 1.28-7.34), but not cognitive impairment (RR 0.45, 95%CI, 0.2-1.1). Mortality HR's associated with Low HGS at age 78 and 85 and survival from age 78-85 and 85-90 were HR 1.5, 95%CI, 0.95-2.43 and HR 1.6, 95%CI, 1.23-2.1 respectively. Conclusions: Among the oldest old HGS predicts subsequent functional dependence, depression, and mortality, and may be a useful practical clinical tool in geriatric assessment.

#### **USE OF THE COMPUTER-ADAPTIVE VERSION OF THE LATE-LIFE FUNCTION AND DISABILITY INSTRUMENT IN A PACE (PROGRAM OF ALL-INCLUSIVE CARE OF THE ELDERLY) POPULATION**

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Background Little is known about the psychometric performance of assessment measures in older adults with cognitive impairment and co-morbid conditions. We piloted a novel self-report computer-adaptive test (CAT) version of the Late-Life Function and Disability Instrument (LLFDI), in a PACE (Program of All-Inclusive Care of the Elderly) population. Methods We administered the CAT-LLFDI Activity and Participation scales to 21 new PACE enrollees who were English-speaking and oriented to person, place and time. We collected data on performance-based assessment of ADLs, IADLs, TUG (Timed up and go) and the MoCA (Montreal Cognitive Assessment). Results Eighty percent of subjects had 10 or more diagnoses, and 67% had significant cognitive impairment (MoCA  $< 26$ ; n=17). Among all questions about difficulty/limitation, 52% answered 'a lot' or 'unable to do'. Correlation between Activity scores and Participation scores was  $r = 0.661$ . Correlations of LLFDI Activity scores with performance-based ADLs and TUG ( $r = 0.388$ ,  $-0.144$ , respectively); and Participation scores with IADLs ( $r = 0.255$ ) were lower than expected. We use case studies to explore the patterns of patient responses relative to results of cognitive and performance-based measures, and clinician knowledge. Discussion This pilot was limited by sample size. It generates hypotheses for further research to test the relationship between self-report and blinded clinician report for varying levels of cognitive functioning and performance-based measures. Conclusions Strength of correlation between performance based measures and the LLFDI-CAT were lower than expected, possibly due to cognitive impairment and significant disease burden.

#### **PRIOR DEPRESSIVE SYMPTOM CAN PREDICT LOW EXTREMITY FUNCTIONAL DECLINE 2 YEARS LATER IN COMMUNITY-DWELLING ELDERLY IN KOREA: NATIONWIDE LONGITUDINAL SURVEY**

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Background: A high proportion of older persons suffers from depressive symptoms. Some previous studies showed that functional decline in elderly was associated with depression. In this study, we have tried to reveal the impact of prior depression on low extremity functional decline in Korean elderly. Methods: We used the KLoSA panel, a national representative sample of aging people in Korea. It was conducted twice (2006 and 2008). Self-administered questionnaire was used in the KLoSA panel to obtain depressive symptom, medical

conditions, and demographic informations. To evaluate low extremity function, we performed Short Physical Performance Battery (SPPB) for participants in 2008. We included elderly aged 65 or more without known disability. Depressive symptom was defined by CES-D 10 score (Center for Epidemiologic Studies Depression Scale)  $\geq 10$  at baseline. And low extremity functional decline was defined by SPPB score  $\leq 11$ . We performed multiple logistic regression analysis to evaluate the association between the baseline depressive symptom and low extremity functional decline after 2 years. Results: Total 514 elderly participants were included in this analysis. After controlling for possible confounders, depression defined by CES-D 10 was significantly associated with worse functional status 2 years later (adjusted odds ratio [aOR 1.95], 95% Confidence Interval [CI 1.05-3.61]). Conclusion: Prior depressive symptom predicted low extremity functional decline 2 years later in Korean elderly without baseline disabilities.

#### **THE PREDICTION OF DISABILITY, FALLS, AND DEATH WITH FOUR PHYSICAL PERFORMANCE MEASURES IN UNSELECTED OLDER PERSONS: THE ICARE DICOMANO STUDY**

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Aim. To compare Short Physical Performance Battery (SPPB), 4-m Walk Test (4mWT), 6-Minute Walk Test (6MWT) and handgrip (HG) ability to predict mortality, incident BADL disability, worsening mobility, and falls. Methods. In non-disabled older (65+) community dwellers, enrolled in the ICARE Dicomano cohort study, the 4 performance tests, comorbidity, MMSE, and GDS were assessed at baseline. The risk of incident ADL disability, worsening mobility disability, and falls in 3 years was assessed in separate logistic regression models, the risk of death in 7 years with Cox regression models, adjusting for confounders. Results. In 561 participants (age 73 years, men 42%) all performance tests were reciprocally correlated. After 3 years, 33 of 453 re-examined participants were disabled in BADL, 87 had worsening mobility, and 99 had fallen; 141 out of 561 participants died in 7 years. All tests predicted incident BADL disability, with OR (95% CI) of 0.85 (0.77-0.93), 0.08 (0.02-0.36), 0.74 (0.61-0.89) and 0.993 (0.988-0.997) per unit increase in HG, 4mWT, SPPB and 6MWT, respectively. HG, 4mWT and SPPB predicted worsening mobility with OR (95% CI) of 0.88 (0.83-0.93), 0.33 (0.11-0.94) and 0.81 (0.71-0.93). No measure predicted falls. Only SPPB and 6MWT predicted death, with HR (95% CI) of 0.92 (0.85-0.997) and 0.997 (0.995-0.999). Conclusions. Performance measures are independent predictors of relevant health outcomes, except falls. SPPB and 6MWT are stronger predictors with similar statistical performance. Because of ease of use, SPPB is probably more widely applicable than 6MWT.

#### **AMBULATION CHANGES AMONG OLDER ADULTS IN ASSISTED LIVING: IMPLICATIONS FOR THE PREVENTION OF FUNCTIONAL DECLINE**

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Introduction: Wandering, or repetitive ambulation, is a dementia-related behavior consisting of random, lapping, and pacing patterns. These ambulation patterns may provide insight into changes in the health and well-being of vulnerable older adults. The aim of this study is to examine how changes in ambulation may precede functional decline among older adults with dementia who wander and their counterparts in an Assisted Living Facility (ALF). Methods: Utilizing a single-subject design, the functional decline of 26 residents of an ALF was measured weekly over the course of 9 months by: the Barthel Index, the Functioning Indepen-

dence Measure (FIM), the Tinetti Gait and Balance Test). Thirteen of these older adults were diagnosed with dementia/cognitive impairment. Ambulation patterns [random (deviation from a straight line), lapping, and pacing] and time (minutes/week) and distance traveled (meters/week) were measured objectively by a real-time locating system; RTLS. RTLS continuously recorded the time and location of travel (using x and y coordinates) throughout the facility using triangulation methods (hallway-mounted sensors and tags, worn on the resident's wrist). Results: Of the 12 residents who experienced significant functional decline (a 25% change in functioning across assessments from baseline) all had preceding ambulatory changes. These changes included changes in ambulation patterns [from normal (non-wanderer) to pacing (wanderer)] and/or a significant increase or decrease in time and distance travelled two weeks prior to the decline. Discussion: Intra-individual changes in ambulation patterns, time and distance travelled may precede changes in physical functioning. Concurrent with staff observation, RTLS may be useful in establishing ambulation baselines and patterns to predict clinically significant declines in the functioning of this population.

#### **DIAGNOSTIC ACCURACY OF THE BESTEST TO IDENTIFY FALLERS IN COMMUNITY DWELLING OLDER ADULTS**

E. Wang-Hsu, H. Chen, J. Meiers, S. Smith, *Physical Therapy & Rehabilitation Sciences, Drexel University, Philadelphia, Pennsylvania*

Background/Purpose: Falls are a leading cause of injury among older adults. Impaired balance is known to contribute to falls. The Balance Evaluation Systems Test (BESTest, Horak et al., 2009) is a clinical performance test that categorizes balance impairments into 6 systems. However, the diagnostic accuracy of BESTest to identify fallers has not been investigated in community-dwelling older adults. Our purpose was to estimate the clinical change threshold and diagnostic accuracy of the BESTest total percentage score for use in identifying fallers in this population. Materials/Methods: 33 community-dwelling volunteers (9 men, 24 women, aged 56 - 94 years, mean = 80.9 yrs) completed a demographic and fall history questionnaire and the BESTest as part of a falls screening. Descriptive statistics were used to calculate demographic information. A receiver operating characteristic (ROC) curve and the area under the curve (AUC) were calculated. Diagnostic accuracy statistics were used to calculate the sensitivity, specificity and likelihood ratios. Results: 15 adults reported falling (46%, mean = 62.1) and 18 reported not falling (54%, mean = 75.8). The clinical change threshold (cutoff score) was 70% with sensitivity and specificity of 0.73 and 0.78, respectively. Positive and negative likelihood ratios were 3.30 and 0.34, respectively. Conclusion/Clinical Significance: The BESTest is useful in identifying fallers in community-dwelling older adults. That is, older adults who score 70% or less on the BESTest may be 3.30 times more likely to fall; conversely, older adults with a BESTest score higher than 70% may be 0.34 times less likely to fall.

#### **ITEM RESPONSE ANALYSIS OF THE BERG BALANCE SCALE IN COMMUNITY-DWELLING OLDER ADULTS**

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Background: The Berg Balance Scale (BBS) is a commonly used balance performance and fall risk test. However, Pardasany (2012) found that among community-dwelling older adults (CDOAs), 10% (n=111) and 20% of a subgroup (n=33) with mildly limited function scored maximally. This ceiling effect suggests that task items are insufficiently challenging to discriminate adults with less severe balance impairments. Purposes: Determine item difficulty; identify items that are particularly easy/hard to perform; and evaluate construct validity. Methods: BBS a 14-item, 5-point ordinal scale ranging from 0-4, 0 indicates the lowest function. Performance of the BBS was examined with 71 consecutive CDOAs (M=74 yrs, 50-99 yrs; n=17 men, n=54

women). Rasch model Mini-Winsteps, V3.80.1 was used to analyze item and person logit measures, fit statistics, and person and item separation. Results/Discussion: Item logit measures ranged from -5.89 to 2.59. The least difficult item was "sitting unsupported" and the most difficult was "standing on one leg." Person ability measures ranged from -1.38 to 6.27 logits; the person ability logits indicated that person-ability exceeded test item difficulty. Most items had fit statistics within the accepted range (0.6-1.4 with a standardized  $z < 2.0$ ), except "sitting unsupported," "reaching forward" and "turning to look behind" suggesting that these items reflect a differing construct. The Person Separation Index (PSI)=2.22 with reliability = 0.83 and Item Separation Index (ISI)=3.64 with reliability=0.94. Conclusion: Ceiling effects of BBS among CDOAs demonstrate the BBS is not an optimal measure to identify adults with less severe balance impairments. More challenging items are needed.

## SESSION 1675 (POSTER)

### HEALTH SERVICES, EDUCATION & INTERVENTIONS

#### THE EFFECTIVENESS OF A PATIENT CENTERED COMMUNICATION INTERVENTION ON PATIENT AND STAFF OUTCOMES

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**RESEARCH OBJECTIVES:** To evaluate whether the Patient Centered Communication Intervention (PCCI) targeting older persons with aphasia post-stroke improved 1) patients' quality of life outcomes, and 2) nursing staffs' comfort communicating with patients with communication impairments. **DESIGN:** A non-equivalent pre-post design with a control group over a three year period. **SETTING:** Two inpatient stroke rehabilitation units at a large community hospital. **PARTICIPANTS:** Sixty-one patients admitted to inpatient stroke rehabilitation between 2010 and 2012 were assigned to the usual care (n=28) or the intervention (n=33) group. **INTERVENTION:** The PCCI consists of education and training for nursing staff focusing on communication techniques, development of individualized communication care plans with the assistance of a Speech Language Pathologist (SLP), and on-site support from an SLP. **MEASUREMENTS:** Patients' quality of life was measured with the Stroke and Aphasia Quality of Life measure (SAQOL) and satisfaction with care using the Relational Care Scale (RCS). Nursing staffs' quality of communication was assessed using the Communication-Impairment Questionnaire (CIQ) and the Providers Interactional Comfort Survey (PICS). **RESULTS:** Nursing staff responses on the CIQ and PICS improved, that is, staff expressed more knowledge and comfort communicating with persons with communication impairments post-intervention. There were no differences in patient outcomes. **CONCLUSION:** Education, training and support for nursing staff and the use of individual communication care plans leads to some positive gains in their ability to communicate effectively with older patients with communication impairments. While there were no outcomes realized for patients, family members and patients found the care plans useful.

#### EFFECTS OF STAFF EDUCATION TO REDUCE POTENTIALLY HARMFUL MEDICATION USE AMONG RESIDENTS OF ASSISTED LIVING FACILITIES: A RANDOMIZED CONTROLLED TRIAL

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**Objectives:** The objectives of this study were to investigate the effect of nurse training on the use of potentially harmful medications; and on residents' health-related quality of life (HRQoL), falls and health service utilization. **Design:** A randomized controlled trial. **Methods:** In total, 227 residents in 20 wards of assisted living facilities in Helsinki were recruited. The wards were randomized into those in which 1) staff received two 4-hour training sessions on appropriate medication treatment using constructive learning theory and activating learning methods to identify harmful drugs and their adverse events (intervention group), and 2) control group. Outcome measures were use of potentially harmful medications (Beers drugs, anticholinergics, psychotropics), HRQoL assessed using 15D, number of falls and health service utilization during 12 months. **Results:** During the 12-month follow-up the mean number of potentially harmful medications decreased in the intervention wards (-0.43, 95%CI -0.71 to -0.15) but remained constant in the control wards (+0.11, 95 CI -0.09 to +0.31) (p=0.004). HRQoL declined more slowly in the intervention wards (-0.038 (95%CI -0.054 to -0.022) than in the control wards (-0.072 (95%CI -0.089 to -0.055) (p=0.005). Residents of the intervention wards had significantly less hospital days (1.4 days/person/year, 95%CI 1.2-1.6) than in the control wards (2.3 days/person/year; 95%CI 2.1-2.7) (RR 0.60, 95%CI 0.49-0.75, p<0.001). They also experienced significantly less falls during the follow-up. **Conclusion:** Activating learning methods directed at nurses in charge of comprehensive care can reduce the use of harmful medications, maintain HRQoL, decrease falls and reduce hospitalization in residents of assisted living facilities.

#### CREATIVE SOLUTIONS TO CHALLENGING HOME CARE - CASE STUDIES ILLUSTRATE SIMILARITIES ACROSS DISCIPLINES

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Providing specialized care in the home brings with it challenges and rewards not usually encountered in a clinic or office visit. Though evidenced-based practices and research protocols are regularly used, clinicians often find themselves facing unexpected situations when bringing services to the home. A physician, psychologist and kinesiologist will share strategies developed to address treatment needs of home care clients. Case studies will be used to show common approaches, creative problem-solving and the importance of education, skills building and family interactions to address complicated health issues. Three in-depth case reviews with measurable and successful outcomes will be used: an Asian couple with chronic health problems, including diabetes, and 14 living children (none of whom agrees on medication and diet management); a gay man in mid-60s who went from cold symptoms to hospice care, after medical complications and a massive stroke; and a 95-year-old Holocaust survivor whose care is managed by son. In each case, regardless of the provider's clinical background, physical and emotional needs had to be addressed. Details of interventions used, suggestions for working with different providers and family members, and using a holistic approach will be highlighted.

## **INTERPROFESSIONAL COLLABORATION IN GERIATRIC REHABILITATION EDUCATION**

A. Jackson, S. Mbiza, *Florida Agricultural & Mechanical University, Tallahassee, Florida*

**Background:** The complex needs of geriatric clients require inter-professional collaboration in order to provide optimal care. Inter-professional education of rehabilitation professionals has been developed before in academic institutions. However, interprofessional collaboration between occupational and physical therapy departments at a historically black college or university (HBCU) is limited in the literature. The purpose of this project is to develop a collaborative module for teaching in geriatric rehabilitation, with the common goal of improving the students' clinical and interprofessional collaboration skills. **Methods:** Because no previous collaborative teaching existed within the School of Allied Health Sciences (SOAHS), we began by documenting the collaboration steps and developing the module. We will demonstrate the module's effectiveness by examining and evaluating students' (1) changes in attitudes towards aging, (2) competencies in geriatric care skills, (3) knowledge of the needs of the geriatric client and (4) collaborative skills. **Results:** It is expected that this module will improve the students' attitudes towards aging, as well as improve knowledge and skills in interprofessional geriatric care. It is also expected that students will be better prepared for clinical education/ fieldwork experiences, which should translate into better practices across health care settings and client populations. **Conclusions:** The process of creating interprofessional education opportunities for students within the SOAHS at a premier HBCU will require commitment and a belief that each department would benefit. Additionally, the students' exposure to other health professionals will be enhanced through these nontraditional partnerships. We envision that additional disciplines within the SOAHS will engage in this opportunity.

## **RECREATIONAL THERAPY COMPETENCIES FOR GERONTOLOGY/GERIATRIC EDUCATION**

N.E. Richeson<sup>1</sup>, A. Sardina<sup>2</sup>, *1. University of Southern Maine, Portland, Maine, 2. Cypress Cove, Fort Meyers, Florida*

The purpose of this poster session is to highlight the role of the American Therapeutic Recreation Association's (ATRA) Geriatric Treatment Network's work on developing occupational specific competencies for Recreational Therapists who work with older adults. The competencies were built on industry wide recommendations from the Association for Gerontology in Higher Education's (AGHE) Standard and Guidelines for Gerontology and Geriatrics in Education and Health Professions. AGHE's guidelines were constructed based on the widely endorsed Partnership for Health in Aging competencies. The GTN of the ATRA has voted to adapt these competencies as minimal guidelines that are considered necessary to work with older adults.

## **MATCHING GERIATRICS CURRICULUM FOR MEDICAL STUDENTS IN CLINICAL YEAR WITH THE MINIMUM GERIATRICS COMPETENCIES IN PUBLISHED CURRICULA FROM 2009-2013: A SYSTEMATIC REVIEW**

H. Cheng, *Medicine, University of Virginia, Charlottesville, Virginia*

**Background:** teaching geriatrics competencies to medical students is critically important. In 2009, the 26 minimum geriatrics competencies (MGC) in 8 domains for all medical students were published. However, it is unknown how well the geriatric curriculum for medical students in clinical year matches the MGC in published curricula, which will be the focus of this systematic review. **Methods:** The inclusion criterion is the geriatric curriculum for the third or 4th year medical students that reported the learning objectives or any of geriatrics competencies, study design for comparison of effectiveness of teaching, teaching methods and outcome measurement and was published from 2009 to 2013 in English. 26 MGC and 8 domains in the selected papers were assessed. **Results:** We found 7276 citations through PubMed on 12/15/2013.

Total 21 original papers were reviewed. 6 of them met the inclusion criteria. Four of six curricula (67%) reported learning objectives. The competency 4-9 and 12-13 was covered in 83 % curricula (highest). No curriculum covered the competency 17-18, 22-26 (lowest). The domain 3 was covered in 83 % curricula (highest). No curriculum covered the domain 6 (lowest). Three out six curricula (50%) used pre-post test design. Another half curricula used cohort design. All curricula reported the teaching methods and outcomes. **Conclusion:** the 26 MGC and 8 domains were not fully covered across six published curricula since the MGC was published in 2009.

## **EMBEDDING ACTIVE, PARTICIPATORY TRAINING WORKSHOPS IN AN EXISTING "UPDATE AND BOARD REVIEW" FOR INTERPROFESSIONAL CONTINUING GERIATRICS EDUCATION**

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**Background** As the US population ages without enough geriatricians, training geriatric principles to primary providers is increasingly essential. We previously reported our experience using interactive geriatrics teaching among residents and family physicians. We now report applying this approach to an interprofessional audience attending a well-established geriatrics board review course. **Methods** The Medical College of Wisconsin and the University of Wisconsin co-sponsored the 2013 Wisconsin Update in Geriatric Medicine & Board Review Course. Assisted by the Wisconsin Geriatric Education Center, we created a track that allowed us to teach geriatric principles using active learning through workshops, small-group sessions, and interactive simulations. **Results** The GEC track was embedded in the Course in addition to the core content. Five sessions were presented using active learning strategies around common geriatric topics: urinary incontinence, impaired vision and hearing, dysphagia, dizziness and gait/balance. 79 healthcare professionals attended the conference (47% MD/DO, 24 % APP [PA, NP], 5% pharmacists, 22% social workers). 53 attended these sessions (30% nurses and 40% physicians). Session content, teacher effectiveness and learning received scores >6 (1=poor to 7=excellent) in 100% of evaluations collected. Reported lessons learned included: "Be mindful using written/verbal communication", "Reduce medications", "apply/utilize tools for falls, life expectancy", and "... a better understanding of diagnoses and medications in the elderly". **Conclusion** Previously we reported success using active hands-on learning experiences effectively delivered in formal training venues to health care professionals to support their abilities to improve geriatric patient care. We were able to successfully translate this to an interprofessional audience.

## **GERIATRIC TEACHING AND EVALUATION BY THE STUDENTS AT THE MEDICAL SCHOOL HANNOVER (GERMANY)**

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**Background:** Since 2003 teaching of geriatrics at the medical schools in Germany has become obligatory. At the Medical School of Hanover (MHH) there is a lecture week with 20 hours and a practical teaching of 10 hours. The study week is completed by a test, in which every student has to participate. **Method:** A standard evaluation at the end of the study week offers a possibility for the students to comment on the teaching. With three questions the students can express their opinion on whether the teachers, the content, the study material, the patient related topics, the test or the organization is good or not and whether there is a potential for improvement. In further questions the students can rate several characteristics on a numeric scale ranging from 1-6 or from 1-7, from "very good" to "not at all". In the end the students can give an overall rating on a numeric scale ranging from 0 to 15 (0: insufficient; 15: very good). **Results:** In the last term in 2013 97 of 107 students (90.7%) took

part in that evaluation. The overall rating for the study week was 12.67, which is a result well above the majority of the other disciplines. For example 17 students criticized the material for learning. On the other hand 76 students found that the teachers were good. Another point of criticism was, that the subjects taught were not elaborated enough (3.62 on the numeric scale from 1 to 6). Discussion: The lectures are given by geriatricians and members of other specialties at the medical school in about equal parts. This is intended to guarantee a balance between organ specificity and complex or functional symptoms like falls or delirium. Organ specific teaching is what the students are used to and what they expect. For the teaching of functional problems, activities, participation and context factors geriatricians are more suitable. In the practical teaching items like the assessment are demonstrated and the students than have to do it themselves. Then cases are demonstrated where this knowledge is turned into clinical consequences. Conclusion: In the past 10 years the present organization was developed, partly based upon the evaluation of the students. The teamwork of several medical specialties at the medical school, the teaching in an organ specific and a functional way seems to offer a possibility to communicate geriatric medicine in a way that is accepted by the students. The evaluation by the students is very valuable to further improve the way of teaching geriatric medicine. The prerequisite is to accept the criticism of the students and the will to change things.

#### **A GROUNDED THEORY OF THE PROCESS OF SPREAD OF BEST PRACTICES IN HOME CARE ORGANIZATIONS**

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Purpose: The purpose of this study was to understand how best practices related to older adults are spread within home care organizations. Methods: Four home care organizations in Ontario, Canada that had implemented best practices related to older adults (i.e., falls prevention, pain management, management of venous leg ulcers) participated. Using a qualitative Grounded Theory design, interviews were conducted with front line providers, managers and directors at baseline (n=44) and one year later (n=40). Open, axial and selective coding and constant comparison analysis were used. Results: A theory of the process of spread of best practices in home care was developed. The phases of spread included: (1) committing to change, (2) implementing on a small scale, (3) adapting locally, (4) spreading internally to multiple users and sites, and (5) disseminating externally. Factors that facilitated progression through these phases were: (1) leading with passion and commitment, (2) sustaining strategies, and (3) seeing the benefits. Project leads, champions, managers and steering committees played vital roles in leading the spread process. Strategies such as educating/coaching and evaluating and feedback were key to sustaining the change. Spread occurred within the home care context of high staff and manager turnover, time and resource constraints and managed competition. Conclusion: Spread of best practices is optimized through the application of the phases of spread, allocation of resources to support spread and implementing strategies that address potential barriers. Further research will help to understand how best practices are spread externally to other organizations.

#### **ORGANIZATIONAL CULTURE IN THE DEPARTMENT OF VETERANS AFFAIRS: INNOVATIVE HOME BASED PRIMARY CARE PILOT PROJECTS IN COLLABORATION WITH INDIAN HEALTH SERVICE**

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Background: Veterans Affairs (VA) funded 14 VA medical centers to implement innovative Home Based Primary Care (HBPC) programs with Indian Health Service (IHS) on rural American Indian (AI) reservations. Our aim was to explore the relationship between VA organizational culture and program characteristics of successfully implemented HBPC program collaborations. Methods: Using program documents and interviews with key stakeholders we defined three binary typologies to categorize the HBPC programs: 1) traditional HBPC model/non-traditional, 2) planning with IHS/without IHS, 3) implementation by staff who were culturally competent and/or had previous experience with AI or IHS/without. We analyzed the 2008 VA All Employee Survey supervisory-level data using the 14 organizational culture-items, which includes four subscales (entrepreneurial, hierarchical, team, and rational), aggregated to the facility-level. Using exact logistic regression we modeled binary outcomes of each culture subscale and typology. Results: There was a significant outcome for the traditional (n=5) vs. non-traditional (n=6) model typology on the organizational culture subscales of entrepreneurial (M = 3.4 vs. 3.1, p = 0.004) and team (M = 3.5 vs. 3.3, p = 0.011). Conclusion: The results provide statistical substantiation for the researcher defined typology of traditional/non-traditional to describe the HBPC programs. Higher ratings on the organizational culture subscales of entrepreneurial and team are associated with greater flexibility and cohesion which may have allowed the programs to implement the traditional, or standard, model for delivering HBPC in rural areas. These factors should influence dissemination of collaborative programs between VA and IHS at other VA facilities.

#### **PERCEPTIONS OF PATIENT CENTERED MEDICAL HOME AND SELF-RATED HEALTH AMONG MIDLIFE ADULTS**

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Patient centered medical home (PCMH) is an organizing framework for health care delivery that emphasizes increased access and coordination of care to improve health status. Middle-aged individuals would likely benefit from PCMH as they frequently experience onset of chronic disease, may lack health insurance, but are not yet eligible for Medicare. We surveyed patients (age 45-64; n=266) from three safety net clinics in Charlotte, NC on their perceptions of PCMH, patient satisfaction and health status. We conducted logistic regression using generalized estimating equations to account for clinic clustering. The model was adjusted for demographics, health conditions, and overall satisfaction with clinic care. Patients were predominantly female, Black, with a high school education or better. In unadjusted analyses, higher satisfaction with provider communication (OR=1.77, 95% CI=1.16-2.71), higher levels of satisfaction with access (OR=1.39, 95% CI=1.14-1.70), and increasing satisfaction with care coordination (OR=1.42, 95% CI=1.19-1.69) were associated with better self-rated health (SRH). In multivariate analyses, no PCMH components were associated with good SRH. Having a high school education was associated with 2.95 increased odds of reporting good SRH (OR=2.95, 95% CI=1.62-5.38) as compared to participants who had not completed high school. In this study of middle-aged patients seen at safety net clinics, we found no association between elements of PCMH and better self-rated health after adjusting for demographic factors and health conditions. The Patient

Protection and Affordable Care Act promotes the PCMH model, and future research should further evaluate this model of care in low-income health care settings that serve middle-aged adults.

### AN UNUSUAL CASE OF TUBULOINTERSTITIAL NEPHRITIS

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IgG-4 related disease is a recently recognized immune mediated systemic disease and is also termed as “IgG4-associated immune complex Multiorgan Autoimmune Disease (IMAD)”. IgG4- related kidney disease is a term that refers to any form of renal involvement by this disease; most common manifestation being acute or chronic renal injury. A 68-year-old male was seen complaining of polyuria and nocturia for the past 2 months, with a 20 lb weight loss. His past medical history and physical examination were unremarkable. His lab results revealed markedly elevated creatinine. Serology did not show any significant abnormalities. Urine analysis revealed non-nephrotic range proteinuria. A clinical diagnosis of acute kidney injury was made but with an unknown etiology. Renal biopsy was performed showing severe interstitial fibrosis and tubular atrophy. The results confirmed a diagnosis of IgG4-related tubulointerstitial nephritis. This type of nephritis is a systemic disease affecting multiple organ systems. A CT scan of the chest, abdomen, and pelvis was performed, showing no other organ involvement. He had a normal cystoscopy and PSA. The patient was started on steroids as his initial treatment. Repeat blood work indicated a significant improvement of his kidney function. He was able to increase his weight by 15 pounds over a period of 3 months. This case illustrates an uncommon type of tubulointerstitial nephritis that is only recently being recognized. There is no standard treatment for this disease at this time. The current literature does indicate that steroid therapy may be a possible initial choice. Studies related to this condition, treatment and its pathogenesis are severely lacking. There is a lack of awareness of this condition and is most likely overlooked and under reported. This case represents an approach to the treatment of IgG4 tubulointerstitial nephritis that should be considered. The patient had improvement of his renal function and improvement of his symptoms. Much more information and research needs to be done so that this disease can be better understood and managed.

### FACTORS ASSOCIATED WITH CHOICE OF NONPHARMACOLOGICAL THERAPIES BY OLDER ADULTS WITH CHRONIC PAIN

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This study identified factors associated with current use of NPPT by ethnically diverse community-dwelling older adults with chronic pain. Using a cross-sectional research design, 281 adults age 60 years or older (M = 74.06 years, SD = 8.25) in four ethnic groups (73 European Americans, 71 Hispanics, 70 African Americans, 67 Afro-Carribeans) with chronic pain were surveyed; 260 (92.5%) reported current use of some form of NPPT. Binary logistic regression identified factors associated with choice of type of NPPT: exercise, water exercise, prayer, meditation, physical therapy, or trans-cutaneous electrical nerve stimulation (TENS). Non-aquatic exercise (67.3%) and prayer (41.3%) were the most common forms of NPPT reported. In the regression model, after controlling for age, ethnicity, education, income, pain intensity, mobility, and sleep disturbance were entered. Lower pain levels predicted use of non-aquatic exercise (p = .035), higher income levels predicted use of water exercise therapy (p = .013), and African American or Hispanic ethnicity predicted use of prayer (p < .0005) or meditation (p < .001) to manage chronic pain. Disposable income was associated with joining a pool use group. Other forms of NPPT were nonsignificant. The negative

association between high pain intensity and exercise may be explained by fear of exacerbating pain or causing injury. Health care providers should be sensitive to preferences for types of NPPT, with regard to ethnicity, pain severity, and income. Future research should focus on identifying evidence of appropriate dosage and intensity of each type of NPPT for older adults, including for persons with disability.

### COMPARISON OF EPIGENETIC THERAPY VERSUS INTENSIVE CHEMOTHERAPY FOR NEWLY DIAGNOSED ACUTE MYELOID LEUKEMIA PATIENTS ≥60 YEARS OLD

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Objective: To compare the outcomes of epigenetic therapy (Epi) versus intensive chemotherapy (IC) for induction in ≥60 years old acute myeloid leukemia (AML) patients (pts). Methods: We retrospectively analyzed 164 pts with newly diagnosed ≥ 60 yrs old AML pts who received induction at Roswell Park Cancer Institute, NY, USA between 3/2008-2/2013. 51% received IC with 7+3, and 49% received Epi with decitabine (Dec) or 5-azacitidine (Aza). Results: Baseline characteristics were similar except median age (IC 67 vs. Epi 75 yrs; p < 0.01). Older AML pts receiving IC had superior complete response at (CR) (43% vs. 21%; p < 0.01) versus Epi-treated pts. IC also caused longer median OS compared to Epi (10.6 vs. 7.9 mos; p = 0.01). In multivariate analysis, older age and higher ECOG were associated with poor OS but choice of induction did not impact OS (IC vs. Epi, p = 0.31). Conclusions: Our results suggest that IC and Epi represent clinically equivalent approaches for upfront treatment of elderly AML. Despite higher CR in the IC group, our finding of improved OS following IC vs. Epi was not substantiated in multivariate analysis, suggesting that this difference can be explained by the comparatively younger age of pts in the IC group. These data highlight the growing need for prospective clinical trials to conclusively determine the respective roles of IC vs. Epi in older AML pts.

### PAIN MEDICATION USE AND EFFECTS IN AN OLDER POPULATION, THE MOBILIZE BOSTON STUDY

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Concerns about polypharmacy and medication side effects contribute to undertreatment of geriatric pain. This study examines use and effects of pharmacologic treatments for pain in an older population. The MOBILIZE Boston Study included 765 adults aged ≥70y living in the Boston area, recruited from 2005-2008. We studied 599 participants who reported chronic pain at baseline. Pain severity, measured using the Brief Pain Inventory (BPI) severity subscale (scores 1-10), was grouped as very mild (BPI < 2), mild (BPI 2-3.99), and moderate to severe (BPI ≥ 4). Medications taken in the previous 2 weeks were recorded from the medication bottles during the home interview. More than half of participants in each pain severity category were not using any analgesic medication. Persons with the mildest pain were more likely to use daily analgesics than those with moderate to severe pain (33% versus 22%, respectively). Opioid analgesics were used by 6% of participants. Acetaminophen use was reported by 28% of participants. Those with moderate to severe pain reported less relief overall from pain medications and treatments. Only 6% reported side effects related to use of pharmacologic pain treatments. Nearly one-third of participants (30%) with moderate to severe pain felt they needed a stronger pain medication while 16% of this group were concerned they were using too much pain medication. Many older adults with chronic pain use little or no analgesic medication, counter to current guidelines for pain management. Efforts are needed to understand barriers to effective pain management and self-management in the older population.

## PREVALENCE OF OTOTOXIC MEDICATION USE AMONG OLDER ADULTS IN BEAVER DAM, WISCONSIN

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Background: Older adults are often on multiple medications for concurrent chronic illnesses. Many medications are ototoxic. Drug related ototoxicity may interact with the age-related hearing loss causing it to be more severe, yet few data are available on the prevalence of ototoxic medication use in older adults. Aim: To determine the prevalence of ototoxic medication use among older adults Methods: A cross-sectional secondary data analysis was conducted using selected variables extracted from the large dataset of the Epidemiology of Hearing Loss Study (EHLS). A total of 2395 older adults who completed survey were included in the analysis. Ototoxic medication use, including diuretics, nonsteroidal anti-inflammatory drugs (NSAIDs), antibiotics, chemotherapeutic agents, quinine, and acetaminophen, was assessed using a standardized questionnaire that asked about all prescription and over-the-counter medications that they were regularly taken at least once per week. Results: Prevalence of any ototoxic medication use was 91.1%. Prevalence of concomitant ototoxic medications was 34.6%. The mean number of ototoxic medications used was 1.7 ( $\pm 1.0$ ). The most commonly used was NSAIDs (75.2%). Conclusion: Given the number of medications used by older adults, the high prevalence of hearing loss in this population, and the impact of hearing loss on health and daily living, drug-related ototoxicity may be a critical public health problem. Epidemiological studies are needed to understand the long-term effect of ototoxic medication on age-related hearing loss and healthy aging.

## SESSION 1680 (POSTER)

### INDEPENDENCE, FUNCTIONING, AND ENGAGEMENT IN COMMUNITY AND WORKFORCE

#### EDUCATIONAL DRIVER RETRAINING VERSUS AN ALTERNATIVE OR NO INTERVENTION FOR ADULTS AT LEAST 55 YEARS OF AGE: A META-ANALYSIS

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Background: With the population of older adults growing and a higher crash rate per mile driven, the number of motor vehicle crashes (MVC) involving older drivers is predicted to increase significantly. There is a growing body of literature on older driver retraining programs. Objectives: The purpose of this analysis is to determine the effectiveness of educational, physical, and combination retraining interventions aimed at improving older driver performance. Methods: An electronic search in MEDLINE using Ovid was performed, 1948 to present. Selected studies had to be a randomized controlled trial, with participants at least 55 years old, using an educational training, physical training, and/or no training with the intent of improving older driver abilities. Data Analysis: The Cochrane Handbook for Systematic Reviews of Interventions was used as the framework. Dichotomous MVC data was abstracted for relative risk and risk difference. Continuous on-road driving ability and driver safety knowledge were evaluated by the standardized mean difference (SMD). A fixed effect meta-analysis of the RCTs was conducted using Review Manager Software. Results: Only one RCT looked at MVC involvement and two looked at driver knowledge so these outcomes weren't run in the analysis. For on-road driving ability, the SMD for a combination, educational, or physical intervention was 0.30, 0.37 and 0.39, respectively. Discussion: The data suggest there is evidence of no effect; however, there was considerable heterogeneity which interferes with the ability to draw any conclusions on the effectiveness of retraining programs on driving abilities. This has implications for policies and further research.

## THE IMPACT OF ASSISTIVE DEVICE USE ON THE SOCIAL PARTICIPATION OF OLDER ADULTS

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Aging can be accompanied by an increased probability of certain chronic health conditions with symptoms that effect an individual's physical functioning and may lead to problems in performing activities of daily living (ADLs). These limitations may make societal participation difficult, putting the individual at greater risk of isolation and further declines in health. However, physical limitations may be offset in full or in part through the use of assistive technology devices (ATDs). This study considers the impact of ATDs to help with mobility, sensory problems and problems with ADLs on five types of active social participation: visiting with family and friends, participating in religious services, joining clubs and attending meetings, going out for enjoyment and performing volunteer work. Using two years of panel data from the nationally representative National Health and Aging Trends Study, we develop relevant subsamples of those with physical impairments and use conditional logistic regression models to consider the impact of ATDs on social participation. Despite significant increases in the use of assistive devices over the two years examined, overall changes in general levels of participation appear negligible. However, when we examine individual types of assistive devices and control for confounders, we find that mobility devices are associated with less social activity, but hearing aids are influential in encouraging participation in many activities. It is estimated that 70% of older hearing-impaired Americans who could benefit from using a device do not use one. Public funding for hearing devices would lead to increased community participation among older adults.

### AGE DISCRIMINATION AT WORK: A MEASURE THAT CAPTURES INTERPERSONAL MISTREATMENT

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PURPOSE. Scholars have increasingly documented the presence of overt forms of age discrimination in the workplace (e.g., not being hired or promoted). Less attention has been given to covert age discrimination at work; and no instrument exists to measure it. We developed and validated an age discrimination measure to capture covert discrimination from the target's perspective. DESIGN AND METHODS. Following Hinkin's (1998) scale development process, we generated prospective items, drawing from existing measures in the literature, expert knowledge, and a qualitative study of older workers' experiences. We administered a list of items to U.S. employees aged 50 and older in MTurk (N=345). We examined descriptive statistics, reliability, and convergent and discriminant validity to arrive at a final set of items; and tested its relationship with job satisfaction, turnover intention, anxiety and depression after controlling for covariates (negative affectivity, pessimism, neuroticism, agreeableness). RESULTS. Age Discrimination at Work Measure consists of 26 items, captures 63% of the variance, and has a Cronbach alpha value of .97. Perceived age discrimination is significantly related to job satisfaction, turnover intentions, anxiety, and depression after controlling for important covariates. IMPLICATIONS. Overt forms of discrimination are unlawful and targets are protected under legislation. However, covert age discrimination leaves older workers unprotected, vulnerable to incivilities and exclusion by co-workers and supervisors. Covert forms of discrimination may be more prevalent than overt discrimination and may have a larger negative impact on health and labor force attachment.



## DEMOGRAPHICS AND ATTITUDES: WHICH PREDICTS DRIVING RETIREMENT?

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As the number of older drivers continues to increase so will the number of those needing to cease driving for health/safety reasons. Researchers and practitioners need to understand factors associated with transition to driving retirement. This study, based in the Transtheoretical Model (TTM), addresses this need. TSamples from three prior studies are used to focus on aged-related mobility transitions. Participants include 149 adults who retired from driving and joined a rides service (ITNAmerica), and 318 community-dwelling volunteers who still drive regularly. This combined sample of 467 (78% female, mean age 75 years) represents the two ends of the TTM driving transition progression. Available data included group status, living arrangements, self-reported health, three subscales of the Assessment of Readiness for Mobility Transition (ARMT) scale, and demographic factors. Univariate and bivariate results are presented, and binary logistic regression is used to assess the relationship of these factors to participants' transition status. The logistic regression model was significant ( $\chi^2=106.05$ ,  $df=8$ ,  $p<.0001$ ) and revealed that those who are older (OR=1.15), those with higher self-reported health (OR=2.46), those who no longer reside in the community (OR=0.29), and those more concerned they will be a burden on others (OR=2.06), were significantly more likely to have retired from driving. These findings serve to deepen our understanding of the process of transitioning into driving retirement and suggest that person-centered, collaborative planning can help the older driver to avoid the involuntary crisis-oriented driving retirement while moving gradually into retirement with an individualized plan for accessing viable transportation alternatives.

## PLANNING FOR LIFE AFTER DRIVING: AN INTERVENTION STUDY

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Older adults with medical conditions that impair function are at the highest risk for driving retirement. This Randomized Controlled Trial investigated the efficacy of an intervention that facilitated planning for a likely driving transition among medically-impaired elders – those with vision, cognitive, or psychomotor impairment. A 2-to-1 allocation ratio resulted in comparisons between 26 intervention and 13 attention control ( $n = 39$ ) group members who were recruited from health care sites. The intervention consisted of two sessions of facilitated planning in which the participant's health, transportation alternatives, attitudes/emotions regarding a change in mobility, and actions to ensure continued safe mobility were discussed. Moreover, all participants received supportive phone calls during the 6 month intervention period. Results showed no difference in measures of current awareness of mobility challenges, but an increase in expected future changes in mobility in the intervention group only. One-half of the intervention group changed driving habits, including cessation and self-regulatory behavior, in comparison to 16% of the control group. Likewise, 50% of the intervention group made plans and took steps toward maintaining safe mobility (e.g., used a different transportation mode for the first time) versus 16% of the control group. Results suggest that facilitated planning may help ease the transition to driving retirement among some high-risk older adults.

## THE RELATIONSHIP BETWEEN SELF-RATED MEMORY AND DRIVING BEHAVIORS AMONG COMMUNITY-LIVING OLDER ADULTS: EVIDENCE FROM THE HEALTH AND RETIREMENT STUDY

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One of the major social concerns related to older drivers is at-risk drivers with cognitive impairments. Previous studies have reported that older adults with cognitive impairments are more likely to stop driving compared to those without cognitive impairments. However, little is known about whether self-perceived memory problem is associated with driving cessation or self-regulatory driving. This study aimed to examine the relationship between self-rated memory and driving behaviors among community-living adults aged 65 and older without dementia diagnosis, using the data from the 2010 Health and Retirement Study ( $N=9,516$ , 58.2% women, 16% non-White, average age=75.2 years). Older adults were asked to rate their own memory; their responses (prevalence) were excellent (3.8%), very good (20.6%), good (44.7%), fair (25.5%), or poor (5.3%). We used multinomial logistic regression to determine whether fair/poor self-rated memory was significantly associated with the likelihood that older adults drove without limitation, drove but limited their driving to nearby places, or did not drive. The results showed that older adults with fair/poor self-rated memory were more likely to limit their driving to nearby places than those with excellent/very good/good self-rated memory, after adjusting for sociodemographic and health characteristics (OR = 1.38, 95%CI = 1.23—1.55; reference group=driving without limitation). However, fair/poor self-rated memory was not significantly associated with driving cessation (OR = 1.12, 95%CI = 0.97—1.30; reference group=driving without limitation). The findings of this study imply that self-rated memory problem might help older adults limit their driving, but not necessarily stop them from driving.

## ONLINE GOVERNMENT - OFFLINE OLDER CITIZENS

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As governments across the world move more services online, there is a need to understand implications for older people. The successful transition from face-to-face or telephone-based services to e-government is dependent on citizens having access to the internet (whether through a computer, tablet or smartphone) and possessing the skills or support to enable them to access public services online as and when they need them. This paper provides a summary of the key findings from research carried out in both Northern Ireland and the Republic of Ireland based on a mixed methods approach of policy and literature review, analysis of Government statistics, interviews with key stakeholders (21) and focus groups with older people (31 participants). The research finds that there is a spectrum of 'onlineness' with no simple binary between e-included and e-excluded and the move to online government often replicates and compounds existing inequalities. It highlights that a digital divide is linked to educational attainment, gender, income and age and there is a danger of an increasing digital disconnect with many older people compared to wider society. This paper also includes European and international examples where e-government services have been developed and usage of those services, particularly among key target groups, has been increased. The paper provides a series of recommendations, both practical and policy, which can help ensure that older people are not left behind as public services move online.

## NEWS MEDIA PORTRAYAL OF OLDER DRIVERS

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Driving cessation touches many aspects of quality of life among older adults. It is important to discuss the issue of older drivers based on the balance between public road safety and individuals' autonomy and dignity. The news media have played an important role in shaping people's perceptions and attitudes toward older drivers. Based on the framing theory, we employed a content analysis of news articles about older drivers appearing in nine major newspapers over the past 30 years (N=238; 65.5% opinion pieces). A majority of new articles (46.6%) focused on raising questions about the driving competencies of older adults, reporting accidents caused by older drivers, or urging to re-examine the current state driver's license renewal policy on older adults. About 17.6% provided information about training/courses for improving driving skills, mostly through the AARP Driver Safety Program. Only a small portion (5.9%) of articles discussed alternative transportation. News stories (local/national) were significantly more likely to be about state laws on drivers licensing, whereas opinions pieces were significantly more likely to be about training/courses for improving driving skills and topics dealing with intergenerational relationships such as an adult child's concern for their aging parent's driving (Cramer's V = .31, p < .01). In conclusion, the news media tend to have set an agenda more focused on changing individuals' behaviors, such as getting them out of the roads or encouraging them to take a course for safety driving, rather than contextualizing the issue in a broader social system like developing alternative transportation programs.

## THE IMPACT OF MEMORY DECLINE ON SOCIAL AND CIVIC ACTIVITY PARTICIPATION: THE ROLE OF SELF-EFFICACY AS A MODERATOR

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This study examines the effects of perceived memory decline (compared to one year ago) on participation in social and civic activities among American older adults. The study also explores the moderating effect of self-efficacy in the relationship between perceived memory decline and activity participation. The first wave data of the National Health and Aging Trends Study, collected from the nationally representative sample of older adults aged 65 and older, was used [N=6,097]. Old adults who have not been diagnosed with dementia are included in the analysis. Multiple regression analysis was used. The regression results identified a significant relationship between memory decline and activity participation when holding current memory status, socio-demographic and health-related factors constant [R<sup>2</sup> = .29, F(21, 6075)=118.75, p < .001]. That is, older adults who perceived memory decline are more likely to be restricted in social and/or civic activity participation than those who did not have memory decline. People with high self-efficacy are less likely to be restricted from participating in social and/or civic activities than those with low self-efficacy. Importantly, a significant moderating effect of self-efficacy between memory decline and activity participation was identified. This may be interpreted as people with high self-efficacy being more likely to cope with stressful events such as memory decline than low self-efficacy people. These findings suggest that perceived memory decline and self-efficacy are important factors to be taken into account when developing intervention programs to help older adults maintain their quality of life and independence from memory-related changes.

## THE CUSTOMER EXPERIENCE: A SHORT MEASURE OF SATISFACTION

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Collecting satisfaction information from long-term care (LTC) residents is important. Despite the substantial benefits to collecting satisfaction information, some barriers to effective use of satisfaction surveys exist. In this session, information will be presented on a short survey instrument that can be used for different LTC populations (e.g., short-stay residents, long-stay residents, family members, etc). The surveys were developed using a review of the literature, review of existing surveys, focus groups, and pilot testing. A random sample of >500 LTC facilities (response rate = 69%) from across the U.S. was used with about 5,000 returned surveys (response rate = 70%). Analyses consist of simple descriptive statistics and a presentation of the survey development process. The findings show that 12 domains have considerable relevance to resident satisfaction. Moreover, 3 items are used a score representing "satisfaction." The survey represents a tool that can be used as a screen for quality improvement by LTC facilities and the 3-item score could be used as a metric for public reporting.

## A STUDY OF RE-EMPLOYMENT NEEDS AMONG SENIOR CITIZENS IN TAIPEI

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With the growing populations of older adults and the lengthened life expectancy, re-employment has been an opportunity for older adults to engage in social activities either with paid or unpaid jobs. The purpose of the study is to investigate the needs of re-employment and the influential factors among senior citizens in Taipei. The researchers surveyed participants (N = 528) who were 55 years old and above and enrolled in active aging learning centers in Taipei. The re-employment needs scale includes four dimensions which are financial needs, security, sense of belonging, respect, and self-actualizations. The data was analyzed with t-test and one-way ANOVA. The results revealed that the majority of the participants showed interest in re-employment (74.4%) and many would like to have paid jobs (41.45). Participants' needs of re-employment are strongly influenced by marital status (F = 3.01, p < .05), current work conditions (F = 2.99, p < .05), and re-employment work types (t = 2.58, p < .05). Even though age was not found to be associated with participants' re-employment needs, financial needs were found to be highly associated with age in particular (r = .10, p < .05). The findings suggest that senior citizens would consider entering the workforce after retirement when they remain active lifestyles and have adequate employment opportunities available to them. Future research might include variables, such as geographic and employers, to further discuss the possibilities of re-employment among older adults.

## THE RELATIONSHIPS BETWEEN LEARNING NEEDS, PERCEIVED USEFULNESS, PERCEIVED EASE OF USE, AND LEARNING TRANSFER BEHAVIORS AMONG OLDER ADULTS WHO PARTICIPATING IN LIFELONG LEARNING COURSES IN TAIPEI CITY

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Older adults nowadays may enhance their abilities through lifelong learning to pursue interests, secure financial needs, and develop career planning after retirement. Learning institutions have been created to offer courses and activities for older adults to assist them become a part of the innovative human resources. The study aims to investigate older adults' learning psychology and behavior while taking lifelong learning courses in a community college in Taiwan. Further, the researchers examine the relationships between learning needs, perceived usefulness, perceived ease of use, and learning transfer behavior among these

older adult learners. The researchers surveyed 381 older adults and used confirmatory factor analysis (CFA) and structural equation modeling (SEM) procedures to analyze the collected data. The results show that older adults' learning needs show positive and statistically significant explanatory power to the perceived usefulness and perceived ease of use ( $\beta = .79$  and  $.78$ ,  $p < .05$ ), and which also show positive and significance to learning transfer behaviors ( $\beta = .37$  and  $.49$ ,  $p < .05$ ). In addition, the perceived usefulness and perceived ease of use play a mediator role in the model, including the indirect but significant effect on the perceived ease of use ( $ES = .38$ ,  $p < .05$ ). The findings allows us to capture the complex relationships in adult learning behaviors as well as the mediator that contributes to adult learning. The researchers suggest that future study may explore adult learning psychology and behaviors in different settings to strengthen older adults' lifelong learning quantity and quality.

### **PREDICTORS OF PHYSICIAN SAFETY RATINGS OF MEDICALLY IMPAIRED OLDER DRIVERS**

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State Departments of Motor Vehicles (DMVs) rely on the expert opinions of primary care physicians (PCP) and subspecialists when making licensing decisions for persons reported as medically unfit to drive. Little is known about the types of information and incremental judgments that influence physician decisions on safety. This study examined Physician Statements (N = 224) submitted to the Missouri DMV from 2009-2014. Drivers were 57% male and ranged in age from 50-101 years (M = 81). Most evaluation forms (78%) were completed by PCPs. A three level rating (likely safe, unclear, likely unsafe) was collapsed into two levels (0 safe, 1 unclear/unsafe) and entered as the dependent variable in a Binary Logistic Regression. Predictors included driver age, a recent safety incident (0 nothing, 1 pulled over or in crash), physician rating of driver compliance with past medical care (yes, somewhat, no), and a disease severity rating with respect to the driving task (five levels, unimpaired to severe). The model was significant ( $p < .0001$ ; Nagelkerke  $R^2 = .72$ ) and three of four predictors yielded significant odds ratios (OR): preliminary severity rating (OR 8.6,  $p < .0001$ ), past compliance with care (OR 3.1,  $p < .05$ ), & age (OR 1.09,  $p < .005$ ). While knowledge of recent on-road incidents may be relevant in the evaluation process, these findings suggest that physicians place greater weight on known clinical indicators when making a safety recommendation. Targeted education concerning the interplay between health, function and driving could further enhance physician input to the DMV.

### **GIVING BACK AND STAYING PUT: VOLUNTEERING AS A STABILIZING FORCE IN RELOCATION**

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Many older adults anticipate changing residences as an alternative to aging in place when remaining in one's home becomes unsafe or unmanageable. According to Wiseman's (1980) model of relocation, triggering mechanisms, such as push and pull factors, lead to decisions to relocate. Recent scholarship explores aging in community where older adults may change residences within their community. This study explores the relationship between volunteering in a community and relocation outside of one's community, as well as the possible mediating effect of social ties (friends or relatives living nearby) on such a relationship. Data utilized in the present study is from 2008 and 2010 Health and Retirement Study, which included 9,220 community-dwelling older individuals who were 65 years and older. Controlling factors of older people's financial resources, health, environment, and demographics, findings from logistic regression models show that volun-

teering significantly reduces the likelihood of relocating out of the area two years later. Using Baron and Kenny's (1986) four-step method, the relationship between volunteering and moving out of the area is partially mediated by having friends nearby. This study is innovative because it identifies a possible stabilizing mechanism important for understanding "protective" factors, such as volunteering, of relocation in the later life. Involving older people in voluntary activities could be considered a way communities can help older people age in place.

### **SOCIAL EXCLUSION IN LATER LIFE: A SYSTEMATIC REVIEW**

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Most social exclusion research has been focussing on people with mental health problems, younger and mid-life adults. Conversely, little research has been performed concerning social exclusion and older adults. This paper gives an overview of research on social exclusion in later life. Using the PRISMA framework (Preferred Reporting Items for Systematic Reviews and Meta-analysis) a systematic literature review was performed. Relevant studies were identified through searches of databases (e.g. Web of Science & Sociological Abstracts) and bibliographies. Only studies specifically addressing social exclusion or inclusion among home dwelling older adults were incorporated. Because of the heterogeneity of the studies' methods; a narrative synthesis was conducted to review the findings. The review reveals that social exclusion in later life comprises various dimensions (e.g. material goods, social relationships and participation), with some dimensions focusing on later life (e.g. access to elderly services, ageism and neighbourhood exclusion), indicating that social exclusion differs throughout the life course. Research including a validated age specific measurement for social exclusion is scarce. Further, the review presents the drivers of later life social exclusion, in general and for each dimension. Furthermore, the review identifies a distinction between rural and urban context. The discussion highlights the main research gaps concerning social exclusion in later life and formulates four main paths for future research. Finally, a theoretical framework incorporating individual, life-course and contextual variables to build an age specific social exclusion measure is suggested.

### **BUILDING THE CAPACITY OF OLDER ADULTS TO ADDRESS ISSUES OF FOOD SECURITY IN RURAL COMMUNITIES**

J. Crittenden, M.R. Noyes, D.C. Wihry, P.D. Foden, L.W. Kaye, *Center on Aging, University of Maine, Bangor, Maine*

This presentation identifies preferred strategies for successfully engaging older adult volunteer leaders in the growing food security movement in rural communities with an emphasis on employing specialized skill-building and technical support resources. Seventy-seven individuals (mean age: 66.5 years; age range 53-78 years) participated in six technical workshops intending to develop skills and increase knowledge in addressing food security issues through volunteerism. Pre-post surveys were used to measure changes in participant skill and knowledge enhancement levels. The greatest average knowledge increases (on a 10-point Likert scale) were: 1) Understanding the importance of training and orienting new volunteers (8.0 point increase); 2) Understanding the components of an advocacy plan and using a plan to support volunteer work (4.2 point increase); and 3) Creating effective messages to increase awareness of this issue (4.0 point increase). An analysis of the 25 community volunteer projects carried out by project participants reveals that the most common food security activities performed by older adult volunteers include: running food banks, developing community gardens, public education, and advocacy. Eleven participants utilized stipends to support certification through the Master Gardener's Program, to build raised garden beds, create a community event on self-sustaining agriculture, and enable basic upgrades for local food

pantries. Additional self-reported training areas of particular importance include: preferred strategies for recruiting and retaining new volunteers, volunteer management, approaches for conducting grassroots outreach and building partnerships, and opportunities for networking with other older adult volunteers in the food security field. Project funding provided by the Elmina B. Sewall Foundation.

#### **AGE COHORT DIFFERENCES IN PERCEPTIONS OF EXECUTIVE LEADERSHIP STYLE AMONG THREE SUBSTANCE ABUSE RECOVERY AGENCIES**

D.C. Wihry, J. Middleton, L.W. Kaye, A. Mitchell, J. Crittenden, *UMaine Center on Aging, University of Maine, Bangor, Maine*

This poster examines age cohort differences in staff perceptions of executive leadership within three agencies providing substance abuse recovery and navigation services to rural Maine through use of the Multifactor Leadership Questionnaire (MLQ). The study sample consisted of employees (N=109) with a mean of 12.7 years of human services experience and a mean organizational tenure of 5.1 years. The sample was predominately female (86.1%) and Caucasian (93.6%), and had a mean age of 42.5 years. A dichotomous variable was created to compare 55+ and under 55 populations using an independent sample t-test. Of the nine subscales examining aspects of leadership style, the 55+ staff scored executive leadership significantly higher (based on a 5 point Likert scale) than the under 55 age group on three transformational leadership constructs: “idealized influence behavior (IIB)” (4.1 versus 3.8,  $p<.05$ ), “inspirational motivation (IM)” (4.4 versus 4.0,  $p<.05$ ), and “individualized consideration (IC)” (3.6 versus 2.9,  $p<.005$ ). The 55+ age group scored executive leadership significantly higher on the transactional leadership construct of “contingent reward (CR)” (3.6 versus 3.0,  $p<.005$ ). A statistically significant but negligible (.197,  $p<.05$ ) positive correlation was found between tenure and the IIB subscale. Significant differences were detected between supervisors/upper management and direct service staff on the CR (3.7 versus 2.8,  $p<.001$ ) and IC (3.5 versus 2.9,  $p<.01$ ) subscales, indicating position may be a confounder when examining leadership perception by age. Limitations, next research steps, and implications of findings for interpreting potential influence of employee age in predicting staff attitudes about executive leadership are addressed.

#### **PRINCIPLES OF PRACTICE FOR REACHING AND ENGAGING OLDER ADULTS IN SOCIAL AND EDUCATIONAL ACTIVITIES THROUGH NONTRADITIONAL SENIOR CENTER PROGRAMMING**

D.C. Wihry, A. Davidoff, L.W. Kaye, J. Crittenden, *UMaine Center on Aging, University of Maine, Bangor, Maine*

This poster examines principles of practice for reaching and engaging older adults in social, health, and educational activities through non-traditional senior center programming that does not rely on a dedicated, fixed site facility. In 2013, eight community focus groups were held in three rural Maine towns bringing together community members (N=69) including residents of a retirement community, existing seniors centers, and other community stakeholders. Participant ages ranged from 55 to 92 years; 84% were female. Focus group analysis utilized the Constant Comparative Method. Findings indicate that while desired services offered by a senior center are often recreational in nature, there is also interest in having easy access to medical and social services to support community living including health care, retirement and wellness planning resources, and legal assistance. Themes also emerged reinforcing the desire for one-day classes and day trips. Considerations for ensuring the attractiveness of senior center programming include: 1) creating variety in the timing and sequencing of program offerings; 2) establishing sliding scale and subsidized participation fees; and, 3) ensuring that programming is accessible and addresses common travel and mobility barriers in rural communities. Transportation was a frequent theme across all focus groups, with participants identifying bus system

navigation, parking, and a general lack of transportation as barriers to accessing and utilizing senior center activities. This poster will also highlight findings related to preferred strategies for supporting intergenerational activities, engaging a variety of stakeholders in senior center design and development as well as marketing startup programming.

#### **FACTORS ASSOCIATED WITH FUNCTIONAL DECLINE AMONG OLDER ASSISTIVE DEVICE USERS IN THE COMMUNITY**

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Assistive devices are important in helping older adults continue to function in the community despite the onset of disabilities. Using two waves of the National Health and Aging Trends Survey (NHATS), we examine factors associated with functional decline among a group of older adults who lost the ability to successfully accommodate their disabilities, despite continued device use over one year (2011-2012). The sample includes 3,315 community-dwelling adults who reported using a device and had no difficulty functioning in 12 ADL and IADL tasks in 2011. By 2012, 14% of these respondents reported having difficulty in at least one ADL or IADL while still using a device. Descriptive statistics show that 68% of them were female, 36% were married or living with a partner; and 71% had been diagnosed with three or more chronic conditions. A logistic regression model was used to identify factors associated with the change in functioning. We found that controlling for factors including frailty symptoms, gender, and cognition, hospitalization was associated with 37% increased odds of functional decline among device users (CI 1.08-1.74,  $p=.009$ ). Other factors associated with device accommodation loss included being 85 and older (OR=2.35, CI 1.58-3.51) and worse self-reported health (OR=1.14, CI 1.00-1.29). These results confirm that there is a substantial group of older device users who lost the ability to accommodate their functional decline over one year, and that hospitalization has a large independent impact on disability and the compensatory ability of assistive devices.

#### **IMPACT AND BARRIERS OF LEARNING COMPUTERS AND INTERNET AMONG SENIORS IN COMMUNITY CENTERS**

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Purpose. Computers and Internet are promising technology to assist older people in improving their livelihood. This study assesses the value and impact of learning such technology in public service settings and determines the main barriers among both program participants and non-participants. Methods. A mixed-methods evaluation of the San Francisco's Broadband Technology Opportunities Program (BTOP), which provided free access to computers and Internet in community centers for seniors, and offered volunteer-led training courses and one-on-one tutoring. The two-part evaluation included: (1) a sample of 487 seniors from 40 community centers completed a survey, and (2) 119 seniors plus center staff and BTOP instructors participated in focus groups at 10 centers. Data triangulation was applied for analysis. Study population: The population has diverse race/ethnicity background; 68% were computer users. Results. The BTOP program has significantly increased seniors' access to and confidence in using the technology. The program impacted their' lives mainly in less isolation and more connected with family, friends, community, and the world. The technology made their lives more interesting through recreational activities, social contacts, and new knowledge. The main barriers of learning computers, for both users or nonusers, are their concerns about eyesight and their limited capabilities in various computer-related skills. Program staff and volunteers play a significant role in encouraging participants to learn how to use computers and access the Internet. Conclusion: An

organized, low-cost community-run computer program may effectively help seniors overcome social isolation and learn skills to manage and improve personal life for healthy aging.

### **SUCCESSFUL AGING AND ITS DISCONTENTS: A SYSTEMATIC REVIEW OF THE SOCIAL GERONTOLOGY LITERATURE**

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For over two decades, researchers in aging have grappled with the ways in which successful aging models have failed to capture the personal, social, economic, and political contexts of aging. Nevertheless, successful aging models hold a prominent position in research, policy, and practices in aging and health. The purpose of this study was to analyze the range of critiques of successful aging models and the suggestions for improvement within the social gerontology literature. We conducted a systematic literature review of journal articles retrieved from Abstracts in Social Gerontology, published 1987-2013, that included critiques of successful aging models. Qualitative methods were used to identify key themes and inductively configure meanings across the range of critiques. The critiques and remedies fell into four categories. The Add and Stir group suggested a multidimensional expansion of successful aging criteria and offered an array of additions. The Missing Voices group advocated for adding older adults' subjective meanings of successful aging to established objective measures. The Hard Hitting Critiques group called for just and inclusive frameworks that embrace diversity, avoid stigma and discrimination, and intervene at structural contexts of aging. The New Frames and Names group presented alternative ideal models often grounded in Eastern philosophies. The vast array of criteria that gerontologists collectively offered to expand Rowe and Kahn's original successful aging model is symptomatic of the exclusionary nature of a normative model. There is ample evidence to suggest that greater reflexivity and reflection about the concept "successful aging" and its ramifications are needed.

### **EMPOWERMENT THROUGH ACTIVISM: SENIORS IN URBAN CONTEXT**

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Poland underwent rapid political and economic transition during last 25 years. This transition took a toll on society as a whole, but also generated new opportunities for different social groups. As World Values Survey data show, one of the biggest beneficiaries of those opportunities are seniors living in big cities, who in recent years became a driving force behind a blossoming neighborhood movement. This grassroots' activism is especially important as it provides social networks that were shown to be a compensatory mechanism increasing wellbeing of elderly (Antonucci & Ajrouch, 2007). Using data from WVS 2005 and 2012, I analyze how levels of altruism and activism of the elderly changed during last decade in Poland, in the specific context of low interpersonal trust but raising willingness to act together for the sake of those in need or to solve problems of local environment. I show how these changes depend on age, gender and family situation as well as socio-economic status. Here, my results indicate, that especially in case of women aged over 55, we can observe a significant increase in their collective efficacy beliefs. To further illustrate the trend of growing elderly activism, I analyze qualitative data obtained from several case studies of local initiatives in various Warsaw neighborhoods. In all, the results indicate that elderly in Poland, and especially women, see increased opportunities for collective solutions of local problems. This is further corroborated by the fact that they are becoming a driving force behind neighborhood change in Polish cities.

## **SESSION 1685 (POSTER)**

### **COMMUNITY PLANNING, HOUSING AND ENVIRONMENTAL DESIGN**

#### **THE EFFECT OF DINING ROOM RENOVATIONS ON RESIDENTS' DINING EXPERIENCES AND STAFF PRACTICES IN LONG-TERM CARE FACILITIES**

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The physical environment of dining rooms in long-term care facilities is increasingly recognized to have an important role in providing a functionally effective and socio-psychologically pleasurable mealtime experience for residents. This study examined the effect of dining room renovations on residents' mealtime experiences and staff practices in two units of a large long-term care facility in Edmonton, Canada. A mixed-methods approach was used, utilizing ethnographic observations, staff survey and focus group interviews in the two units pre- and post-renovations. The newly developed Dining Environment Assessment Protocol was used to conduct a systematic evaluation of the overall dining room environment of the care units. Both structured and open-ended observations of mealtimes were conducted using a checklist of behavioral categories and qualitative field notes. Purposive sampling was used to select residents with variable abilities and challenges for observations. Key staff groups, i.e., nursing, care aide, food service aide, were surveyed on the effect of environmental changes on residents' dining experience and staff-resident interactions. Preliminary results indicate that: (a) residents and families highly value the addition of an open kitchenette in the dining room that facilitates residents' autonomy, (b) residents spend more time in dining room for social interaction after the renovations, (c) new staffing model allows nursing aides to spend more time with residents. The findings provide evidence of the importance of physical environmental features, as well as the integral nature of the physical environment and organizational support to provide an effective and meaningful dining experience for residents in long-term care.

#### **PERCEPTION OF RISK FOR RURAL OLDER PEOPLE: CASE STUDIES FROM AUSTRALIA, IRELAND AND NORTHERN IRELAND**

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In the current demographic environment, rural communities across the world are likely to be populated by older people, yet there is growing evidence that this group is increasingly at risk of geographic and social isolation. Risk factors for these populations include financial disadvantage, widowhood, not driving, and poor health or disability. Despite this increased need, local services are difficult and costly to provide in rural areas. In this paper, we explore issues of risk and vulnerability facing older people living in rural communities across three diverse countries. Data is drawn from 128 semi-structured interviews with older community residents and key stakeholders, located in thirteen case study sites across Ireland, Northern Ireland and north-east Victoria, Australia. Findings build on the known challenges and risks of rural aging, and suggest that the risk environment is much more complex than previously thought. First, some individuals face extended risk through multiple risk factors. This includes rural newcomers whose risk may be compounded by other factors such as loss of driving ability, poor health or loss of partner. Second, a lack of services has led some communities to rely on a strong social and volunteer environment. Whilst choice is core for risk environments, participants highlight the individualisation of risk for those who choose to live in marginalised or isolated environments

or who choose not to be part of the social environment. Overall, these findings suggest a much more complex and multi-dimensional reality facing the growing number of people aging in rural places.

#### **DISASTER, BUREAUCRACY, AND RESCUERS: NARRATIVES OF LOCAL FIRST RESPONDERS TO PROVIDE AID FOR LOCAL AGED IN THE GREAT EAST JAPAN EARTHQUAKE**

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The Great East Japan Earthquake that occurred on 11th of March 2011 revealed certain vulnerabilities in the modern social systems in place. Life conditions of elderly were directly affected by the inability of the modern social system to provide support during this and other catastrophic incidents. To understand what happened at the initial stage of the natural disaster to the local elder residents, we collected narratives from 21 local first responders about vulnerable residents in two different municipalities. These municipalities were directly affected by the earthquake and either consecutive Tsunami or nuclear plant accident. We employed thematic narrative analysis (Riessman, 2008) in order to examine how institutional and structural boundaries of administrative regions affect the lives of the vulnerable residents. Tentative results of narrative analysis show that responders were affected by “the existing national elder care system,” “amalgamation of municipalities,” and “available resources” when acting to rescue elderly. The result exemplifies that responders had to adapt to dysfunction in the “chain-of-command structure” of modern bureaucracy and an unpreparedness by local authorities by synthesizing their professional ability with affronted realities, improvising with fragmented social and material resources to provide aid.

#### **SOCIOECONOMIC PREDICTORS OF INFORMAL CAREGIVING AMONG MIDDLE AGED AND OLDER ADULTS: A COMPARATIVE STUDY BETWEEN THE U.S. AND CANADA**

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Canada and the US are liberal welfare states with growing older adult populations. Government provision of health care in each country is challenging to lawmakers, specifically as it relates to long-term care. Due to the expense of long-term care, informal caregiving is an option that many families undertake, but little empirical evidence explores the characteristics of family caregivers and predictors of providing care to older relatives in Canada and the US. This study examines factors that predict the provisioning of informal care to middle aged and older persons with physical, mental or cognitive impairment. We used the Canadian Community Health Survey – Healthy Aging 2009, a cross-sectional survey of persons aged 45 and over living in private dwellings in the ten provinces (N= 30,865) and the U.S. Health and Retirement Study 2006 (N= 36,987). Results from logistic regression indicated that being female, younger, married, highly educated, non-immigrant, non-white, less healthy, and having higher personal income significantly predicted the provision of informal care in Canada. Whereas, in the U.S. being female, older, highly educated, non-white, and having lower personal income significantly predicted the provision of informal care. This study suggests that there are distinct differences in the predictors of informal caregiving in each country. We conclude with recommended policy initiatives that can maximize incentives to provide informal care in Canada and the US.

#### **IDENTIFYING THE MOST VULNERABLE CHINESE ELDERLY**

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China faces a massive and rapid demographic change. The number of people aged 60 and above currently stands at 185 million. It is estimated to reach 330 million in 2050 accounting for 34% of the total Chinese population. Traditionally, adult children are the primary source of care for the elderly. However, decline in the number of children, enhanced life expectancy and increase in labour mobility have led to a situation where 46% elderly live either alone or with spouse only. Meanwhile, about 50% of those who live without their children, are incapable of performing basic daily activities without external assistance. In the absence of a developed social security system, these elderly are arguably the most vulnerable group of the aging population. This paper employs data from the China Health and Retirement Longitudinal Study (CHARLS), the only dataset available that is representative of the Chinese population aged 45 and above. We first identify this group of most vulnerable elderly and then investigate the demographics, the social-economic characteristics as well as the access to social and informal assistance. We also analyze the underlying factors of their overall wellbeing, encompassing both the quality of physical life and their mental and psychological state. Preliminary analyses demonstrate that the wellbeing of elderly correlates significantly with their age, gender, rural-urban status, SES and household composition. The interplay between the living arrangement of these elderly and their health status is complex. We conclude with suggestions as to how policies can better target and assist these disabled and isolated elderly.

#### **VIRGINIA'S LIVABLE HOME TAX CREDIT FACILITATES ACCESSIBLE HOUSING COMMUNITIES FOR AGING IN PLACE**

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Only by creating housing in new commercial developments, which is accessible and accommodating to the aging of homebuyers, will true “aging in place” be achieved. Gaining support from the commercial housing industry for visitable/accessible housing has been difficult. In 2004, advocates for aging-in-place gained support of the Virginia Legislature to create The Livable Home Tax Credit Program, providing funds of \$1 million for tax credits to owners of homes, who make specified accessibility improvements, and to buyers of new homes that meet more extensive requirements. As a “housing stimulus” effort in 2011, the Virginia Homebuilders Association actively supported legislation to increase the Livable Home Tax Credit to \$5,000 per application and permit housing contractors to apply for the tax credit. This “Golden Carrot” encouraged Virginia Contractors and Commercial Homebuilders to more actively develop and market Livable accessible homes and developments. Tax credit awards increased from \$197,476 in 2010 to \$884,571 (2012) an average of \$4,232 per award. Individual homeowners or new homebuyers received, \$569,571, representing approximately 135 homes, and \$315,000 to contractors or commercial homebuilders, representing construction of over 70 accessible homes Dr Parker will outline Tax Credit guidelines and discuss how the Tax credit as an incentive changed attitudes of the Homebuilding Industry from opposition to interest in creating accessible housing. Data will be presented from interviews with homebuilders, realtors and owners/purchasers of accessible homes. The presentation will provide pictorial examples of accessible housing in new housing developments and of commercial housing developments replicable in other States or localities.

## **THERAPEUTIC LANDSCAPES THROUGH THE LIFE COURSE: IMPACT OF GREEN AND BLUE SPACE ON OLDER ADULTS**

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Nature plays an influential role in the everyday lives of many older adults. This paper draws on interview data from older adults who described their enjoyment of and rejuvenating experiences with nature (both “green” and “blue” spaces) across Greater Vancouver, Canada. Blue and green spaces represent affordable and accessible therapeutic landscapes that can be applied to everyday pursuits of mental, physical, and social health for a diversity of older adults. Though scholarship to date predominantly focuses on salutary effects of green space, blue space also encompasses important therapeutic qualities. Participants felt motivated to get out of the house to exercise and enjoy the fresh air (e.g. walking, gardening, swimming, and hiking). These landscapes promoted mental health and sense of wellbeing, in which experiences of nature provoked feelings of renewal, restoration, and rejuvenation. They also provided a space for social interaction and engagement, including planned activities with friends and families, and impromptu social engagements with neighbours. The findings indicate that is important to preserve and construct natural environments to contribute to vibrant healthy communities for older adults (in particular) and people of all ages. Strategies have yet to maximize nature as a health resource for older adults, including the benefits of nature contact as an upstream health promotion intervention. Understanding how older adults experience health and landscape is critical towards developing everyday contact with nature that can improve quality of life for aging populations.

## **TASK SHARING IN CAREGIVER NETWORKS**

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Research has shown pronounced differences by relationship, gender, and distance in the help that caregivers provide. Families also tend to negotiate responsibilities for support, especially among siblings, and task specialization often follows gender lines. Decades of change in marriage, divorce, and cohabitation have resulted in diverse support networks for aging individuals. The capacity of these changing families to provide care for older persons with chronic disabilities is not known. Moreover, research has been limited by a longstanding focus on “primary” caregivers. This study uses nationally representative data from the new National Health and Aging Trends Study (NHATS) to examine how caregivers work alone or share tasks. NHATS includes detailed performance and self-reported disability measures, as well as information on families, social networks, and helpers who assist with self-care, mobility, household, and medical care tasks. Models are used to examine characteristics associated with the propensity of caregivers to work alone or to share tasks with others, controlling for shared family characteristics, and the health needs of the older person. Results show the majority are sharing with other caregivers (70%) though almost one-third are the only caregiver, and a small number (about 5%) provide help alone even though there are other caregivers. Spouses are more likely to be solo caregivers and children more likely to share tasks. Stepchildren are minimally involved in care to their stepparent and when they provide care they are more likely to act as a “backup,” sharing a single task with other helpers.

## **DETERMINATION OF GRAB BAR SPECIFICATIONS FOR INDEPENDENT AND ASSISTED TOILET TRANSFERS**

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Several studies as well as standards of practice indicate that “ADA” (Americans with Disabilities Act) requirements for a fixed grab bar on the wall 16”- 18” from the centerline of the toilet does not meet the needs of seniors or their caregivers. However, there is little evidence upon which to base changes to these guidelines. The purpose of this project is to identify grab bar dimensions that support independent, and one- and two-person assisted toilet transfers. The study involves a three-phased design to identify preferred dimensions, determine bio-mechanical efficacy of optimal dimensions and field-test optimal configurations. This presentation reports the results of Phase 1, in which 77 residents, 30 males and 47 females from 6 residential care facilities in the Atlanta and Cleveland used 3 different configurations (typical ADA dimensions, bilateral swing-up grab bars at ADA dimensions, and bilateral swing up bars at user-defined dimensions). Regardless of transfer type (independent vs assisted), the preferred configuration included a fixed grab bar on the side wall at mean distance of 24” from the centerline of the toilet as well as swing up bars on both sides of the toilet located at average distances of 13”-14” from the centerline. For all transfers, both residents and staff gave significantly higher ratings of safety, helpfulness and ease of use to the user-determined configuration ( $p=.000 - .005$ ), except staff help for 1 person assists (which approached significance at .053). These dimensions, + 1” will be the basis for the Phase 2 biomechanical testing.

## **LIGHTING METRICS LIMITATIONS FOR DESIGNING TRANSITIONAL SPACES: OLDER ADULTS WITH VISION IMPAIRMENTS**

V. Gowda, K.A. Roberto, J. Jones, *College of Architecture and Urban Studies, Virginia Polytechnic Institute and State University, Blacksburg, Virginia*

The onset of vision impairments can depreciate the physiological, psychological and social wellbeing of older adults. Quality and the quantity of lighting in the surrounding indoor environment can have beneficial or detrimental effects on the user’s visual functioning. This study examined the potential drawbacks in the current lighting standards and procedures adapted for designing transitional spaces, particularly for older adults with loss of central field of vision (i.e., Macular Degeneration). An immersive case study of an entrance lobby was used to generate simulations of design alternatives demonstrating efficient light adaptation in transitional spaces. Current lighting standards and metrics on glare and luminance ratios were used to generate the design alternatives that fulfilled the lighting requirements for persons with normal vision, older adults, and person with vision impairments respectively. The analysis of the alternatives demonstrated a lack of lighting standards and data to access the appropriate lighting requirements for older adults with different types of vision conditions, suggesting the need to alter the current design process in such a way that the designers have a better understanding on how older adults with visual limitations perceive spaces. Using computer based vision simulators early design phases is the first step toward framing new lighting design guidelines for older adults with Macular Degeneration and other impairments. Findings suggest the importance of future research collaborations between experts from different disciplines, including architecture, vision sciences, and gerontology, and concerned users to identify appropriate lighting design standards for older adults with vision impairments.

## VISIONS FOR TOMORROW: THREE INTENTIONAL COMMUNITIES FOR RURAL SOUTHWEST VIRGINIA

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Housing in rural southwest Virginia is aging just like its population. Approximately 70% of homes in the region are more than 30 years old, energy inefficient, and in need of repair. Like many older persons, area residents want to age in place and are looking for ways to achieve that goal. In conjunction with a local livability initiative, local architects, building contractors, aging service providers, community planners, housing professionals, academics, and community members participated in a half day workshop to discuss the meaning of aging in place and to design new intentional communities with new housing options for the regions' rural, suburban, and urban areas. The three intentional community designs highlighted in this presentation feature new single and multi-family homes built within the scope of current community infrastructure and resources and with accessibility features inside and outside the homes. Homes include some rentals and low income units. Communities provide private and common areas for community members. Each community design took advantage of local geography and integrated concepts identified as important to residents including independence, self-reliance, and prosperity; social networking opportunities; proximity to local businesses; and protecting rural character, the natural environment, and scenic beauty. Next steps include vetting designs to city planners, contractors, elected officials, and the community.

## BIOPHILIC DESIGN OF GREEN BUILDINGS FOR THE SENIOR POPULATION: REPORT OF A HYPOTHESIS-GENERATING SURVEY OF EXPERTS

J. Hyde, M. Jack, *Gerontology, UMass/Boston, Boston, Massachusetts*

For the last twenty years LEED™ certification has encouraged the development of “Green” buildings that achieve “sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.” At the same time “culture change” has focused on “biophilic design” - a very different kind of “green building,” which supports person centered care by fostering connections to the natural world - light, air, animals, gardens. This paper reports on interviews with architects, researchers and long term care providers regarding the potential advantages and limitations of LEED™ certified Green design with respect to the quality of life and health for elders living in long term care settings. In particular the researchers seek to understand the impacts of sustainable buildings on relevant user outcomes, such as autonomy and accessibility. A grounded theory approach will be used to develop hypotheses that will be tested in future research in this important new area.

## ELDER DISASTER PREPAREDNESS – PAST, PRESENT AND FUTURE

C. Rokusek, *Nova Southeastern University, Ft. Lauderdale, Florida*

Preparedness for vulnerable population groups, most especially elders, has been a focus of both the Federal Emergency Management Agency (FEMA) and the Department of Homeland Security in the past three years. Initiatives at the local, state and national levels have resulted in innovative and informative training programs and educational materials. Even with the targeted attention to preparedness for elders, studies have shown that: 1) elders do not often plan for disasters for the long term and are slow to register for disaster assistance (Rokusek, 2013 and AOA, Oct. 2001); 2) elders with several co-morbidities are at most risk during and following disasters (Aldrich, Benson, 2008); 3) elders are more prone to suffer health-related consequences as a direct result of a disaster and to require longer recovery periods for these problems (Morrer, 1999); 4) environmental changes post disaster can significantly impact individuals with Alzheimer's and other related dementias

(NIH, 2001); 5) elder stress related to disaster impact may increase causing irregular eating and decreased adherence to medication schedules (AOA, Oct. 2001); and 6) communities do not always give elders the attention needed post disaster (Hurricane Katrina, Times-Picayune, August 30, 2005). This paper will summarize a 20 year meta-review of the literature on disaster preparedness for elders. Clustered findings focused on 1) overall elder personal preparedness; 2) chronic diseases and disabilities; 3) community response to elder preparedness and recovery; 4) elder resilience post disaster; 5) dementia preparedness; 6) social factors in elder preparedness will be presented with outlined challenges for the future.

## ASSESSING THE BASELINE AGE-FRIENDLINESS OF A COMMUNITY: AN EXAMPLE OF LONDON, ONTARIO, CANADA

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In response to the challenges of demographic aging, London, Ontario, became the first city in Canada to join the WHO Global Network of Age-Friendly Cities. One of the first milestones for Network members is to assess the baseline age-friendliness of the community. The objective of this study was to assess the baseline age-friendliness of London, Ontario using a quantitative survey methodology. Questionnaires were completed by 676 older adults age 55 and older. Respondents came from 16 of the 17 postal code regions in the city. Survey results are presented according to the eight domains of age-friendliness, with each domain assigned a score on a scale from 0 to 5. Domain scores ranged from 2.5 to 3.6, indicating an overall age-friendliness of London somewhere between fair and good. Based on the scores of individual question items, priority areas were identified in each of the eight domains of age-friendliness. These areas include issues such as the need for more public washrooms, availability of affordable, quality housing, better access to information, and availability of quality mental health care. The survey results have informed implementation of the Three Year Action Plan of the Age Friendly London Network. Specific recommendations have been made to address areas that need particular attention in the ongoing work of the Age Friendly London Network. This study offers unique example of quantitative survey implementation for assessment of age friendliness that many communities around the world are striving for.

## PATHWAYS TO SAVING FOR RETIREMENT IN MIDLIFE: THE ROLE OF INCOME AND SOCIAL SUPPORT

B.A. Baca, *University of Kansas, Lawrence, Kansas*

Reliance solely on Social Security for income in old age is often not adequate for meeting basic needs for housing, food, and rent. Accumulation of retirement assets is a viable option for supplementing income, but saving is frequently limited among those with lower incomes. Prior research has identified many individual level and structural factors affecting retirement savings. However, the role of financial strain and financial support offered by an individual's social network has been largely ignored. Using two waves of the Health and Retirement Study (2006, 2010), I examine the relationship between informal supports and income on the retirement plans and retirement account ownership of individuals nearing retirement using structural equation modeling. For individuals aged 53 to 58 in 2006, social networks that include the exchange of financial resources negatively impact saving behavior and retirement planning intentions. Individuals who provide financial resources to others are less likely to have retirement savings and those who can depend on others for financial assistance are also less likely to save. These findings point to the need for raising the asset base of entire social networks and not just individuals. The financial needs of others can be a major limitation in setting aside money for retirement



and the urgency of saving and planning are lessened by the availability of network members who can provide financial resources when needed. Understanding the role of social networks could lead to new approaches to increasing assets and to improving financial well-being in retirement.

#### **PLANNING A COMMUNITY'S AGING SERVICE NEEDS: ASSETS, CHALLENGES, AND SOLUTIONS**

L.M. Quijano, E.K. Dakin, *School of Social Work, Colorado State University, Fort Collins, Colorado*

**Purpose:** The rapidly changing demographics in the United States present a challenge for communities to proactively plan for their growing older adult populations. To help inform the 2010-2014 strategic plan for a local Area Agency on Aging, a series of community focus groups was held with the goals of identifying assets, challenges, and solutions relative to community aging services needs. **Methods:** Four focus groups were held with a total of 24 older adults and leaders from the community's aging services, government, business, and faith-based sectors. A semi-structured interview guide was developed for the focus groups. All focus groups were digitally recorded and transcribed. A template analysis (King, 2004) was performed on the transcribed data by two independent coders, and aided by the use of the qualitative data analysis software NVIVO. **Results:** Data analysis revealed common themes across all four of the focus groups. In this presentation, we report on major themes and codes related to community assets, challenges to the community's aging services needs, and existing community resources that may be leveraged as solutions to these needs. **Conclusion:** Effective planning for a community's aging services needs requires participation and buy-in from community leaders and older adults themselves. This study provides a valuable exemplar of such an approach that other communities may use.

#### **SESSION 1690 (POSTER)**

#### **DEMENTIA, COGNITIVE WELL-BEING AND CAREGIVING**

##### **CHANGING HEARTS AND MINDS: NEUROCOGNITIVE ENGAGEMENT (NET) THERAPY AND THE CHALLENGE OF ENGAGING REHABILITATION THERAPISTS IN A NEW CONCEPTUAL MODEL SERVING INDIVIDUALS WITH DEMENTIA**

K.O. Carney<sup>1</sup>, J. Howanitz<sup>1</sup>, A. Donlan<sup>1</sup>, M.K. Malek<sup>2</sup>, P.A. Lichtenberg<sup>3</sup>, *1. Phoebe Ministries, Allentown, Pennsylvania, 2. DeSales University, Center Valley, Pennsylvania, 3. Wayne State University, Detroit, Michigan*

Inspired by the recognition that many short term rehabilitation clients present with some level of cognitive impairment, but the therapists who work with them often feel ill-prepared to address the special challenges presented by this population, Phoebe Ministries, a long term care provider, developed a new conceptual model for delivering rehabilitation services to clients with neurocognitive impairment. The model, called Neurocognitive Engagement Therapy (NET), blends best practices in person centered dementia care with best practices in physical, occupational and speech therapy. NET incorporates cognitive and functional assessment to drive clinical decision making; structuring the therapy environment to support attention and engagement; and use of traditional psychosocial dementia care approaches, such as life history, use of familiar and meaningful activities, sensory stimulation and technology to increase participation in therapeutic activities. In an initial trial of the conceptual model, NET was implemented by 6 therapists from OT, PT and Speech who provided services to individuals with mid to late stage dementia over the course of 6 months. A weekly group review process explored challenges to adoption and implementation of NET by the therapists. This presentation will describe the insights derived through the therapists' experiences, including identification of therapist training

and mentoring needs, differences between disciplines in the ability to embrace the new practices and the operational challenges of implementing change within the constraints of an active rehab department. Insights gained have subsequently been incorporated into an enhanced model that is currently under investigation through a formal study in conjunction with academic partners.

#### **MISSOURI QUALITY INITIATIVE (MOQI) FOR NURSING HOMES: LINK TO PALLIATIVE CARE**

C.M. Galambos<sup>1</sup>, M.J. Rantz<sup>2,3</sup>, J. Starr<sup>2</sup>, M.K. Flesner<sup>2</sup>, L.L. Popejoy<sup>2</sup>, G.F. Petroski<sup>3</sup>, C. Crecelius<sup>2</sup>, *1. School of Social Work, University of Missouri, Columbia, Missouri, 2. University of Missouri Sinclair School of Nursing, Columbia, Missouri, 3. University of Missouri Biostatistics and Research Design Unit, School of Medicine, Columbia, Missouri*

The Missouri Quality Initiative for Nursing Homes is an intervention for long stay Medicare-Medicaid enrollees to reduce the frequency of avoidable hospitalizations. Using an interdisciplinary team, the model places an advanced practiced registered nurse (APRN) in each participating nursing facility (NF), and the APRN is supported by an MOQI intervention team. Palliative care activities in the initiative include: (a) increased discussions about end-of-life care in the facilities, (b) education and training about advance directives, end-of-life-care for NF staff, residents, and families, (c) improved communication in care transitions to ensure advance directive documents are known to sending and receiving facilities, (d) move toward normalizing discussions about advance directives and resident care choices within NF operations, and (e) contribute to public dialogue and understanding about advance directives and advance care planning To support palliative care activities, and to obtain baseline information, this study conducted a content analysis of 1877 resident records in 16 nursing facilities to review advance directive documents. The charts were reviewed by an APRN researcher under the guidance of a senior faculty member. Information was recorded on an excel spreadsheet developed by content experts. Data was uploaded into SAS and analyzed. The analysis included an examination of the frequency of identified health care choices, completeness and accuracy of existing advance directives, and number and type of appointed agents. Specific findings will be highlighted. Results may be used to: (a) inform SNF policies and procedures (b) plan education and discussion activities (c) support caregivers and appointed agents.

#### **TIME COMPARISON OF HOME-BASED AND INSTITUTIONAL CARE MANAGEMENT ACTIVITIES IN JAPAN**

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A self-report time study of care management services provided to long-term care insurance recipients by home-based care managers (HBCMs) and institutional care managers (ICMs) in Japan was conducted to examine and compare the time taken to accomplish a care management task. Participants were 343 ICMs and 373 HBCMs (79.7% female), who were asked to record start and end time as well as the types of their activities performed on timesheets using the "Social Work Codes." The mean ages of participants were 39.91±10.4 and 41.59±10.03 in ICMs and HBCMs groups, respectively. Nearly three-quarters (74.3%) of ICMs and more than half (54.7%) of HBCMs hold the dual positions of care manager and nursing assistant. One-seventh (14.3%) of ICMs and more than one-quarter (27.6%) of HBCMs hold the dual positions of care manager and social services designee. The average number of years of work experience in the fields of nursing and social services were 15.25 and 14.5 in HBCMs and ICMs groups,

respectively. For ICMs, the longest total amount of time was reported for “indirect activities (e.g., documentation and travel time)” (106.3±75.8 min), followed by “development of care plans” (104.8±74 min), and “other tasks (e.g., break time)” (88.9±58 min). For HBCMs, the longest total amount of time was reported for “indirect care” (174.8±86.8 min), followed by “development of care plans” (108±74.2 min), and “consultation” (34.5±40.6 min). The results suggest that it is important to change their work environment and transform the way they work to provide better care management.

#### **SUBSTITUTION OF PROFESSIONAL CARE BY INFORMAL CARE: MYTH OR MUST? EVALUATION OF GOUDSBLOEM: A PROJECT FOCUSING ON INTEGRATION OF PRIMARY CARE AND WELFARE SERVICES FOR HOME-DWELLING FRAIL ELDERLY IN THE NETHERLANDS**

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Dutch policy reforms in long term care focus on delaying residential care and rely more on nursing and family care at home. Research by Dautzenberg et al. (2013) based on an in-depth analysis of 21 care networks of frail elderly and 52 qualitative interviews with formal and informal caregivers, showed that elderly care recipients depended heavily on homecare professionals. They had on average 13 caregivers of whom 80% were professionals and considered as ‘substitute daughters’. Workers were unaware of volunteers and nearby welfare services. Subsequently, an intervention program named Goudsbloem was set up in a large home care organization (Vierstroom) focusing on the integration of primary care services. Interventions aimed (1) to reduce dependency on professional care by strengthening self-reliance and self-care and (2) to substitute professional care by informal care (family and volunteers) in collaboration with welfare services. The intervention consisted of a transformed intake-procedure for new clients, a training program for homecare workers and supervision by team coaches. An effect and process evaluation after 9 months showed that the average monthly hours of personal care, nursing care and costs of care had reduced 17%-36%. The process evaluation showed that consistent organizational policy, strong support by the management and efforts made by team coaches were success factors. Involving more informal caregivers or volunteers and collaboration with welfare services increased, but remained limited. The conclusion was that integration of primary care services for frail elderly had moved forward but still has a (long) way to go.

#### **‘WE PREFER GREETING RATHER THAN EATING:’ LIFE IN AN ELDER CARE CENTER IN ETHIOPIA**

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The need for long term care in developing countries is increasing at a rate that far exceeds the rate in developed countries. In Ethiopia where family care is a centuries-long tradition, living in an elder care institution invariably brings social devaluation. Accordingly, this study explored the psycho-social needs of older adults in a residential elder care center in Ethiopia from the perspective of both staff and residents. Three focus group discussions of 24 residents and interviews with 5 staff persons revealed that elders were living a subsistence lifestyle, eating the same meal every day, mostly cutoff from the surrounding community, and lacking basic amenities. Despite the absence of basic amenities, residents yearned even more so for positive social interaction. Psycho-social support was both undervalued and underutilized by staff members, and thus, residents’ psycho-social well-being appeared to be at risk. The addition of social workers in institutional care in Ethiopia may help to promote improved living standards. Advocacy is needed

on behalf of residents to establish and implement guidelines on care and support of residents in old age homes. As elders in developing countries are living longer—a growing number with disabilities—at the same time that informal supports are waning, the need for developing long term care policies is becoming critical.

#### **HOME HEALTH CARE AGENCY CHARACTERISTICS INFLUENCE THE RELATIONSHIP BETWEEN CONSUMER COGNITIVE STATUS AND SERVICE VOLUME AND READMISSION**

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Individuals with neurocognitive disorder experience impaired functioning and require increasing care. Licensed home health care agencies offer services which allow people to remain at home after they acquire a disability and during brief periods of rehabilitation after hospital procedures. Agencies differ considerably in size, staffing, experience, and employee work-life satisfaction. This study uses multilevel analyses of survey data to examine agency characteristics that influence the relationship between consumer cognitive impairment and service use in the United States. The 2007 National Home and Hospice Care Survey is a nationally representative sample survey conducted by the U.S. National Center for Health Statistics. These data are examined through cross-level mixed-effects multivariate regression models to understand the influence of home health care agency characteristics on the association of consumers’ cognitive impairment status with home health care service use in terms of readmission status and numbers of medical and non-medical service visits. Consumers with moderate-to-severe cognitive impairment (32% of sample) received services for significantly more days (345 days), on average, as compared to consumers with little-to-no cognitive impairment (230 days), including more medical visits (24.4 vs. 18) and non-medical visits (6.4 vs. 4.6), and were readmitted to home health care in greater proportions (35% vs. 27%). Thirteen characteristics of provider agencies were found to significantly influence the relationship between cognitive impairment and service use, including those describing business size and experience, service profiles, and staffing profiles. These findings can inform research and policy efforts promoting services to meet the needs of people with neurocognitive disorder.

#### **EMBEDDING REFLECTIVE PRACTICE IN A DEMENTIA INTERVENTION: EFFECTS ON STUDENT LEARNING**

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There is a critical need for helping professionals who can assist the ever-growing population of those who are coping with dementia. Social workers are one group of helping professionals who are trained to address the clinical concerns of this population. Our experiential training project, the Couples Life Story Approach, gives social work students a venue for learning clinical skills with older adults with dementia and their partners while also reflecting on their practice with a supportive team of social work professionals and students. Students undergo training, shadow an experienced social worker, and subsequently deliver the intervention independently. They reflect on their practice experiences while writing process observation notes after each intervention session and during weekly mentored team meetings. A content analysis of the process observation notes, team meetings notes, and exit interviews was conducted for 14 students involved in the project. Findings indicate that students’ reflective practice was enhanced by their post-session process observation notes and weekly dialogues during the mentored meetings. Their post-session notes point to the mastery of generic social work skills (e.g., normalizing and validating) as well as clinical skills related to dementia (e.g., helping couples to communicate while dealing with memory loss). The team meeting notes and the exit interviews uncov-

ered students' reflections concerning the importance of belonging to a mentored team and to the reciprocal connections they experienced between themselves and the older couples. This project highlights the promise of this experiential learning model for enhancing students' self-reflection and clinical skills.

### **TRANSLATING AN EVIDENCE-BASED PROGRAM INTO A GROUP FORMAT: PRELIMINARY RESULTS**

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The evidence-based 'Reducing Disability in Alzheimer's Disease' (RDAD) program was replicated in Ohio by Alzheimer's Association Chapters in both the original, in-home version, and a newly developed group format. Both versions of RDAD include: a) exercise training, b) behavior management skill building, and c) dementia-related education for person with dementia (PWD) and family caregiver dyads. The primary purpose of our analysis was to determine the acceptability and feasibility of the RDAD program when translated into a group format. Ten groups comprised of 37 care receiver-caregiver dyads completed the 15-session, 6-month program. Groups consisted of an average of 3.7 dyads (range 2-6). Of the 37 dyads that began the program, 30 (81.1%) completed the first 12 sessions without missing more than the two allowable absences. The primary reason dyads left the program before Session 12 is because of non-compliance due to excessive absences. Those completing the program finished with an average attendance rate of 93.9%. Paired samples t-tests indicate a significant decrease in caregiver unmet needs, from a T1 mean of 9.5 to a T2 mean of 4.0 ( $t(23)=5.33, p=.000$ ). After completing 12 sessions, 94.7% of caregivers report they agree or strongly agree to a series of positive statements about the group program. Strong attendance rates, beneficial improvement in outcomes, and high rates of satisfaction suggest that the group RDAD program was acceptable and feasible to caregivers of persons with dementia. Positive findings point to further considerations of how evidence-based programs can be offered more efficiently for agencies with limited resources.

### **CAREGIVING OF PERSONS WITH MEMORY LOSS: DEPRESSION, STRESS, AND MULTIPLE MEDIATORS**

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Caring for an older adult with disability is burdensome and stressful. Particularly, family caregivers of the elderly with memory loss could experience high levels of psychiatric morbidity, such as depressive symptoms and anxiety disorders. A stress process model postulates that Alzheimer's caregiver stresses produce negative outcomes such as depression through eroding personal resources and diminishing self-concept. However, previous studies are limited in examining multiple intermediate pathways or mediators of the caregiver's stress to depressive symptoms. This study aims to address this limitation by examining the role of self-efficacy, problem-solving behaviors and attitudes, and social support in mediating the relationship between stress and depressive symptoms. Using a community sample from 91 family caregivers of older adults with memory loss, we applied an asymptotic and resampling strategy for simultaneously testing multiple mediators between caregiver stress and depressive symptoms. Results indicate that self-efficacy mediated the pathway from stresses (measured by daily hassle frequency and severity) and depressive symptoms ( $B=.138, t=3.16, p=.002$ ;  $B=2.60, t=2.93, p=.003$ ), but problem-solving and social support did not. Caregiver stresses were associated with decreased levels of self-efficacy ( $B=-.086, t=-4.27, p=.000$ ;  $B=-1.58, t=-3.35, p=.001$ ) and perceived social support resources ( $B=-.436, t=-2.39, p=.02$ ;  $B=-10.04, t=-2.32, p=.02$ ), while a higher level of self-efficacy was related to fewer depressive symptoms among caregivers ( $B=-1.60, t=-4.10, p=.000$ ;  $B=-1.65, t=-4.58, p=.000$ ). Findings point to the impor-

tance of improving self-efficacy in psychosocial interventions for Alzheimer's caregivers. Comprehensive interventions with caregivers also need to include coping resources, social support, and problem-solving skills to address caregivers' stress and its negative outcomes.

### **A COMMUNITY-BASED SKILLED NURSING FACILITY (SNF) FOR DIFFICULT-TO-PLACE PATIENTS: PRELIMINARY DATA**

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Patients with serious mental illness and aging inmates/ex-offenders are difficult to place in traditional, Medicaid-paid skilled nursing facilities (SNFs). The recent opening of a SNF for difficult-to-place patients in Connecticut, called "60 West," provides a previously non-existent option for long-term care of these historically marginalized persons. We are using routinely collected data to evaluate pre-post quality-of-care and quality-of-life outcomes for patients transitioning to this SNF from a state of CT-run psychiatric facility or CT correctional facility. The outcomes are Minimum Data Set measures including aggression, wandering, depression, and cognitive status, health care services use, and medication use. Between May 2013 and February 2014, there were 46 patients at 60 West, with enrollment expected to reach 95 patients by January 2015. Of those enrolled, 2 died; 3 were discharged to the community; 1 was transferred to another SNF, and 1 was transferred back to prison. The current 39 patients are age 32 to 86 (49% age  $\geq 60$ ); 8% female; and 46%, 39%, and 18% are White/non-Hispanic, Black, and Hispanic, respectively. The majority (69%) resided at psychiatric facilities prior to transfer to 60 West. Preliminary aggregate data indicate 3 substantiated and 0 reported incidents of aggression and wandering, respectively, and 1 patient was hospitalized for inpatient acute care. Ongoing evaluation of this innovative state initiative will 1) identify areas where transfer to a specialized SNF may be most beneficial to overall patient health/well-being; and 2) inform the development of an evidence-based model for establishing specialized SNFs for difficult-to-place patients in other states.

### **BARRIERS AND FACILITATORS TO IMPLEMENTING A QUALITY IMPROVEMENT PALLIATIVE CARE TRAINING PROGRAM IN ASSISTED LIVING SETTINGS**

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A growing number of older adults remain in assisted living (AL) until death. There is an increased need for quality end-of-life care in AL. Research indicates that AL administrators perceive a need for more palliative care education for direct care staff. Further, ALs who offer palliative care education have an increased use of hospice care. Previous research indicates an evidence-based quality improvement palliative care training program (QI-PCTP) for staff in nursing homes has been effective at improving end-of-life care. This study focused on the implementation of the QI-PCTP in ALs and the barriers as perceived by different stakeholders. Community based participatory research was used vis-a-vis focus groups and concept mapping methods to generate data from a sample of 30 AL staff (administrators, nurses and aides) from 10 ALs and two hospices (hospice nurses) in Florida in 2013. Results: While all four stakeholder groups recognized the importance of the content of the QI-PCTP, there were barriers to implementing the QI-PCTP in AL. The major barriers from administrators' perspectives were regulations, budget constraints, staff turnover, and time available to implement the QI-PCTP. Making the training mandatory would facilitate implementation. Direct care staff cited staff negative attitudes about required training programs as a barrier. Hospice nurses cited as a facilitator marketing ALs who offer the QI-PCTP as having palliative care certified staff and to have hospice involvement in the facilitation of

the QI-PCTP. Participants have made recommendations for the implementation phase of the QI-PCTP, which will be discussed.

### **PSYCHOMETRIC EVALUATION OF THE FUNCTIONAL CAPACITY CARD SORT: MEASURING CAREGIVER APPRAISAL OF FUNCTIONAL CAPACITY IN PERSONS WITH DEMENTIA**

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Families play a vital role in the safety and well-being of their relatives with dementia. Most people with dementia live at home and are cared for by family caregivers. Caregiver appraisal of functional capacity in the person with dementia is an essential element to the provision of care and assurance of safety for the person with dementia. Disparity between the caregiver's appraisal of functional capacity and standardized assessment can be an indication that the caregiver is providing inappropriate oversight, which may place the person with dementia at a safety risk. Family member report has been viewed as a particularly important proxy in dementia care as the person with the cognitive impairment tends to overestimate functional capacity; however, the accuracy of caregiver appraisal when compared to direct assessment of functional ability has been found to be inconsistent with caregivers overestimating and underestimating function. To address this issue, the theory-based Functional Capacity Card Sort was developed to measure and interpret caregiver appraisal of functional capacity by comparing the caregiver rating to the score on a standardized functional capacity assessment. This poster will present the development and utility of the Functional Capacity Card Sort. Psychometric properties including construct validity and interrater reliability will be described. Emphasis will be placed on effective and efficient methods for determining whether a caregiver's estimation is concordant or discordant with a standardized assessment, which offers health care providers the opportunity to educate and train caregivers and promote function and safety in the person with dementia.

### **MEANINGFUL INTERACTIONS WITH PROVIDERS: PERSPECTIVES OF CAREGIVERS OF PERSONS WITH DEMENTIA**

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**Purpose:** The purpose of this study was to describe meaningful interactions with health care providers (HCPs) from the perspectives of family caregivers of persons with dementia (PWD). A secondary purpose was to understand ways in which family caregivers obtained needed information for managing uncertainty associated with providing care for a PWD. **Background:** Family members of PWD often assume the caregiver role, but lack preparation for the psychological and practical ramifications of caring for someone with a progressive, terminal illness (Alzheimer's Association, 2011). Lack of preparedness for caregiving impacts well-being and quality of life throughout the caregiving experience (Lilly, Robinson, Holzman & Bottorff, 2012). **Methods:** Qualitative description was used to obtain rich, straightforward descriptions from perspectives of participants. **Results:** Caregivers of PWD used multiple strategies to obtain information and manage uncertainty associated with caregiving. Efforts to obtain care for PWD were often complicated by challenges of a health care system that was not designed to meet the needs of PWD. Positive meaningful interactions with HCPs included interactive dialogue, partnering between HCPs and caregivers, and a sense of being known as individuals with unique needs. Negative meaningful interactions were characterized as lacking one or more of those components. **Conclusions:** Meaningful interactions with HCPs can profoundly affect family caregivers' ability to negotiate the healthcare system and manage uncertainty associated with caregiving. Partnerships with HCPs have a positive impact on family caregivers' well-being.

### **GERONTOLOGY EDUCATION: HOW ARE WE EDUCATING OUR DIRECT CAREGIVERS?**

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Certified Nursing Assistants (CNAs) provide most hands-on care in nursing homes. CNAs receive approximately 100 hours of education for certification with minimal content on mental health and normal aging. Continuing education typically consists of facility-required health and safety in-services. The purpose of the study was to assess CNA knowledge in the context of demographic and life events. The Mary Starke Harper Aging Knowledge Exam (M-SHAKE) measures knowledge about normal aging, mental health, and dementia in health care workers and contains 25 true/false statements. The M-SHAKE was administered to CNAs in a mid-sized city as part of a larger study. There were 106 respondents. Correct items were given one point; zero points were given for incorrect or omitted items. Mean score was 16.76, or 67%. Overall scores and individual item responses raised concerns about CNA education. For example, more than 80% of CNAs thought it was helpful to "re-orient agitated dementia patients," despite evidence supporting redirection, assessment of unmet needs, and environmental modification. This supports the need for education on dementia, agitation, and behavioral management. CNAs also possessed inaccurate information about cognition. Nearly half thought delirium was a permanent condition and/or Alzheimer's disease had an abrupt onset. This is concerning since CNAs are often the first observers of changes in patients. If they think that cognitive changes are normal or irreversible, they may not report potentially treatable conditions. Policy changes are needed to expand the educational requirements for CNAs to enhance patient well-being.

### **INVESTIGATING BARRIERS TO ACCESS AND DELIVERY OF END OF LIFE CARE FOR PERSONS WITH DEMENTIA IN LONG TERM CARE FACILITIES**

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Dementia is a progressive and terminal illness that affects a significant number of seniors. Toward the end of life, persons with dementia require extensive support often from long term care facilities. The palliative care philosophy aims to maximize quality of life for the dying person without aggressive or unnecessary treatments. Palliative care has been recognized as being both beneficial and under-used in persons dying with dementia. Existing barriers to accessing and delivering palliative care include unpredictable disease trajectory, misconceptions about the terminal nature of dementia, lack of education about palliative care, and policies or funding incentives acting as barriers to care. The purpose of the present study was to investigate the experiences of staff who deliver end of life care to persons with dementia at long term care facilities in Canada. Data was collected through semi-structured interviews with staff (N = 19) who provide support on a direct and indirect basis. Analyses using qualitative methodology indicated that the delivery of care is not standardized across facilities, lacks a holistic approach due to under-funding, and often occurs too late. Communication difficulties with individuals with dementia and a lack of resources to train staff in palliative care also hinder quality care. The findings will be discussed within the context of international comparisons of how palliative care is delivered. Moreover the findings provide insights for staff on delivering better quality, more efficient palliative care for individuals with dementia.

## PRACTICES OF GERIATRIC CASE MANAGERS REGARDING SUICIDE AND FIREARM ASSESSMENT AMONG OLDER OHIOANS

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**Study Purpose:** Individuals aged 65+ represent about 12% of the U.S. population, yet 16% of all suicides. Firearm use in suicide is more common for older adults, and the presence of a gun in the home significantly increases elders' risk for suicide by firearm. Providers have suggested that clinical screening for suicide and access to firearms is important in service provision to older individuals, but it is unclear what knowledge clinicians possess regarding this issue, to what degree assessment and screening occurs, and the effectiveness of such efforts. **This pilot study examined how suicide and firearm safety is viewed within Area Agencies on Aging (AAA). Methods:** Using Qualtrics Survey Software, 100 case managers at four Ohio AAA regional offices completed an online survey that included closed and open ended questions and measured demographic information, practice variables, and knowledge, attitudes, and practices regarding suicide and firearm safety assessment. **Findings:** Sixty percent viewed clients at risk for suicide and only 8% had received formal training/ education on firearm safety counseling. The majority of case managers did not routinely assess for ownership and access to guns and barriers included a lack of training, lack of time, and lack of agency materials to distribute. **Conclusion:** Geriatric case managers are positioned to notice warning signs of suicide, screen for depression, and approach the topic of firearm risks with clients and their families. However, findings from this study suggest that these providers need more training and educational resources on issues related to suicide and firearm safety.

## PERSONAL AND HOME CARE AIDES: DOES THE TYPE OF EMPLOYER MATTER?

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**Purpose:** Personal and home care aides comprise a majority of the home health care workforce. Using data from the American Community Survey (ACS), we found that across the groups and individuals that employ these aides (which also include outpatient care centers and private households), the two largest employers are individual and family services agencies (which provide nonmedical services) and home health care agencies (which provide medical and nonmedical services). The purpose of this study is to identify differences between personal and home care aides who work for these two types of employers. **Design and Methods:** Data were taken from the 1% Public Use Microdata Sample (PUMS) from the 2012 ACS. Logistic regression was used to compare demographic and employment characteristics of aides who work for individual and family services agencies versus those who work for home health care agencies. **Results:** Personal and home care aides who work for individual and family services agencies are less likely to be female, African American, self-employed, and on food stamps. They are more likely to be never married, non-U.S. citizens, to have health insurance through their employer or Medicaid, and to have an annual income above \$15,000. **Implications:** Personal and home care aides who work for individual and family services agencies have advantages that include higher income and greater health insurance coverage. As the focus of long-term care shifts towards the home, these findings have important implications for educators, service providers, and employers concerning the recruitment and retention of the home health care workforce.

## PREDICTING PROVISION OF CULTURAL COMPETENCY TRAINING IN COMMUNITY-BASED HEALTH CARE SETTINGS: AN ANALYSIS OF ORGANIZATIONAL AND LEADERSHIP FACTORS IN THE 2007 NATIONAL HOME AND HOSPICE CARE SURVEY

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**Methods:** The final analytic sample in this observational study was comprised of 828 HHH agencies, representing 12,107 weighted agencies. A summary CCT composite score was created based on three items supported by factor analyses (range=0-3; alpha=0.6): the agency provided mandatory training to understand cultural differences/beliefs that may affect delivery of services to: 1) all administrative, clerical, and management staff; 2) all direct service providers; and 3) all volunteers. Descriptive, correlational, and ordinal logit regression analyses were conducted, accounting for the complex sampling design using finite population correction. Weighted estimates were obtained for the overall sample and subpopulations: home health (HH), hospice, and mixed agencies. **Results:** HH, hospice, and mixed agencies comprised 75%, 15% and 10% of the sample, respectively. The overall mean CCT score was 1.7 (95%CI= 1.6-1.9). Regression results showed that JCAHO accreditation increased CCT odds in HH (OR= 2.1, 95%CI= 1.0-4.2) and hospice (OR= 4.4, 95%CI= 2.1-9.4) settings. Medical/social services increased CCT odds in HH (OR= 1.4, 95%CI=1.0-2.0) and hospice (OR=1.5, 95%CI=1.0-2.1) settings. Additionally, in HH, teaching status increased CCT odds (OR=2.7, 95%CI=1.2-6.2). In the hospice setting, formal contracts with outside organizations increased CCT odds (OR=4.0, 95%CI= 1.8-9.0), and non-for-profit status decreased CCT odds (OR=0.2; 95%CI=0.1-0.5). Administrator's tenure increased CCT odds in the mixed setting (OR=1.1; 95%CI= 1.0-1.1). **Conclusions:** This study demonstrated the influence of organizational and leadership factors on CCT. We also provide practical approaches for HHH agencies to increase their cultural competency practices to more effectively mitigate health disparities in this important community-based setting.

## METHODOLOGICAL ISSUES IN COGNITION-BASED INTERVENTIONS FOR AGE-RELATED COGNITIVE DECLINE

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Age-related cognitive decline affects the majority of older adults. However, it is not inevitable as some individuals demonstrate intact cognitive functioning well into old age. The implications of age-related cognitive decline include an increased risk of falls and car accidents and reduced ability to perform daily tasks, which may affect health and independence in elderly. Some promising findings have been reported in randomized controlled trials (RCTs) investigating cognition-based interventions. However, this line of research is marked by certain methodological issues that need to be taken into account when planning such studies in the future. Specifically, most RCTs utilized onsite group interventions, which face an increased risk of selection bias due to attrition and participant burden, as well as lack of individualized approach to intervention; or home-based computerized studies, which are characterized by issues related to adherence to intervention, computer stress, and cognitive training tasks that resemble too closely the assessment measures. Many studies also lacked active control groups and performance-based measures of daily functioning. Overall, RCTs tend to yield relatively small effect sizes and limited transfer to untrained functions, and lack follow-up assessments, uniform cognitive assessment measures, and replication studies. These problems complicate the interpretability of results and identification of the most efficacious format, setting, and dosage for interventions, cognitive functions to be targeted,

and assessment measures in RCTs. There is a need to address these methodological issues in order to outline best practices in the area of cognitive training and facilitate the implementation of this intervention in the community.

#### **ORGANIZATIONAL AND LEADERSHIP FACTORS ASSOCIATED WITH CULTURAL COMPETENCY COMMUNICATION PRACTICES IN THE 2007 NATIONAL HOME AND HOSPICE CARE SURVEY**

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**Methods:** The outcome in this cross-sectional study was a summary CCCP composite score of three survey items that were selected through factor analyses (range= 0-3; alpha= 0.6): whether the agency provided interpreter services; patient-related material translated into language of the commonly represented groups; and multilingual staff. Descriptive, correlational, and ordinal regression analyses were conducted. Weighted survey estimates were obtained for the overall sample and for home health (HH), hospice, and mixed agencies. Analyses accounted for the complex sampling design using finite population correction. **Results:** The final regression models used data from 900 agencies representing 12,017 HHH agencies when weighted. HH, hospice, and mixed agencies comprised 75%, 15% and 10% of the sample, respectively. The mean CCCP score was 1.9. Overall, 35% of respondents were not-for-profit; 31% were JCAHO accredited; 44% were teaching agencies; 88% were located in urban areas. Multivariate ordinal logistic regression showed JCAHO accreditation increased the odds of CCCP in the overall sample (OR= 1.7; 95%CI=1.0-2.9) and HH (OR= 2.0; 95%CI= 1.0-4.0) setting. Similarly, medical/social services increased the odds of CCCP in HH (OR=1.6; 95%CI=1.2-2.3) and hospice (OR= 1.8; 95%CI= 1.3-2.6) settings. Additionally, in the hospice setting, chain affiliation, teaching status, and formal contracts increased the odds of CCCP: (OR=2.4; 95%CI=1.1-5.5), (OR= 3.4; 95%CI= 1.4-7.9), and (OR=10.3; 95%CI=2.5-43.6), respectively. Administrator's graduate education increased the odds of CCCP in the mixed setting (OR= 2.8; 95%CI= 1.2-6.5). **Implications:** Given the growing cultural/linguistic diversity, further improvements are needed to increase the adoption of cultural competency communication practices in HHH settings.

#### **COGNITIVE IMPAIRMENT AND MEDICATION MANAGEMENT AS PREDICTORS OF HOSPITAL READMISSION**

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**Background:** The ability of hospitals to identify risk factors for readmission is vital to improving patient outcomes and controlling utilization. Medication non-adherence and cognitive impairment have been identified as a major risk factor for readmission; however, the interaction of medication management and cognitive impairment is unclear. We postulated that cognitive impairment in patients independently managing their medications would increase their risk of hospital readmission. **Methods:** Prospective observational study of 452 patients aged 65 years or older discharged to home from the medicine service of a tertiary hospital. These patients undertook a cognitive assessment including the Short Blessed Test (SBT), the Clock Completion Test (CCT), and the Trail-making B (TRB). Hospital use and demographic data were obtained. A logistic regression model fitted the likelihood of 30-day readmission on the basis of patient characteristics, medication management, and cognitive performance. **Results:** For patients managing medications themselves, readmission odds increased 1.67 times per 5 point increase in SBT score (P=0.024) and 1.75 times per 0.05

lines/sec decrease in TRB score (P=0.035); the same association was seen with CCT score but was not significant (P=0.067). For patients not managing their medications, readmission odds increased 1.5 times per 0.05 lines/sec increase in TRB score (P=0.045); no association was seen with SBT or CCT scores (P=0.802; P=0.368). **Conclusion:** Screening patients for medication self-management and cognitive function, particularly executive function, may enhance the ability of hospitals at the time of discharge to identify those at risk of readmission.

#### **SESSION 1695 (SYMPOSIUM)**

##### **MAKING CONNECTIONS: EAST MEETS WEST ON COMMON CLINICAL PROBLEMS**

**Chair:** R. McCarter, *Penn State University, University Park, Pennsylvania*

Increased longevity is a global phenomenon, with China predicted to be the first country reaching over one million centenarians. This increase will lead to explosive growth in chronic diseases of the elderly. The goal of this symposium is to discuss current clinical problems of the elderly in China and the USA: to discuss risk factors, identify treatment modalities and compare the relative efficacies of these. Drs. Cohen and Li will provide the overview, with focuses on cancer and cardiovascular disease. Drs. Besdine, Chan and Dong will discuss cognitive decline and metabolic disorders, followed by Drs. Bai and Barzilay on alterations in body composition and connections to atherosclerosis. General discussion will follow.

##### **EPIDEMIOLOGY OF DEMENTIA IN COMMUNITY ELDERLY: BEIJING LONGITUDINAL STUDY ON AGING**

P. Chan, *Geriatrics & Neurology, Xuanwu Hospital of Capital Medical University, Beijing, China*

Dementia is one of the most common neurodegenerative diseases among the elderly. Although it has heterogeneity etiology, Alzheimer's disease (AD) has been suggested to be the most common cause. Both genetic and environmental factors contribute jointly to the development of dementia. In earlier reports, the prevalence of dementia and AD in Mainland Chinese was lower than that in non-Asian populations. However, with the fast population aging in China, its prevalence was growing fast. The differences in prevalence may reflect different conditions in culture, environment, education, and possibly genetic ethnicity. To investigate these issues, data from the Beijing Longitudinal Study on Aging were used for analysis. Prevalence, incidence, and mortality were studied in respect to potential risk and protective factors in both cross-sectional and longitudinal analysis.

##### **AGING RELATED CHANGES IN BONE MINERAL DENSITY AND ITS ASSOCIATION WITH SUBCLINICAL ATHEROSCLEROSIS BIOMARKERS IN HEALTHY POPULATION IN CHINA**

X. Bai<sup>1</sup>, D. Liang<sup>2</sup>, L. Han<sup>1</sup>, X. Zhao<sup>1</sup>, K. Yu<sup>1</sup>, B. Jin<sup>1</sup>, X. Chen<sup>3</sup>, *1. Shengjing Affiliated Hospital of China Medical University, Shenyang, China, 2. First Affiliated Hospital of China Medical University, Shenyang, China, 3. General Hospital of Chinese PLA, Shenyang, China*

**Objective** Investigating the changes of bone mineral density (BMD) with aging and its association with subclinical atherosclerosis in healthy population in China. **Method** The total hip and lumbar spine BMD of 505 healthy subjects were measured using dual-energy x-ray absorptiometry and categorized into three groups (T score >-1.0; -1.0 - -2.5; < -2.5). The ABI, PWV, and CIMT were measured to assess subclinical atherosclerosis. **Results** The lumbar BMD (r=-0.587, p<0.001) in women and total hip BMD in women (r=-0.575, p<0.001) and men (r=-0.251, p<0.001) were significantly correlated with age. Total hip BMD was correlated with ABI in women after adjustment for age (r = 0.156, per SD decrease in ABI: -0.130 g/cm<sup>2</sup>, p=0.022), and was borderline

significant after full adjustment ( $P = 0.045$ ). Conclusion There was gender characteristics in aging-related changes of BMD. The association between low BMD and subclinical atherosclerosis depends on the aging, blood pressure and internal environment.

#### **ASSOCIATION BETWEEN COGNITIVE IMPAIRMENT AND THE COMPONENTS OF METABOLIC SYNDROME IN CHINESE NONAGENARIANS AND CENTENARIANS**

B. Dong, *West China Hospital, S.U, Chengdu, Sichuan, China*

Objective: As geriatrician, We focus on relationship between metabolic state and diseases. But there are very few studies about the oldest old on the aspect, so our studies specially examine the relationship among the oldest old. Methods: Participants of our studies were from the Project of Longevity and Aging in Dujiangyan. 870 people aged 90 years and older participated. Results: (1) BMI of around 20 (18.9-21.1) higher FSI, Metabolic Syndrome (MetS) may be associated with enhanced cognitive function; Food items, levels of serum lipid/lipoprotein, hypertension were not directly correlated with cognitive impairment among Chinese nonagenarians and centenarians; Among male nonagenarians and centenarians, high triglyceride level, the higher level of serum uric acid and systolic blood pressure, current exercise are associated with better cognitive function. (2) Among female nonagenarians and centenarians, extremely low and high BMIs is associated with higher risk of ADL and IADL disability.

#### **THE STUDY OF PRESENT SITUATION ON THERAPY AND SECONDARY PREVENTION OF CORONARY HEART DISEASE IN CHINESE ELDERLY**

X. Li<sup>1</sup>, L. Wang<sup>2</sup>, L. Pu<sup>3</sup>, Z. Jian<sup>4</sup>, X. Tuo<sup>5</sup>, H. Xu<sup>6</sup>, J. Fan<sup>1</sup>, 1. *Chinese PLA General Hospital, Beijing, China*, 2. *The Second Hospital of Tianjin Medical University, Tianjin, China*, 3. *Ministry of Health, Beijing Institute of Geriatrics, Beijing, China*, 4. *The Second Xiangya Hospital of Central South University, Changsha, China*, 5. *CHANGHAI Hospital of Shanghai, Shanghai, China*, 6. *Xiyuan Hospital CACMS, Beijing, China*

Objective To investigate the present situation on therapy and secondary prevention of coronary heart disease (CHD) in Chinese elderly. Methods This is a cross-sectional, non-intervention and multicenter survey. 7962 CHD cases with mean age of  $73.0 \pm 7.9$  years from 165 hospitals were interviewed in 2011. 24.1% were  $\geq 80$  years old and 63.4% were male. Results 29.6% had coronary revascularization. 76.5% experienced angina pectoris and myocardial infarction. 70.3% were using antiplatelet drug, 54.9% lipid regulating agents, 47.5% BBC, 29.0% ACEI, 22.2% ARB. 38.9% were present smokers and 28.4% were passive smokers. 57.6% were overweight with BMI  $\geq 24$ . The percentage of hypertension, diabetes, and dyslipidemia were 67.6%, 23.4%, and 33.2%. Female patients, individuals with HbA1c  $< 7.0\%$ , or LDL-C  $< 2.6$  mmol/L, coronary revascularization had less heart attacks than the others ( $P < 0.05$  for all). Conclusions Coronary revascularization and control of high risks are the key points for the treatment of elderly CHD in China.

#### **ALTERATIONS IN BODY COMPOSITION WITH AGING AND CONNECTIONS TO DISEASES AND MORTALITY**

N. Barzilay, *Albert Einstein College of Medicine, Bronx, New York*

Numerous previous studies in humans shows that mortality risk according to body mass index (weight corrected for height; BMI), is lowest in the overweight range. It holds true for age, gender and race, and therefore seems biologically universal. Since the efficacy of caloric restriction (CR) in rodents (and probably in primates) varies widely depending upon their genetic background, the question is if human's genetic background is most protective from aging at an overweight range of BMI. However, a major missing link, that may be even more profound in oriental populations, is the role of abdominal obesity or visceral fat as the consequence of aging and the risk for diseases. it is

generally accepted that subcutaneous adipose tissue is the 'good' fat while abdominal, visceral, obesity is the risky one. Thus BMI may not capture the biology associated with obesity or its prevention by diet.

#### **CURRENT CLINICAL PROBLEMS OF OLDER AMERICANS – COGNITIVE DECLINE & METABOLIC DISORDERS (DEMENTIA AND DIABETES)**

R. Besdine, *Brown University, Providence, Rhode Island*

Healthcare for American elders is dominated by chronic disease; population health, the key to financial survival, demands we address interventions that broadly benefit independence and quality of life. Dementia and diabetes are prominent and devastating. Alzheimer disease (AD), the commonest dementia, is a family tragedy. Current estimates are that  $> \text{age } 70$ ,  $\sim 15\%$  of Americans are afflicted (6 million victims), yet we know precious little about prevention or treatment, in spite of decades of research. Lifestyle interventions hold great promise. Health-promoting Mediterranean-style diet; reducing tobacco, alcohol, and salt; and increased physical activity have shown benefit in observational and a few randomized trials. Since stroke has been shown to exacerbate severity of dementia in AD, preventive strategies become paramount (managing hypertension, tobacco, lipids, diet, and exercise). Diabetes mellitus is the most common metabolic disorder of older Americans. The US obesity epidemic, while worst among children, teens, and adults  $< 60$ , also extends to elders. Prevalence and mortality rates have shown little change despite quality metrics required by insurers. Population-based lifestyle interventions, similar to those recommended for AD are essential to improve health of all older Americans. Modifications in transportation, food supply and its regulation, and public space and staffing for physical activity and exercise are all underutilized in the United States. European and some Asian countries have made more progress in these domains. Public policy and research that informs such policy are critical for success.

#### **CLINICAL GERIATRICS ISSUES IN THE US: OVERVIEW AND EXAMPLES**

H.J. Cohen, *Duke University Medical Center, Durham, North Carolina*

With the increase in longevity in the US and China, and our more effective treatment of acute disease, many of these same conditions have become chronic diseases. Moreover there is a tendency for such diseases and conditions to accumulate resulting in what has been called Multimorbidity or Multiple Chronic Conditions (MCC). Designing preventative and treatment strategies that make sense for the individual with MCC is a challenge. The condition of multiple sensory morbidities will be discussed to illustrate this issue. Furthermore even when there is a particular dominant disease, managing it in the context of other MCC which are then seen as Comorbidities, the usual case for older individuals, is also a challenge. The approach to the older patient with cancer will be discussed to illustrate this problem. Ultimately the goal for the treatment of chronic diseases in older people is to optimize the individual's functional status. This involves not only astute medical management but careful assessment of the patient's goals of care. Since the US and China share these common problems, collaborative investigation of these issues has the potential to help all of our patients.

#### **SESSION 1700 (SYMPOSIUM)**

##### **INFLAMMATION AND AGING**

**Chair:** G.E. Taffet, *Medicine-Geriatrics and Cardiovascular Research, Baylor College of Medicine, Houston, Texas, Houston Methodist Hospital, Houston, Texas*

The session will bring researchers studying important aspects of inflammation and aging including potential culprits in the process as well as organs where inflammation may be contributing to damage and the aging process. The overview will bring clinical aspects as well as

hypothesis descriptions that will then be addressed by the three leading investigators. Critically, dysregulation of inflammation in aging leads to potential places to intervene in the aging process.

#### **INFLAMMATORY PHENOTYPE CHANGES IN THE BRAIN WITH ALZHEIMER'S DISEASE AND VASCULAR DEMENTIA**

D.M. Wilcock, *Sanders-Brown Center on Aging, University of Kentucky, Lexington, Kentucky*

Alzheimer's disease (AD) is defined pathologically by the presence of amyloid plaques and neurofibrillary tangles in the brain. Despite advancement in our understanding about AD pathologies, there remains unexplained variability in course, duration and therapeutic response. In frozen brain tissue samples of frontal cortex and cerebellum from the University of Kentucky Alzheimer's Disease Center autopsy cohort, we measured gene expression profiles from age-matched non-demented controls, early-stage AD and late-stage AD cases. We also examined the neuropathological data on these samples and performed analyses of the serum proteins. We performed gene expression analysis for genes categorizing inflammatory states termed M1 and M2. M2 can be further categorized as M2a, M2b and M2c. We also performed ELISA analysis of A $\beta$  proteins on the same brain samples and the serum samples were analyzed for a profile of inflammatory proteins. Striking heterogeneity was found in early AD. Specifically, early-stage AD brain samples indicated polarization toward either the M1 or M2a states when compared to age-matched non-disease control tissue. Where gene expression indicated an M1 state, there was very little expression of M2 markers. By contrast, in the presence of M2a markers, M1 markers tended to be absent. This polarization was only observed in the frontal cortex, unlike the cerebellum, a region not affected in the early stages of AD. Neuroinflammatory polarization occurs early in the course of AD and is a source of variability in the population of AD patients considered for recruitment to clinical trials. It is hoped that assessment of serum proteins as biomarkers to predict the neuroinflammatory state will combine with in vivo animal studies to personalize the therapeutic approach to treatment of AD.

#### **PROSTAGLANDIN-RELATED MUSCLE INFLAMMATION IN OLDER ADULTS: IMPACT OF EXERCISE & COX INHIBITING DRUGS**

T. Trappe, *Human Performance Lab, Ball State University, Muncie, Indiana*

Chronic inflammation in skeletal muscle likely contributes to sarcopenia. Skeletal muscle inflammation is also elicited in extreme exercise conditions in adults and animal injury models. In these conditions, the cyclooxygenase (COX)-derived intramuscular prostaglandins are key regulators of the muscle protein synthesis and breakdown responses. Thus, COX-inhibiting drugs may inhibit intramuscular prostaglandin production and negatively impact the muscle protein turnover responses. In young individuals, cell culture, and animal models this has been confirmed. In older adults performing more typical exercise bouts that effectively treat sarcopenia, this interfering effect of COX inhibitors has not been shown. In fact, in older individuals a substantial enhancement of exercise-induced muscle mass and strength gains has been observed when the inflammatory-related processes regulated by prostaglandins are controlled through COX-inhibition. The mechanisms underlying these findings will be discussed in the context of sarcopenia treatment and COX regulation in other areas of health and disease.

#### **AGING, ADIPOSE TISSUE INFLAMMATION, AND CELLULAR SENEESCENCE**

J.L. Kirkland, *Robert and Arlene Kogod Center on Aging, Mayo Clinic, Rochester, Minnesota*

Cellular senescence refers to the growth arrest that occurs when cells experience potentially oncogenic insults. Senescent cell burden

increases in multiple tissues with aging, including adipose tissue. Adipose tissue chronic, "sterile" inflammation and redistribution occur with aging, together with metabolic dysfunction. Cellular senescence may contribute to this adipose tissue inflammation through the senescence-associated secretory phenotype, or SASP, which involves release of inflammatory cytokines, chemokines, proteases, and growth-promoting and remodeling factors. The SASP potentially explains how senescent cells alter tissue microenvironments, attract immune cells, and contribute to metabolic disease. We found that: 1) senescent cells induce glucose intolerance in vitro and in vivo and 2) eliminating senescent cells ameliorates senescence-related adipose tissue dysfunction and glucose intolerance. We review the mechanisms that induce senescence and the SASP, their associations with age-related adipose tissue dysfunction and diabetes, therapeutic opportunities based on targeting senescent cells and the SASP, and potential paths to clinical interventions.

### **SESSION 1705 (SYMPOSIUM)**

#### **CREATING AND MAINTAINING CONNECTION: QUALITATIVE EXPLORATIONS OF ROMANTIC AND FAMILIAL RELATIONSHIPS**

**Chair:** C. Stelle, *Bowling Green State University, Bowling Green, Ohio*

**Discussant:** K.A. Roberto, *Virginia Tech University, Blacksburg, Virginia*

The life course presents both opportunities and challenges to relationships in later life. Research indicates that social support and connection with others are critical components for physical, mental, and emotional well-being in later life. Relationships must continue to be created and maintained in order to sustain social support networks and adapt to the transitions that occur across the life course. This symposium explores older adults' connections to others and provides an opportunity to examine the dynamics of the development and maintenance of relationships in later life across multiple relationships types and contexts. Stelle and Watson examine the use of online dating as a mechanism to find new romantic relationships in later life. Benson investigates decision-making among couples living apart but together (LAT) and strategies for maintaining LAT relationships. Smith explores the experience of intergenerational ambivalence among older, minority mothers within their relationship with adult children. Tomkins examines kinship families and the complexities of relationships between grandparents and grandchildren. These studies bring together a focus on the importance of social connectedness and how relationships continue to be developed and require maintenance across relationship types, contexts, and time.

#### **LOVE IN CYBERSPACE: SELF PRESENTATION AND PARTNER SEEKING IN ONLINE DATING ADVERTISEMENTS**

C. Stelle, W. Watson, *Bowling Green State University, Bowling Green, Ohio*

Demographic heterogeneity in relationship status indicates more individuals are entering later life as single – divorced, widowed, separated, or never married. Reduced stigma of online dating has resulted in more individuals of all ages using technology as means of finding relationships. The purpose of this study was to examine the use of online dating in later life. Analysis of 200 personal advertisements from men and women ages 60+ from both age specific (ourtime.com) and general (match.com) online dating sites are used to explore how individuals describe themselves and the qualities they seek in a partner. Iterative qualitative content analysis utilizing atlas.ti resulted in the emergence of themes of self-presentation and what the individual is seeking in a potential romantic partner. Results will be discussed around issues of presentation of self and how age and gender are related to the use of online advertisements for seeking out relationships in later life.



## MY CHILDREN; MYSELF: OLDER WOMEN MAKE SENSE OF THEIR DEPENDENT ADULT CHILDREN'S PROBLEMS AND REQUESTS FOR SUPPORT

J.R. Smith, *Graduate School of Social Service, Fordham University, New York, New York*

Later life relationships with adult children are explored, using grounded theory, among a sample of 15 women who identified themselves as having "difficult" adult children. Each was seen 3x. While research has established the utility of ambivalence as a lens to understand the quality of late life intergenerational relationships (Pillemer & Luscher, 2004), this study is the first to apply this lens to a sample of low-income and minority mothers. All the women report negative feelings about their children's need for support, yet all continue to do what they can to help. The study describes the strategies used to respond to their adult children's problems. The data shows the women's feelings of self-blame and shame at their children's lack of self-sufficiency. Variation in the women's negative feelings of self differ with their level of autonomy from the adult child's problems and their previous success in parenting, work and relationships.

## UNDERSTANDING THE RELATIONSHIPS WITHIN KINSHIP FAMILIES: A CLASSIC GROUNDED THEORY STUDY

C. Tompkins, *George Mason University, Fairfax, VA*

Kinship families are increasingly more prevalent across the United States. To gain a better understanding of relationships within kinship families, a classic grounded theory (CGT) research methodology was used. In-depth unstructured interviews with members of 15 kinship families were conducted. As a result of rigorous comparative analysis, the following three interrelated categories of factors that contribute to complexity in kinship caregiving were found to make up the resulting theory, Understanding Compounding Complexity: situational, relationship and emotional complexity. Complexity increases as situational, relationship and emotional complexity interact, leading to compounding complexity and the need to engage in behaviors to survive the situations. Challenging examples of survival faced by these families will be shared. If survival occurs, will the children come back around and provide care to their kinship caregivers? This question continues to be explored through integrating Attachment theory with Understanding Compounding Complexity theory.

## FROM LIVING APART, TO LIVING-APART-TOGETHER: OLDER ADULTS DEVELOPING A PREFERENCE FOR LAT

J.J. Benson, M. Coleman, *Human Development and Family Studies, University of Missouri, Columbia, Missouri*

This study explores living-apart-together (LAT) relationships among Midwestern men and women between the ages of 60 and 88. Twenty-five men and women completed genograms and unstructured interviews addressing decision-making processes leading to living apart together. Grounded theory analyses suggest that deciding to LAT in older adulthood is a gendered process involving seven contributing factors, including: personal and relational goals, age, health, partner factors, relationship history, historical time, and relationship beliefs. Reconciling relationship beliefs represent the core concept because the data demonstrate that reconciling these beliefs — particularly those surrounding commitment and expectations — is key to understanding the process of how older adults decide to LAT. Participants had varied responses regarding their preference to LAT, ranging from opposing the arrangement, being ambivalent, to championing LAT as a lifestyle choice.

## SESSION 1710 (SYMPOSIUM)

### APPROACHING ALZHEIMER'S DISEASE FROM CELLS TO SOCIETY

**Chair:** R. Thorpe, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

**Discussant:** M.M. Williams, *Texas Tech University, Lubbock, Texas*

Alzheimer's disease (AD) is the most prevalent cause of dementia, accounting for 60-80% of dementia cases and affecting 5.2 million in the United States. Annual direct care costs exceed \$203 billion. In 2012, informal caregivers provided more than 17.5 billion hours of unpaid care with an estimated value of \$216 billion. Nearly 24 million have AD worldwide; the global prevalence is anticipated to quadruple by 2050. Racial and ethnic disparities in AD are numerous: incidence and prevalence, age of onset, delay in diagnosis, inadequate treatment, AD knowledge, and under-representation in research. Effectively addressing the AD epidemic in an aging and increasingly diverse society requires intensification of research efforts across the spectrum of biomedical research from cells to societies. In this symposium we will bring together investigators from each of the GSA sections: Biological Sciences, Health Sciences, Behavioral and Social Sciences, and Social Research, Policy and Practice. The overarching goal is to present an interdisciplinary perspective that will highlight the major challenges in AD research. Experts from each discipline (biological, translational, clinical, and social) will provide a general context for their work and outline some of the key questions in AD research. This format will provide a framework for discussion in which GSA members can appreciate the questions that drive cutting edge AD research and gain insights into how each of the disciplines fit together. The participation of minority investigators is a major consideration in designing this symposium, as is the inclusion of minority specific elements in the individual presentations.

### ALZHEIMER'S DISEASE: THROUGH THE TAU LOOKING-GLASS

N. Ghoshal, *Neurology, Washington University, Saint Louis, Missouri*

The phenotypes of Alzheimer's disease (AD) and other forms of dementia overlap. Diagnostic accuracy at the molecular level is an emerging science. AD pathology is typified by beta-amyloid plaques and tau tangles. While the amyloid hypothesis has garnered much attention, tau protein is the new focus of research. Tau pathology defines a group of neurodegenerative disorders referred to as tauopathies, including AD and frontotemporal degeneration (FTD). Available blood, spinal fluid, and neuroimaging tests can distinguish AD from other neurodegenerative disorders, but not FTD, which has substantial clinical implications due to differences in treatment and course. Flow cytometry-based tau aggregate fingerprinting assay is an emerging technology that detects tau aggregates with specific antibodies identifying a unique tau aggregate fingerprint that can discriminate among tauopathies at the molecular level. The ability to correctly identify the etiology of clinical symptoms will have enormous impact on diagnosis and treatment for patients with cognitive impairment.

### RACE DISPARITIES IN DEMENTIA PREVENTION TARGETS IN THE UNITED STATES

J.R. Carrión-Baralt, N. Silva-Castro, L.G. Diaz-Logroño, J. Vélez-Egipciano, *Gerontology Program, University of Puerto Rico Medical Sciences Campus, San Juan, Puerto Rico*

In 2013 there were 5.2 million cases of Alzheimer's Disease (AD) in the United States, with direct costs of \$203B. Research suggests that prevalence of dementia may differ significantly between ethnic groups in the United States. Many dementia cases are potentially attributable to modifiable factors, and specific targets and strategies for the prevention of dementia have been proposed. This study sought to compare

the prevalence of some of the most important risk/protective factors for dementia between Whites, African-Americans and Hispanics. We used Behavioral Risk Factors Surveillance System data (2001-2011) to estimate prevalence and analyze longitudinal patterns of these risk/protective factors. In most risk/protective factors, prevalence among Hispanic and African-American populations was significantly higher/lower than among Whites. Longitudinal patterns suggest significant increases in the prevalence of most risk factors. Race- and Culture-specific Public Health prevention initiatives are needed to curb the financial and non-financial costs of dementia in the US.

#### **ALZHEIMER'S DISEASE CAREGIVER'S BENEFIT FROM KNOWLEDGE**

C.B. Scott<sup>1</sup>, O.J. Clay<sup>2</sup>, 1. *Social Work, University of Tennessee Chattanooga, Chattanooga, Tennessee*, 2. *University of Alabama Birmingham, Birmingham, Alabama*

Informal Alzheimer's caregivers experience elevated burden due to the stress associated with the caregiving role. This burden can lead to negative psychological and physical outcomes. Previous literature suggests that greater levels of knowledge related to their family member's disease is linked to better health outcomes, participation in supportive services, and the ability to make appropriate health decisions. This study examined the relationship between Alzheimer's knowledge and caregiver burden. Data were collected from 110 African American and Caucasian informal caregivers. Alzheimer's knowledge was assessed using the Knowledge about Memory Loss and Care Scale (Kuhn et al, 2005). Caregiver burden was measured using the Caregiver Burden Inventory (Norvak & Guest, 1988). There was a significant association between Alzheimer's knowledge and caregiver burden,  $p < .05$ . Specifically, more Alzheimer's disease knowledge was related to lower levels of reporting caregiver burden. These findings underscore the potential benefits of Alzheimer's specific knowledge/educational interventions for this population.

#### **POLICY INNOVATIONS TO SUPPORT PEOPLE WITH ALZHEIMER'S DISEASE AND RELATED DEMENTIAS AND THEIR INFORMAL CAREGIVERS**

B. Hollister<sup>1</sup>, D. Cherry<sup>2</sup>, 1. *University of California, San Francisco, San Francisco, California*, 2. *Alzheimer's Association, Los Angeles, California*

Policy changes implemented as part of the ACA, such as the creation of accountable care organizations and the dual eligible demonstrations present opportunities to change the way health care is delivered to people with Alzheimer's disease and related dementias (ADRD). Many people with ADRD rely heavily on informal care provided by family or friends, but traditional medical models rarely offer the supports and services that these caregivers need. Support through the use of trained care managers and caregiver education can improve the quality of life of both caregivers and patients and can reduce the utilization of health care services or delay institutionalization. The California Department of Aging (CDA), the Alzheimer's Association, and the University of California San Francisco Institute for Health and Aging are working with Cal MediConnect health plans to build dementia capable systems of care for individuals with ADRD enrolled in a Cal MediConnect health and their caregivers.

## **SESSION 1715 (SYMPOSIUM)**

#### **MAY THE SOURCE BE WITH YOU: MOTIVATIONAL SOURCES OF OPTIMIZING HEALTH AND WELL-BEING IN OLD AGE**

**Chair:** T. Sims, *Psychology, Stanford University, Stanford, California*

**Co-Chair:** N. Notthoff, *University of California Berkeley, Berkeley, California*

**Discussant:** S.T. Charles, *University of California Irvine, Irvine, California*

Nearly thirty years ago, Rowe and Kahn (1987) popularized the concept of successful aging. Despite age-related declines in a variety of domains, many adults age successfully by preserving a high level of functioning into late life. Researchers have identified numerous ways in which people are able to age successfully such as maintaining physical health and improving emotional well-being (e.g., Rowe & Kahn, 1997; Carstensen et al., 2011). The accumulating knowledge about successful aging in health and well-being in old age raises the question of why a substantial proportion of older adults are still unsuccessful (Meng & D'Arcy, 2014). The goal of this symposium is to uncover motivational sources that may explain variations in outcomes related to successful aging, drawing on studies of different cultural and situational contexts. Jiang and colleagues explore how age differences in the ability to meet one's affective goals may explain age-related improvements in emotional experience. Yeung and colleagues examine how age differences in the utilization of emotion regulation strategies may give older adults an advantage in the workplace when responding to interpersonal tensions. Notthoff and Freiberger investigate how general and domain-specific future time perspective and subjective perceptions of health-promoting behaviors are related to older adults' motivation for health and health behavior. Finally, Sims and colleagues investigate end-of-life planning as the ultimate marker of successful aging and how failing health may prevent preparation even when time is perceived as limited. Together, these studies highlight tangible points of intervention to motivate successful aging across a variety of contexts.

#### **"I WOULD WALK 500 MILES": VIEWS OF TIME AND EXERCISE SHAPE HEALTH MOTIVATION AND BEHAVIOR IN OLD AGE**

N. Notthoff<sup>1</sup>, E. Freiberger<sup>2</sup>, 1. *Institute of Personality and Social Research, University of California, Berkeley, Berkeley, California*, 2. *Friedrich-Alexander University Erlangen-Nürnberg, Erlangen, Germany*

The general influence of perceived future time horizons on motivation and behavior has been well documented. We examined whether an age-related limited general future time perspective (FTP) is associated with a reduced health- and exercise-related future time perspective (TPQE) as well as how FTP and TPQE are related to health-related motivation (HRM) and to health behavior (walking). We measured FTP, TPQE, HRM, and walking in 59 older adults 61 to 95 years ( $M = 75.79$ ). Older age was associated with lower FTP ( $r = -.508, p < .001$ ), but not TPQE or HRM. Only TPQE was related to HRM ( $B = .06, SE = .02, p < .001$ ). However, neither TPQE nor HRM were related to walking. We will consider to what extent walking is perceived as a health promoting physical activity and discuss the relevance of our findings for formulating health and exercise recommendations for older adults.

#### **HONG KONG CHINESE REGULATE ACTUAL AFFECT BASED ON IDEAL AFFECT**

D. Jiang<sup>1</sup>, H. Fung<sup>1</sup>, T. Sims<sup>2</sup>, J.L. Tsai<sup>2</sup>, 1. *Psychology, Chinese University of Hong Kong, Hong Kong, Hong Kong*, 2. *Stanford University, Stanford, California*

Affect valuation theory argues that people regulate their actual affect based on the feelings that they value, i.e. ideal affect. To further test this

hypothesis, this study examined the longitudinal relationship between ideal and actual affect using an experience sampling study over a 7-day period. Among 321 Hong Kong Chinese aged from 18 to 89 years ( $M=47.64$ ,  $SD=21.66$ ), we found that Time 1 (T1) ideal high-arousal positive affect (HAP; e.g., enthusiastic and excited) significantly predict Time 2 (T2) actual HAP, and the magnitude of this correlation was greater in older adults than younger adults. T1 ideal low-arousal positive affect (LAP; e.g., calm and peaceful) significantly predicted T2 actual LAP, and at the same time, T1 actual LAP also predicted T2 ideal LAP. The magnitude of these correlations slightly decreased among participants older than 40 years. These findings provide insights on emotion regulation process among Hong Kong Chinese.

#### **AGE VARIATIONS IN EMOTIONAL AND BEHAVIORAL RESPONSES TO DAILY INTERPERSONAL TENSIONS AT WORK**

D. Yeung<sup>1</sup>, H. Fung<sup>2</sup>, D. Chan<sup>2</sup>, 1. *City University of Hong Kong, Hong Kong, Hong Kong*, 2. *The Chinese University of Hong Kong, Hong Kong, Hong Kong*

This paper compares younger and older Chinese employees' emotional and behavioral responses to interpersonal tensions in the workplace. A sample of 150 managerial and executive employees completed an online daily diary study which lasted for 15 working days. Participants reported the experiences of negative and positive events at work. Among them, 139 employees reported at least one interpersonal tension during the sampling period. Preliminary analyses showed that when there was an interpersonal tension, older employees reported more positive ( $B = .019$ ,  $SE = .005$ ,  $p < .001$ ) but fewer negative emotions ( $B = -.019$ ,  $SE = .005$ ,  $p < .001$ ) relative to their younger counterparts. Moreover, there was an age-related decrease in the use of active and destructive conflict strategies while an age-related increase of passive strategies to handle the workplace tensions.

#### **HEALTH STATUS MODERATES THE ROLE OF FUTURE TIME PERSPECTIVE IN END-OF-LIFE PLANNING**

T. Sims<sup>1</sup>, L.L. Carstensen<sup>1</sup>, M.K. Goldstein<sup>1,2</sup>, 1. *Psychology, Stanford University, Stanford, California*, 2. *VA Palo Alto Health Care System, Palo Alto, California*

End-of-life planning may benefit well-being by alleviating physical and emotional pain for individuals and their loved ones. According to socioemotional selectivity theory, as people perceive time as limited, they are more likely to make decisions that enhance social and emotional well-being. Thus, having a limited future time perspective (FTP) may increase the likelihood of end-of-life planning. In two separate studies of older adults, using distinct measures of FTP and health, we found a significant interaction between FTP and health status for end-of-life planning,  $ps < .05$ . Among older adults in better health, limited FTP predicted a higher likelihood of having an advance directive ( $z = 2.53$  and  $3.59$ ). However, those in poorer health did not show this association ( $z = -0.37$  and  $0.43$ ), indicating that poor health may interfere with regulatory goals to enhance well-being. Findings suggest that emphasizing socioemotional benefits of end-of-life planning may be ineffective for older adults in poor health.

### **SESSION 1720 (SYMPOSIUM)**

#### **LIFE TRANSITION AND ITS IMPLICATION AMONG CHINESE OLDER ADULTS**

**Chair:** L. Xu, *UT-Arlington, School of Social Work, Arlington, Texas*

**Co-Chair:** Y. Li, *San Diego State University, School of Social Work, San Diego, California*  
**Co-Chair:** I. Chi, *University of Southern California, School of Social Work, Los Angeles, California*

Important life transitions such as loss of spouse or loss of children have significant impact on psychosocial well-being on older adults.

Older adults rely on various supports to help them cope with the loss and make the transition successful. However, Chinese older adults' experience is less known and being studied before. Authors in this symposium took the initiative to systematically examine the life transition experience and understand how such transition affected older adults psychologically and physically. Using national representative data, Li, Xu, Min and Chi found that older adults who could maintain similar level of social participation before and after loss of spouse benefited most from such participation and reported significantly higher life satisfaction compared with those who decreased their social participation. In another paper using the same national representative data, Min, Li, Xu and Chi found that widowhood was associated with life satisfaction differently between men and women. Such differences were mainly due to the gendered mechanisms linking widowhood and life satisfaction, particularly because of the caregiving strain experienced for men and financial strains encountered by women after loss of spouse. Compared with older adults who lost their spouse, loss of children in old age could be even more heartbreaking, especially among older adults who had only one child due to the one-child policy implemented in late 1970s in China. Using a unique dataset collected among 201 older adults who lost their only child, Pan, Liu and Li used revealed that over 90% of those older adults experienced depression. They also found that the reason of death (i.e. accident) was strongly correlated with depression regardless of the length of the child's death. In the last paper in this symposium, life course perspective was applied to examine the long-term effect of early life experience on multiple health outcomes among Chinese adults aged 45 and over. Using 2011 survey data of the Chinese Health and Retirement Longitudinal Study (CHARLS), Zhang, Liu and Li found that childhood health, father's education and growing up in rural area were related to late-life health.

#### **SOCIAL PARTICIPATION AND LIFE SATISFACTION AMONG WIDOWED OLDER ADULTS IN CHINA**

Y. Li<sup>1</sup>, L. Xu<sup>2</sup>, J. Min<sup>4</sup>, I. Chi<sup>3</sup>, 1. *San Diego State University, School of Social Work, San Diego, California*, 2. *UT-Arlington, School of Social Work, Arlington, Texas*, 3. *University of Southern California, School of Social Work, Los Angeles, California*, 4. *University of Southern California, School of Gerontology, Los Angeles, California*

**Objective.** This study examines changes in social participation following spousal loss and how such changes affect life satisfaction among older adults in China. **Methods.** Two-wave nationally representative data from China were analyzed to explore changes in social participation after spousal loss and life satisfaction. A total of 6,569 older adults aged 60 and above from 16 provinces in China were interviewed in both 2000 and 2005. **Results.** Older Chinese adults who remain married reported the highest level of participation in both waves, followed by those became widowed during the surveys. The largest increase in social participation occurred among those who became widowed, whereas the largest decrease of social participation occurred among those who remained widowed. Higher levels of social participation at baseline were related to higher levels of life satisfaction. Increasing or maintaining the level of social participation was related to higher levels of life satisfaction. This study also found that participants who became widowed and maintained their social participation reported higher life satisfaction compared with those who became widowed and decreased their social participation. **Discussion.** Our study findings suggest a positive effect of social participation on life satisfaction in general, as well as an especially salient effect when older adults were coping with spousal loss but maintained consistency in their social participation.

## DEPRESSION OF OLDER PARENTS WHO LOST THEIR ONLY CHILD IN CHINA

X. Pan<sup>2,1</sup>, J. Liu<sup>1</sup>, L. Li<sup>1</sup>, 1. *Southwest University, Chongqing, Chongqing, China*, 2. *University of Michigan, Ann Arbor, Michigan*

Over one million one-child families had lost their only child by 2012 in China and the population of the elders who lost their only child will continue to swell in the near future. To date, no study has been conducted to investigate emotional well-being of this population. This study explored how health status, social support, and reason of child's decease influence depression in the child-deceased elders using the data collected from 201 child-deceased elders living in a southwest prefecture of China. In the sample, over 90% child-deceased elders were depressed. The regression results show that poor or very poor health, less social support and child's decease in accident were significantly associated with higher level of depression. The findings suggested the necessity of exploring psychological well-being of child-deceased elders and importance of developing interventions to assist these elders obtain social support and cope with the trauma of losing child in accident.

## EXPLORING THE DIFFERENT MECHANISMS LINKING WIDOWHOOD AND SUBJECTIVE WELL-BEING BETWEEN MEN AND WOMEN AMONG CHINESE OLDER ADULTS

J. Min<sup>1</sup>, Y. Li<sup>2</sup>, L. Xu<sup>3</sup>, I. Chi<sup>1</sup>, 1. *Davis School of Gerontology, USC, Los Angeles, California*, 2. *San Diego State University, San Diego, California*, 3. *University of Texas at Arlington, Arlington, Texas*

It has been known that widowhood has differential health impact on men and women in Western literature. Gendered mechanism linking widowhood to health outcomes has been proposed to explain such differences: financial strain for women but social relationships for men. However, research among Chinese older adults showed inconsistent results on the gender differences in the effect of widowhood on health. Moreover, little evidence is available about what the linking mechanisms are and whether the mechanisms differ by gender. Using nationally representative data in China, this study examined the association of widowhood and life satisfaction and tested whether the relationship differs by gender. We identified relating mechanisms and examined how they moderated the association between widowhood and life satisfaction between men and women differently. We found a significant gender difference and financial strain was an important factor which explained this difference in the association between widowhood and life satisfaction ( $B=.042, p<.01$ ).

## EARLY LIFE EXPERIENCE AND HEALTH IN MID AND LATE LIFE

Z. Zhang<sup>1</sup>, J. Liu<sup>2</sup>, L. Li<sup>2</sup>, 1. *Sociology, Michigan State University, East Lansing, Michigan*, 2. *University of Michigan, Ann Arbor, Michigan*

There is limited research on the association between early life experience and adult health in developing countries. Drawing on data from the 2011 survey of the Chinese Health and Retirement Longitudinal Study (CHARLS), we investigate the long-term effects of early-life conditions on multiple health outcomes among Chinese adults aged 45 and older. Our preliminary results show that father's education, growing up in rural area, and self-reported childhood health are associated with the risk of functional limitations, ADL disability, and IADL disability, net of age, gender and marital status. After controlling for adulthood educational achievement, we find that the effects of father's education and growing up in rural area on late-life health are reduced substantially, but the effects of childhood health change very little. We plan to continue to explore how other adulthood SES indicators and health behaviors mediate the relationship between early life experience and late-life health.

## A STUDY ON THE TIME FOR THE FIRST VISUAL ACUITY EXAMINATION AFTER SENILE CATARACT OPERATION

J. Liu, *Ophthalmology, Peking University People's Hospital, Beijing, China*

**Purpose:** The purpose is to determine the correlation between visual acuity (VA) outcome and examination time after phacoemulsification and intraocular lens (IOL) implantation, to emphasize the importance of opportunity in evaluating VA outcome. **Design:** Retrospective, comparative case series. **Method:** 100 eyes with 100 senile cataract patients were included in the trial. Visual acuity was marked in four different times in first post-operative day by masked, certified examiner. **Result:** 0 minutes after dressing (group0), mean VA is  $0.785\pm 0.206$ . 10 minutes after dressing (group10), mean VA is  $0.960\pm 0.182$ . 30 minutes after dressing (group30), mean VA is  $0.928\pm 0.152$ . 60 minutes after dressing (group60), mean VA is  $0.931\pm 0.159$ . And after 30 minutes later, VA has become stable and statistical analysis was not significant ( $P>0.05$ ). **Conclusion:** The study indicates that satisfactory visual acuity results are achieved 30 minutes later after dressing. Visual acuity fluctuates in the first day after phacoemulsification and intraocular lens (IOL) implantation.

## SESSION 1725 (SYMPOSIUM)

### KEY CHARACTERISTICS OF SOCIOECONOMIC POSITION ACROSS THE LIFECOURSE IN RELATION TO HEALTH AND FUNCTIONING IN OLD AGE

**Chair:** M. Huisman, *LASA, VU medical center, Amsterdam, Netherlands, VU University, Amsterdam, Netherlands*

**Discussant:** C. Mendes de Leon, *University of Michigan, Ann Arbor, Michigan*

Social factors, like socioeconomic position (SEP), often are crucial fundamental causes of morbidity and mortality. A full understanding of the influence of SEP on health and wellbeing in old age requires data from studies addressing various parts of the lifecourse. The purpose of this symposium is to showcase four different studies, using data from various cohort studies on aging, investigating key characteristics of socioeconomic position (SEP) and their impact on health and functioning in old age. Key characteristics of SEP in this symposium include aspects of parental SEP in addition to own SEP, education level, and cumulative impact of income and income stability. The importance of these characteristics for the health and wellbeing of older adults is investigated using multiple outcomes, spanning different phases of the disablement process: multimorbidity; functional limitations, accelerated cognitive decline; and active aging. Presenters will touch upon the following research questions: Do measures of cumulative income and income variability predict multimorbidity in old age, beyond one-time measures of income? Is there heterogeneity in the effect of education on functional limitations? Does education level influence the timing of onset of cognitive and/or the acceleration of cognitive decline? And through which pathways does childhood SEP influence active ageing? Data shall be presented from studies that have been conducted in the United States, Europe and India.

### SOCIOECONOMIC INEQUALITIES IN SUCCESSFUL AGING: A LIFE COURSE PERSPECTIVE

A. Kok<sup>1,2</sup>, M.J. Aartsen<sup>2</sup>, D.J. Deeg<sup>1</sup>, M. Huisman<sup>1,2</sup>, 1. *Epidemiology & Biostatistics, VU University Medical Centre, Amsterdam, Netherlands*, 2. *VU University Amsterdam - Sociology, Amsterdam, Netherlands*

Drawing on Cumulative Advantage/Disadvantage Theory, this paper investigates the impact of socioeconomic pathways through childhood and adulthood on subsequent successful aging trajectories. Data are from participants aged 55-85 in 1992 in the nationally representative Longitudinal Aging Study Amsterdam (LASA). Individuals' scores on a "Successful Aging Index" were based on 16-year longitudinal

trajectories in 9 indicators of physical, cognitive, emotional, and social functioning. These indicators reflected the WHO-definition of ‘active ageing’. Structural Equation Modeling showed that more socioeconomic adversity throughout the life course predicted lower scores on the Successful Aging Index. The impact of adulthood socioeconomic position on successful aging was partly mediated by social network size and chronic diseases. Moreover, significant indirect effects of childhood via adulthood socioeconomic position on successful aging were found. This suggests that even socioeconomic circumstances during childhood impact the quality of aging by shaping the subsequent accumulation of advantage or disadvantage throughout the life course.

### **EDUCATIONAL INEQUALITIES IN AGING-RELATED DECLINES IN FLUID COGNITION AND THE ONSET OF DEMENTIA**

S. Clouston, *Preventive Medicine, Stony Brook University, Stony Brook, New York*

Educational attainment is associated with healthy aging and incident disease; however, the role of education in cognitive aging and incident cognitive pathology is unclear. Data come from the Health and Retirement Survey, and the Longitudinal Aging Study of Amsterdam. Multilevel pathology models were used to examine the influence of education in early life on level and change in fluid cognition and the onset of cognitive pathology late in life. Education was associated with an increase in baseline cognition, a delay in the onset of cognitive pathology, and a slower pre-decline rate of cognitive aging. The rate of decline in fluid cognition was not associated with educational attainment. Delaying dementia substantially improves quality of life and reduces the burden of disease. Our results support the theory that higher educational attainment is associated with better baseline functioning, healthier cognitive aging, and delays in the onset of cognitive pathology.

### **EDUCATIONAL INEQUALITIES IN FUNCTIONAL LIMITATIONS AMONG OLDER ADULTS IN INDIA: EXPLORATION OF CAUSAL EFFECT HETEROGENEITY**

T. Bhatta<sup>1</sup>, J. Kelley-Moore<sup>1</sup>, J.M. Albert<sup>2</sup>, *1. Sociology, Case Western Reserve University, Cleveland, Ohio, 2. Case Western Reserve University, Department of Epidemiology & Biostatistics, Cleveland, Ohio*

Despite considerable attention to education-specific health inequalities, few studies explicitly model life course processes that contribute simultaneously to both educational attainment and later-life health outcomes. Overlooking such selection processes makes it impossible to isolate the independent effect of education. Grounded in a counterfactual framework and utilizing WHO Study on Global Ageing and Adult Health (N=7,150), we employ an inverse probability weighting approach to document the effect of education on functional limitations among Indian adults ages 50+ years and also explore potential heterogeneity in the effect of education. Our findings reveal that there is a positive effect of education on physical functioning, although the magnitude of the effect diminishes to non-significance at higher levels of education. Unlike previous studies on causal effect heterogeneity, that have observed additional health benefit for educated individuals with lower propensity to receive education, we do not observe heterogeneity in the effect of education on functional limitations.

### **PATTERNING OF LIFECOURSE SOCIOECONOMIC EXPERIENCES AND MULTIMORBIDITY BURDEN IN U.S. ADULTS**

V. Johnson-Lawrence<sup>1</sup>, A. Zajacova<sup>2</sup>, *1. PHHS, Univ of Michigan-Flint, Flint, Michigan, 2. University of Wyoming, Laramie, Wyoming*

Multimorbidity is an increasingly prevalent public health problem, especially among underserved populations. Fundamental gaps remain in our understanding of multimorbidity burden, particularly in the context of lifecourse socioeconomic patterns. Cumulative impacts and stability

of different economic dimensions may be more important indicators of lifecourse economic circumstances. This study uses data from the Panel Study of Income Dynamics (1989-2011, n=5691) to estimate models of multimorbidity as a function of lifecourse socioeconomic patterns measured by cumulative income, income instability (variation), and cumulative wealth. Preliminary findings suggested that higher cumulative income (per \$1000;  $b=-0.002$ ,  $SE=0.00006$ ,  $p<.01$ ) and greater wealth ( $b=-0.06$ ,  $SE=0.01$ ,  $p<.01$ ) were associated with decreased multimorbidity over the lifecourse, net of single point-in-time measures. Cumulative economic well-being is a critical dimension of lifecourse economic circumstances that may put adults at an increased risk for multimorbidity. Studies that only use one-time measures of income may be underestimating the economic impacts on health.

## **SESSION 1730 (SYMPOSIUM)**

### **REMINISCENCE AND ORAL HISTORY: CONNECTING INDIVIDUALS, COMMUNITIES, AND SOCIETY**

**Chair:** M.B. Ligon, *Behavioral Sciences, York College of PA, York, Pennsylvania*

**Discussant:** T.W. Pierce, *Radford University, Radford, Virginia*

Connectedness is at the heart of reminiscence—recalling and connecting past experiences, evaluating and connecting the past to the present, sharing and connecting the life of one human being to another. In congruence with this year’s conference theme, “Making Connections: From Cells to Societies,” this symposium will highlight current research in the field of reminiscence and provide pragmatic models for implementing programs that can benefit and connect individuals, communities, and society. The first presentation highlights the functions and value of reminiscence for nursing home residents. Findings indicate that residents reminisce to maintain intimacy and social bonds and to teach others. The functions and value of reminiscence for nursing home staff members are discussed in the second presentation. Staff members utilize reminiscence to help residents see meaning in life. The third presentation describes results from qualitative interviews, structured around a reminiscence film-making protocol, with older adult master gardeners. Implications of results will be addressed within lifespan theories of consistency and change. The fourth presentation examines outcomes of an intergenerational oral history project in which college students were randomly assigned to either interview a familiar elder through their own contacts or an unfamiliar elder recruited by researchers. Quantitative analysis reveals that positive shifts in students’ attitudes toward older adults and the aging process occurred. While reminiscence-related activities take many forms and are used in a variety of settings for divergent purposes, these presentations highlight that the benefits of such activities and the connections made are often profound.

### **THE FUNCTIONS AND VALUE OF REMINISCENCE FOR NURSING HOME RESIDENTS**

L. Henkel, A. Kris, S. Birney, K. Krauss, E. Peters, M. Goguen, *Fairfield University, Fairfield, Connecticut*

This study examined the functions of reminiscence in a nursing home setting, focusing on residents’ perceptions of the frequency and value of thinking about and sharing their past experiences with family, fellow residents, and healthcare providers. Nursing home residents (n=23) reported engaging in reminiscence to maintain intimacy, nurture social bonds, and teach others. They were less likely to reminisce for the purpose of preparing for death or to solve problems. Residents were most likely to reminisce alone, and reported engaging in and enjoying reminiscence with family more than with fellow residents. Although they enjoyed sharing personal experiences with healthcare providers, this was rarely done and they expressed desire for more opportunities to do so. Correlational analyses revealed that residents engaged in reminiscence to serve different purposes (e.g., emotion regulation, making

sense of the present, and reducing boredom) in relation to their levels of morale, depression, and loneliness.

### THE FUNCTIONS AND VALUE OF REMINISCENCE FOR NURSING HOME STAFF

A. Kris, L. Henkel, K. Krauss, S. Birney, *Fairfield University, Fairfield, Connecticut*

The purpose of this study was to understand the perceived value and functions of reminiscence among nursing home staff (both RN's and CNAs). A sample of 17 nurses reported that while they did not feel there was value in sharing memories of their own personal past, they did however feel there was great value in having the residents share their own memories. The majority of nurses reported that they engaged in reminiscence activities with residents occasionally or often (82.3%), and found those interactions moderately to very enjoyable (76.5%). The most important functions of reminiscence as reported by the nurses were to a) help residents see meaning in life b) ease conversation and to c) reduce boredom. On the other hand, they rarely engaged in reminiscence activities to a) help residents remember loved ones, b) lessen resident fears of death or to c) aid residents in preparing for death.

### CONSTANT GARDENERS: REMINISCENCE IN OLDER ADULT MASTER GARDENERS

L. Yancura, *University of Hawaii at Manoa, Honolulu, Hawaii*

Continuity theory (Atchley, 1989) proposes that older adults uphold continuity in their lives by maintaining similar behaviors and activities across the lifespan. This study describes results from in-depth qualitative interviews with four older adults enrolled in a community master gardener program. Interviews were structured around a reminiscence film making protocol which prompted them to recall their memories of plants and gardening at four earlier points in the lifespan: childhood, adolescence, young adulthood, and early adulthood. Results showed both continuity and change in how they viewed gardening throughout their lives. Passion for gardening was a constant theme in all of their narratives, although the meaning it served varied over time. Findings will be illustrated with clips and quotes from the gardeners' films.

### DON'T TALK TO STRANGERS? FINDINGS FROM AN INTERGENERATIONAL ORAL HISTORY PROJECT

M.B. Ligon<sup>1</sup>, K. Ehlman<sup>2</sup>, G. Moriello<sup>3</sup>, *1. Behavioral Sciences, York College of PA, York, Pennsylvania, 2. University of Southern Indiana, Evansville, Indiana, 3. The Sage Colleges, Troy, New York*

Research indicates that oral history projects contribute to positive shifts in attitudes toward older adults and aging among gerontology students. This exploratory study examines whether attitudinal shifts are more dramatic in students who interview elders they do not know as compared to students who interview a family member or close friend. Undergraduate gerontology students (n=87) conducted three 60-minute interviews with either a familiar elder through their own contacts ('family group') or an unfamiliar elder recruited by researchers ('stranger group'). Initial findings indicate there were significant within group differences from pretest to posttest on the At-O-A: Attitude toward Older Adults Scale (p<0.001) and Attitude toward Aging Scale (p<0.001), and Anxiety About Aging Scale (p<0.001) but not on the Fraboni Scale of Ageism (p=0.11). Differences between the "Stranger" and "Family" groups were not statistically significant; therefore, both methods of interviewee selection lead to equal shifts in attitudes toward older adults and aging.

## SESSION 1735 (SYMPOSIUM)

### NEW RISKS IN RETIREMENT

**Chair:** S.A. Vickerstaff, *SSPSSR, University of Kent, Canterbury, Kent, United Kingdom*

Until relatively recently retirement seemed to have become a 'settled part of life' to quote Laslett (1989). For the first time in human history large numbers of people in the Global North could expect to enjoy a period of time 'in retirement' and for some a considerable period of relative wealth, health and ease. Now global economic turbulence and the 'certainty of uncertainty' are eroding confidence in such outcomes. The processes of individualisation associated with the risk society have broken up standard biographies (Beck, 2000) and what Moen refers to as: "the taken for granted, scripted exits of earlier generations" (2012); people feel that they have to construct their own pathways and transitions into retirement and in doing so face new responsibilities and risks. This paper considers the implications of these developments for how we think about and define retirement in a new age of precarity.

### WORKERS OVER 65 IN THE UK: THE NEW 'PRECARIAT'?

D. Lain<sup>1</sup>, W.A. Loretto<sup>2</sup>, *1. University of Brighton, Brighton, United Kingdom, 2. University of Edinburgh, Edinburgh, United Kingdom*

UK employment over age 65 is currently rising, against a background of declining defined-benefit pension coverage, rising state pension ages and the abolition of mandatory retirement. Standing (2011) argues declining pensions mean older people are increasingly joining the 'precariat', by taking jobs lacking employment, job and income security. We examine how employment at age 65-69 has changed between 2001, 2008 and 2013 using the UK Labour Force Survey. We find that employment increases, for both employees and the self-employed, are concentrated amongst those with long held jobs. We also see a reduction in the share of workers in lower-level service jobs between 2001 and 2013, and a declining proportion of 65-69 year olds working part-time. We finish the paper by explaining why in the UK context we think a different form of precarity may develop - that of people feeling trapped in their jobs.

### EXTENDING WORKING LIFE IN IRELAND: INSECURITY AND PRECARIOUSNESS

A. Ni Leime, A. Callan, N. Duvvury, *Irish Centre for Social Gerontology, NUI, Galway, Galway, Ireland*

Demographic ageing has been identified as a major policy challenge in western countries (OECD, 2012). Ireland, despite having a younger population than many other EU countries, has been quick to adopt policies designed to extend working life. State pension age, now 66, will increase to 68 by 2028. Other policies introduced include a requirement for longer years' participation in the labour market to qualify for the contributory state pension, a measure that is likely to affect those in precarious employment, including carers, cleaners and construction workers (Duvvury et al, 2012). The implications of such policies need to be examined. The severe economic recession in Ireland means there is little employment available for older workers who will not now receive the state pension until later than expected. This paper adopts a lifecourse perspective to explore the implications of extended working life policies for older Irish workers particularly those in precarious employment.

### OLDER WORKERS AND EXTENDING WORKING LIFE: THE CREATION OF A NEW PRECARIAT?

C. Phillipson<sup>1</sup>, S.A. Vickerstaff<sup>2</sup>, D. Street<sup>3</sup>, *1. The University of Manchester, Manchester, United Kingdom, 2. University of Kent, Kent, United Kingdom, 3. University of Buffalo, New York, Virginia*

In this book The Precariat – the New Dangerous Class, Guy Standing (2011) reviewed evidence for greater insecurity in the workplace with pressures arising from short-term employment, high levels of youth unemployment, and marginalisation facing disabled workers and others

groups. In this Symposium we examine the relevance of the ‘precarit thesis’ for understanding the lives of older workers, drawing on a variety of conceptual frameworks and international data sets. The discussion will be placed in the context of what has been termed the ‘individualisation of risk’ (Vickerstaff and Cox, 2005), reflected in changes in the labour market associated with the erosion of jobs for life and reliance on private pension arrangements. For older workers these changes are coming in the context of pressures, across all OECD countries, to extend working life and raise pension ages. The Symposium will provide a critical assessment of the relevance of the ‘precarit’ thesis for understanding the problems facing older workers as well as indicating new avenues for research and public policy. The papers will, first, outline the historical and theoretical arguments which might suggest increased insecurity within the labour market; second, this thesis will be examined through national (UK and Ireland) and international (OECD) data; third, contributors will assess the policy implications of extending working life in the context of more complex transitions from work to retirement. Finally, the discussant will provide an overview of the key themes identified in the session, outlining an agenda for future debates in the field of work and retirement.

### **CAN WORKING LIVES BE EXTENDED? PROBLEMS AND PROSPECTS FOR WESTERN ECONOMIES**

C. Phillipson, *School of Social Sciences, University of Manchester, Manchester, United Kingdom*

Changing patterns of work and retirement raise important questions for social policy. A key issue concerns a legacy of the 20th Century, the idea of retirement as a major part of the life course. The acceptance of early retirement in the 1970s and 1980s accelerated the growth of post-work lifestyles, consolidated by the cohort of ‘first wave’ baby boomers. Both aspects are now in collision with the drive to raise pension ages. This paper reviews trends in later working across OECD countries, highlighting the emergence of new forms of insecurity facing older workers. The discussion links these to the impact on employment of de-industrialisation and the post-2008 recession. The paper argues that extending working life is likely to create a range of social, health and income inequalities. The paper provides a critical examination of the extent to which these are illustrative of precariousness as the new reality for older workers.

## **SESSION 1740 (SYMPOSIUM)**

### **GLOBAL PERSPECTIVES ON SOCIAL AND HEALTH POLICY FOR AN AGING POPULATION**

**Chair:** N. Keating, *Human Ecology, University of Alberta, Edmonton, Alberta, Canada*

**Discussant:** J.R. Beard, *World Health Organization, Geneva, Switzerland*

Managing population aging has become a preoccupation worldwide. Societal responses have been diverse, arising from differences in rates of population aging, priorities in apportioning national resources, and policy traditions. There are discourses across nations about the relative responsibilities of governments, families, individuals and civil society in supporting older adults; but there is no agreement about sustainable solutions. Yet disparities in the welfare of older people continue apace. In this symposium we address gaps between policy discourses and programs, and in knowledge of needs and resources of older persons and the best policy levers to address them. Objectives are to: 1. propose a critical framework for the development of a global policy agenda to enhance liveability of older persons 2. address the place of civil society in buffering the individualization of financial risk in old age 3. illustrate the place of governments in developing a national social policy to support older persons In the first presentation, Beard speaks to the need for societal responses to population ageing in light of major knowledge and policy gaps, the absence of a global vision on how to fill them, and lack

of agreement on cost effective strategies for government. Choi evaluates the national policy framework in Korea which has goals of creating an age-integrated social system and ensuring that older persons benefit from the country’s rapid economic development. Finally, Pereira and Angel examine the role of civil society organizations in the context of movement away public pension systems for older people.

### **GLOBAL POLICY AND INDIVIDUAL CAPABILITY**

J.R. Beard, *World Health Organization, Geneva, Switzerland*

Promoting healthy and active ageing, and building systems to address health needs of older adults, are core to societal responses to population ageing. Yet there are major knowledge and policy gaps, no agreed global vision on how to fill them, no agreement on cost effective strategies for government, and many decisions are made on the basis of outdated stereotypes. The World Health Organization has therefore identified ageing and health as an organizational priority and initiated a comprehensive body of work to guide policy development globally. This includes planned publication of the first World Report on Ageing and Health as a resource for policy makers; development of a Global Strategy and Action Plan to build high level government commitment and prioritization; and major projects with governments of Ghana and China to develop evidence informed policy. This presentation will outline how global action can strengthen the capabilities of older people in even the poorest countries.

### **NATIONAL POLICY PERSPECTIVES ON POPULATION AGING IN KOREA**

S. Choi, *Social Welfare, Seoul National University, Seoul, Republic of Korea*

Korean society with 12 percent of older population is expected to be unprecedentedly fast aging in the first half of this century and thus to have 38 percent of older population in 2050. Korean society which was one of the poorest countries after World War II has achieved its GDP per capita of 25,000 US dollars through miraculous economic development. Korean society could be a model to developing countries in social policy development on aging as well as economic development. In this sense this paper, after showing a profile of population aging in Korea, will introduce current national policies on population aging particularly focused on five-year national policy plans begun from 2006 in Korea. Then this paper will address issues in policy perspectives and policy areas on aging, and finally suggest a policy perspective called “age-integrated social system perspective” towards a sustainable aging society.

### **STRAINED SOLIDARITY: POPULATION AGING, CIVIL SOCIETY, AND ELDERCARE IN LATIN AMERICA**

J. Pereira<sup>1</sup>, R. Angel<sup>2</sup>, *1. Universidad Católica del Uruguay, Montevideo, Montevideo, Uruguay, 2. University of Texas at Austin, Austin, Texas*

With the encouragement of international financial institutions, during the 1990s ten Latin American countries either replaced their public pension systems entirely or introduced mixed public and private systems. These reforms were motivated by looming financial pension system crises resulting from rapid population aging. Although perhaps necessary as one part of reform, privatization represents the rejection of the solidarity and redistributive principles upon which the modern welfare state is based. Nor does it directly deal with problems of poverty, income inequality, labor marked informality, and non-coverage common in Latin America. This study investigates the role of civil society organizations, including non-governmental and faith-based organizations, in advocating for and providing services to the elderly in Buenos Aires (Argentina), Montevideo (Uruguay) and Santiago (Chile). It is motivated by the fact that civil society organizations offer the potential of complementing state efforts and bringing a human face to the care of infirm and impoverished elderly individuals.

## SESSION 1745 (SYMPOSIUM)

### HIV AND RESILIENCE: EXAMINING THE ESSENCE AND EFFECT OF LIVING WITH HIV FROM THE EXPERIENCES OF OLDER ADULTS

**Chair:** L.K. Manning, *Division of Human Services, Concordia University Chicago, River Forest, Illinois*

The population of individuals living into older age with HIV is increasing. Next year, it is estimated that 50% of those living with HIV will be over the age of 50. These individuals have a multitude of experiences and unique conditions related to this disease and illness. These increasing numbers of older adults with HIV are due to multiple causes, for instance older adults are living longer due to the advancement of antiviral drugs, lack education regarding HIV prevention and screening. Furthermore, advancements in medications used to treat erectile dysfunction medications has lead to increased sexual activity among older adults. Despite the increasing number of older adults being diagnosed and living with HIV, research on HIV and aging has lagged behind. This symposium features work from leading scholars in the field of HIV and aging. The papers presented here offer empirical and theoretical explorations of HIV and aging. The researchers consider the negative and positive aspects of living into late life with HIV and consider aspects related recovery, growth, development, spirituality, transformation, wellbeing, and the prevention of the disease. Additionally, leading scholars articulate an important and emerging agenda of research for burgeoning scholars in the field of aging.

### AGING WELL WITH HIV: AN EXAMINATION OF RESILIENCE AND STRENGTHS IN A VULNERABLE POPULATION

C.A. Emler<sup>1,2</sup>, C. Furlotte<sup>2</sup>, D.J. Brennan<sup>3</sup>, C. Pierpaoli<sup>4</sup>, 1. *Social Work, University of Washington Tacoma, Tacoma, WA*, 2. *McMaster University, Hamilton, Ontario, Canada*, 3. *University of Toronto, Toronto, Ontario, Canada*, 4. *American University, Washington DC, District of Columbia*

Older adults constitute an increasing proportion of people living with HIV. This qualitative study examines "aging well" among 30 HIV-positive older adults. Methods: Using grounded theory, men and women aged 50+ were recruited in Ontario, Canada. Participants were recruited through AIDS service organizations, clinics and community agencies between February-May 2013. Results: Six themes were identified through consensus by all team members including: 1) Centrality of HIV; 2) Gift of life; 3) Self-Care; 4) Spirituality; 5) Social Connectedness; and 6) Resilience. Participants stated they were not defined by HIV and professed gratitude for a longer than expected life. Social support, as well as traditional and non-traditional spiritual approaches, contributed to well-being. Participants reported self-care and resilience as important factors in overcoming difficult and tragic life events. Implications: Future research should create and test potential intervention strategies for assisting older adults in maximizing wellness as they age with HIV disease.

### INCREASING OLDER ADULTS OPPORTUNITY FOR RESILIENCE THROUGH HIV PREVENTION: PERSPECTIVES FROM PRIMARY CARE PROVIDERS

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An increasing number of older adults are being diagnosed with HIV, as a result of multiple factors. Older adults often lack education regarding HIV and are rarely screened for the disease. HIV education and screening can help older adults avoid HIV infection and also help them obtain prompt treatment if they are HIV+ (i.e., resilience). Health-care providers are in an optimal position to increase HIV prevention

efforts among older adults. The purpose of this research is to explore (PCPs) willingness to increase HIV prevention efforts for older adults in primary care settings and to elucidate recommendations to aid in the process. Data for this study was obtained through interviews with PCPs. The majority of providers found it necessary to increase HIV prevention efforts in primary care settings and suggested strategies to increase HIV prevention. These findings inform future research and interventions aimed at increasing HIV prevention in primary care settings.

### HOW OLDER WOMEN VIEW SEXUAL DECISION-MAKING AND HIV PREVENTION

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Most of what is known about sexual decision-making, condom use, and HIV prevention has been learned from research with adolescents and college students. Older adults are affected by sexually transmitted diseases, including HIV/AIDS, yet little is known about how they are processing information about their sexuality, sexual decision-making, and information about HIV/AIDS. Through semi-structured, in-depth interviews, the narratives of fourteen women between the ages of sixty-five and eighty were examined. Results of this study are organized around the themes of sex and sexuality in later life and HIV awareness and condom use, including that most women feel knowledgeable about HIV and the lack of HIV testing or condom use in this relationship. Trust in partner's honesty and faithfulness was seen as protection against disease. The paper will discuss HIV prevention-education programs and the need for sexual and STI education programs based on the lived experiences of older adults.

## SESSION 1750 (SYMPOSIUM)

### ADVANCES AND CHALLENGES IN ENVIRONMENTAL GERONTOLOGY: AUTOBIOGRAPHICAL PERSPECTIVES

**Chair:** H. Chaudhury, *Gerontology, Simon Fraser University, Vancouver, British Columbia, Canada*

**Co-Chair:** F. Oswald, *Goethe University, Frankfurt, Germany*

**Discussant:** L.N. Gitlin, *Johns Hopkins University, Baltimore, Maryland*

As the field of Environmental Gerontology continues to witness growth with new theoretical insights, richer substantive findings and an increased emphasis on various methods, it is timely to take a self-reflective perspective through the lens of pioneering researchers of this field. This symposium will present a set of conceptually oriented papers with an autobiographical slant from key scholars of this field. Autobiographical perspectives allow us to appreciate the associations, inclinations and motivations between career trajectories, personal interests and circumstantial factors, and intellectual advancements and contributions. Moreover, a purposefully undertaken self-reflection has the scientific potential to shed new insights into the whys and hows of intellectual discoveries and contributions in a creative way. First, Sheila Peace draws from her over 35 years of research experience highlighting the intersection of personal and professional interests with a myriad of research areas ranging from care home to home care. Second, Stephen Golant traces the inspirational roots of his recent "residential normalcy" model to his early work on natural hazards and behavioral geography as a graduate student, and its subsequent growth in the 1970/80s. Third, adopting an auto-ethnographic approach, Graham Rowles presents five emergent substantive-theoretical keys that help understand the meaning of place and aging from his more than 40 years of research with older adults. Finally, with M.M.Baltes and M.P.Lawton influencing his early work, Hans-Werner Wahl discusses the evolution of his research in person-environment dynamics, which encompass home environments, out-of-home mobility, technological environments and life-span processes. Laura Gitlin will serve as the session's discussant.



## FROM CARE HOME TO HOME CARE: A BRITISH WOMAN'S VIEW

S.M. Peace, *Faculty of Health & Social Care, The Open University, Milton Keynes, United Kingdom*

How can a life course perspective contribute to gerontological theory concerning person-environment interaction? As a British woman in her 60s; a researcher for over 35 years, and a social geographer interested in environmental psychology, I address this question. My experience of ageing is personal, familial, domestic and institutional (working as hospital and care home assistants). These encounters led to 1970s doctoral work on ageing in place and moving into social gerontology. Research at home and abroad initiated multidisciplinary work with impact for policy and practice. The 1980s addressed the design and quality of care homes through private lives in public places; the 1990s reflected on residential living, and the 2000s considered environment and identity; intergenerational interaction in public spaces; and the demands of kitchen living. Inspired by key players in this field, my autobiography reveals an eclecticism demonstrating environmental complexity in why we take up opportunities that come our way.

## THE INTELLECTUAL ORIGINS OF RESIDENTIAL NORMALCY THEORY

S. Golant, *Geography, University of Florida, Gainesville, Florida*

My recent theoretical model equates the construct of residential normalcy to older persons occupying places where they are in their residential comfort and mastery zones and have pleasurable, hassle-free, and memorable emotional experiences and feel competent and in control. Failing to achieve residential normalcy, older persons initiate accommodative or assimilative coping strategies. My research on natural hazards and behavioral geography as a M.A. student (1969) in the Department of Geography, University of Toronto initially inspired the environmental gerontology focus of this work. The favorable intellectual environment in the 1970s and 1980s that witnessed the expansion of “environmentally-related” publications in gerontology, environmental psychology, ecological psychology, and geography helped to sustain my interest. A key influence was my PI role (1977-1981) in a NIA program project grant directed by Dr. Bernice Neugarten (Committee on Human Development, University of Chicago), and my investigation of the subjective experiences of a community-residing older population.

## MEANING IN ENVIRONMENTAL GERONTOLOGY: AN AUTOETHNOGRAPHY

G.D. Rowles, *Gerontology, Univ of Kentucky, Lexington, Kentucky*

Contemporary environmental gerontology reflects the interweaving of many lives and ideas in time and space. In this presentation, I employ autoethnography to trace one participant's perspective on the role of specific publications, scholarly debates, international research collaborations, chance encounters and serendipity, in shaping a focus on meaning in environmental gerontology. Accepting the individual as a legitimate focus; expanding definition of lived experience to embrace vicarious environmental engagement; temporally framing experiences of place in relation to a life course; recognizing the motivational imperative of each person's lifelong quest for ‘being in place;’ and “making and remaking place” in response to environmental change, are documented as five keys to understanding the meaning of place. Each theme is illustrated from 40 years of research with older adults in diverse environments. Understand the meaning of place for older adults and its implications for practice and policy has become an essential component of environmental gerontology.

## ECOLOGIES OF AGING AND ECOLOGIES OF AGING RESEARCH

H. Wahl, *Heidelberg University, Heidelberg, Germany*

My deep interest in the role of the environment happened, because I had the privilege to start my career supervised by Margret M. Baltes

between 1984 and 1988. Her social-ecological research made me aware of the context-dependency of aging. A research visit at the Philadelphia Geriatric Center in 1988, coming with intensive interchange with M. Powell Lawton, finally brought me to the physical environment and Powell's 1977 chapter in the Handbook of the Psychology of Aging became a model for my own research. More concretely, I strived to combine environment-relevant person characteristics (vision and cognitive impairment) with a wide understanding of person-environment (p-e) dynamics including home environments, out-of-home mobility, and technological environments since the 1990's until today. More recently, I found it important to simultaneously consider the physical and social environment in aging (SPOT model together with Frieder Lang) as well as integrate p-e perspectives into existing life-span developing models.

## SESSION 1755 (PAPER)

### DISCOVERY EXCHANGE: FAMILIES AND DEMENTIA CARE

#### FAMILY CAREGIVERS' SATISFACTION WITH CARE IN ADVANCED DEMENTIA: THE TESTING OF A CONCEPTUAL MODEL

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Family caregivers' satisfaction with care may be operationalized as a proxy for quality of care. This approach, however, was criticized because satisfaction may be a result of family caregivers' own psychological and sociological characteristics. We examined this assumption using the stress-coping paradigm of Lazarus and Folkman (1984). We hypothesized that family caregivers' primary and secondary cognitive appraisal of and behavioral and emotional coping with caregiving stressors would relate to their satisfaction with care. To this end, primary appraisals were operationalized as family caregivers' evaluation of their relatives' health condition and of the nursing homes' environment; secondary appraisal as their expectations of care and trust in nursing home staff, emotional coping as emotional burden of care and behavioural coping as involvement in care. Structural Equation Modeling partially confirmed our hypothesis and showed in adjusted analyses that family caregivers' (N=214 Israeli caregivers) expectations of care positively influenced their involvement in social activities but negatively their emotional burden of care. Similarly, more trust in professional caregivers was associated with family caregivers' higher involvement in social activities and less emotional burden. Last, family caregivers who were more involved in social activities and experienced less emotional burden were more satisfied with the care. Surprisingly, family caregivers' evaluation of the health condition of their relative did not influence their appraisal and coping of caregiving stressors nor their satisfaction with care confirming the assumption that family caregivers' satisfaction is more than a proxy of quality of care and also defined by their own emotions, needs and experiences.

#### GUILT IN DEMENTIA FAMILY CAREGIVERS: RELATED FACTORS

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Introduction Although guilt feelings are frequently reported by caregivers, the number of studies analyzing this variable is sparse. This work explores the relationships between guilt and variables included in the caregiving stress framework. Method Interviews were done with 454 dementia family caregivers (mean age: 60.62 years; SD: 13.6; 78.4% female). In addition to guilt, sociodemographic variables, functional

status, frequency of memory and behavioral problems of the care-recipient, cognitive reappraisal, rumination, leisure and depressive symptomatology of the caregiver, have been measured. A model has been tested using structural equation modeling. Results Excellent fit of the data to the model has been obtained ( $\chi^2 = 42.89$ ;  $p = .08$ ;  $\chi^2/df = 1.41$ ; IFI = .99; CFI = .99; RMSEA: .03). A 37% of the variance of guilt is explained through the model, and 53% of depressive symptomatology. Being daughter/son, having a higher level of formal education, greater reaction to memory and behavioral problems, higher rumination and less cognitive reappraisal are directly associated with guilt feelings. Other variables, such as frequency of leisure, have an indirect relationship with guilt. Although a strong correlation exists between guilt and depression ( $p < .01$ ), the model suggest that this relationship is not direct, but mediated by, among other variables, the use of rumination. Conclusions The proposed model allows the explanation of an important variance of caregivers' guilt and points to the relevance of some variables as predictors of guilt, which may be targets of interventions aimed to reduce this frequent emotion in caregiving.

### BEYOND RESPITE: THE ROLE OF ADULT DAY SERVICES IN SUPPORTING DEMENTIA CAREGIVERS

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Background: Dementia caregivers are at a higher risk for emotional and physical health problems compared to caregivers for individuals without cognitive impairment. Adult day services (ADS) is the leading provider of community-based care for persons with dementia and their family caregivers. While the capacity of ADS centers to provide caregiver respite is well-documented, little is known about the provision of other forms of dementia caregiver support. Methods: Using the MetLife National Study of ADS, centers that reported dementia in at least 50 percent of participants were selected for this analysis (N = 297). Frequencies and binary logistic regression analyses were run to determine the presence of and factors related to the provision of case management, caregiver education, caregiver support groups, and individual counseling for caregivers. Results: Between 36% and 66% of the ADS programs offered at least one type of dementia caregiver support program. Social worker hours per shift was a significant predictor of case management services (OR = 1.10; 95% CI 1.03, 1.17). Non-profit status was a significant predictor of caregiver education (OR = 2.11; 95% CI 1.11, 4.01) and caregiver support groups (OR = 2.95; 95% CI 1.11, 4.01). Discussion: A considerable percentage of ADS centers provided dementia caregiver support programs beyond respite. Trained personnel and non-profit status appeared to be key determinants of service provision. With higher levels of reimbursement, ADS centers may find that offering these services can produce revenue and better serve families impacted by dementia.

### VA TELE-SAVVY: TRANSLATING A FACE-TO-FACE DEMENTIA CAREGIVER PROGRAM FOR TELE-IMPLEMENTATION

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Dementia caregiving can exact an enormous toll on the emotional, physical and financial resources of the caregiver. VA Tele-Savvy is a quality improvement initiative undertaken to translate a fully manualized, evidence based, multi-session group psycho-educational program for caregivers (CG) who provide care for persons with dementia into a tele-implementation modality. The Savvy Caregiver in-person programs have demonstrated efficacy and effectiveness in multiple culturally and ethnically diverse CG populations in the US. However, challenges with high attrition in face to face programs speak to the

value of exploring alternate implementation modalities. The 6-week Tele-Savvy program consists of daily asynchronous video classes, once weekly synchronous tele-video classes and homework and exercises completed using the Tonic Health Platform. The curriculum elements were extracted from Savvy and videotaped for presentation on the iPads. In this presentation we (1) describe the translation process from F2F to Tele (2) report the results of a Delphi content vetting with Savvy experts (3) demonstrate sample video learning modules (4) compare and contrast the components of each program with emphasis on intervention integrity and fidelity and (4) summarize preliminary evaluation results from the first two cohorts of caregivers.

### COMMUNITY IMPLEMENTATION OF AN INTERVENTION PROGRAM FOR CAREGIVERS OF ALZHEIMER'S PATIENTS

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Caring for a relative/friend with an illness or disability often causes distress in caregivers and compromises their health and well-being. This study evaluated a community-based implementation of the REACH II evidenced based program with family caregivers of Alzheimer's patients. The sample included 148 caregivers who were largely female (77%) and primarily providing care for a spouse or parent. Their average age was 66 years (M = 65.7, SD = 12.8) and they had been providing care from 6 months to up to 32 years (M = 4.43 yrs.; SD = 4.4 yrs.). The care recipients were moderately impaired; their average MMSE score was 11 (M = 11.1, SD = 7.80). The intervention was a multi-component psychosocial intervention delivered in the caregivers' homes over a period of 6 months. Assessment measures, administered at baseline and 6 months follow-up, included measures of: depression, burden, social support, self-reported health and perceptions of the caregiving role. The study was a pre-test post-test design. One hundred and nine caregivers completed the follow-up assessment. The results indicated a significant decrease in depressive symptoms ( $t(1) = -4.83$ ,  $p < .001$ ), and in burden ( $t(1) = -4.39$ ,  $p < .001$ ). There was also an increase in perceived social support ( $t(1) = 2.07$ ,  $p < .01$ ) and in positive feelings about caregiving ( $t(1) = 2.30$ ,  $p < .05$ ). The findings indicate that the intervention was effective in improving caregiver outcomes and that it is feasible for community agencies to implement evidenced-based intervention programs.

### SESSION 1760 (PAPER)

#### LIFE COURSE AND DEVELOPMENTAL CHANGE

##### THE ROLE OF TRANSCENDENCE IN THE ADAPTIVE PROCESS OF THE VERY OLD

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Transcendence theory takes a positive approach to aging and is grounded in the perspective that late life may be a time of dynamic inner growth and transformation whereby older adults transcend barriers and achieve a state of inner peace. Late adulthood involves an ongoing process of adaptation due to physical and mental deterioration. Too often the emphasis is on this decline, even though the developmental process of transcendence may also be occurring and may serve as an important inner resource and counterbalance to inevitable loss and frailty. This presentation describes a qualitative research study that explored the role the late life developmental stage of transcendence plays in the adaptive process of individuals 90 years of age and older. Two 2-3 hour in-depth interviews and observations were conducted with a diverse group of 15 individuals whose ages ranged from 90-106 years old. The study focused on the participants' daily activities, their adaptation strategies

(particularly compensation), and their experiences involving transcendence. Transcribed interviews were analyzed through the theoretical perspective of the Selection, Optimization and Compensation (SOC) model and transcendence theory. Findings indicate that the participants experienced the following elements of transcendence that have a relationship to adaptation: contemplation and reflective solitude; a decline in self-centeredness and materialism; an acceptance of the way things are; positive detachment; and, tolerance and wisdom. This study makes an important contribution to late life developmental theory and to our knowledge base regarding transcendence and its role in the adaptive process during the final stage of life.

### **LIFETIME WORK-FAMILY EXPOSURES PREDICT SUBSEQUENT MORTALITY RISK AMONG OLDER AMERICAN WOMEN**

E.L. Sabbath<sup>1</sup>, I. Mejia<sup>1</sup>, M. Glymour<sup>2</sup>, L.F. Berkman<sup>1</sup>, 1. *Center for Population and Development Studies, Harvard University, Cambridge, Massachusetts*, 2. *University of California San Francisco, San Francisco, California*

**Background:** Work-family conflict predicts multiple short- and long-term health outcomes. However, few studies have used life course methods to understand associations between trajectories of work-family demands and health disparities in later life. **Methods:** We analyzed women in the US Health and Retirement Study born 1935-1956. Employment status, marital status, and parental status (child under 18) was determined for each year of a woman's life between ages 16 and 50. We used sequence analysis to identify seven prototypical work-family trajectories. We calculated age-standardized mortality rates (ASMR) between ages 55-75 for each work-family state, overall and stratified by known mortality risk factors. **Results:** Married women who stayed home with children for a few years before entering or reentering the labor force had the lowest ASMR (48 per 1,000 women, 95% CI 46,51). Single mothers who did not work had the highest mortality rates (ASMR 122 per 1,000, 95% CI 111,132), followed by single mothers who worked (ASMR 83, 95% CI 77,90). Low education, black race, and current smoking predicted mortality for all groups, but the relative excess was most marked among individuals who had been single mothers, compared with women in the other groups. Additionally, factors associated with decreased mortality risk—high education, non-Hispanic white race/ethnicity, and never smoking—conferred less protection on single working mothers than on consistently married working mothers. **Conclusion:** Prolonged exposure to single motherhood during early and middle adulthood predicts increased mortality risk in later life, and may exacerbate effects of known mortality risk factors.

### **THE INFLUENCE OF MARITAL QUALITY ON MENTAL HEALTH IN MIDLIFE AND OLDER AGE: A U.S. LONGITUDINAL STUDY**

S. Kang<sup>1</sup>, H. Choi<sup>2</sup>, 1. *South Dakota State University, Brookings, South Dakota*, 2. *Penn State Altoona, Altoona, Pennsylvania*

Guided by a life course perspective, this study aimed to investigate the influence of marital quality over time on multiple dimensions of mental health in midlife and older age. Specifically, this study examined how continuously high marital strain, decreased marital strain, or increased marital strain (in contrast to continuously low marital strain) over ten years is linked to change in three dimensions of mental health (overall psychological well-being [Ryff's total score], positive affect, negative affect), and evaluated how gender might moderate these linkages. Data from continuously married respondents in the National Survey of Midlife in the U.S., 1995-2005 (MIDUS) ages 33 to 83 (N = 995; 519 men, 476 women) were used to estimate multivariate models. Results revealed that married men and women reporting continuously high marital strain over ten years exhibited greater decrease in overall psychological well-being and positive affect. Similarly, men and women reporting increased marital strain over time exhibited greater

decrease in overall psychological well-being and positive affect. Gender differences were observed in predicting negative affect: Men reporting continuously high strain and men reporting an increase in marital strain over time reported greater increases in negative affect over time than women. In sum, results revealed that continuous and increased marital strain is linked to declines in multiple dimensions of mental health for both men and women, but men are even more disadvantaged in terms of increases in negative affect.

### **THE CONTINUITY OF CHANGE: BELIEFS AND VALUES AMONG OLDER ADULTS**

A. Hoogland, *University of Kentucky, Lexington, Kentucky*

**Introduction:** Aging research often focuses on decline in old age, but there has been an upsurge in studies addressing positive change in late life. Current scholarship suggests a positive developmental change experienced by some older adults as a product of life experiences, but it remains unclear how this change might influence core beliefs and values. Specifically, it is unknown how personal worldview changes with age. **Methods:** Eighteen older adults (aged 62-85; 14 F) were recruited into three age-stratified focus groups. In each 90-minute session, participants were asked to articulate their core beliefs, and explore how these beliefs may have evolved over time. Interviews were digitally recorded, transcribed, and analyzed using a constant comparative method following initial code determination. **Findings:** Three primary themes emerged: continuity of core beliefs; change in core self and other-oriented beliefs; and increased acceptance over time. **Conclusions:** There is continuity of the changing self with age as influenced by life experiences. One's beliefs and values appear to shift with time and can allow older adults to adopt an increasingly transcendent perspective of life that includes a decreased emphasis on matters related to the self, and an increased focus on the welfare of others and general harmony. **Future Directions:** Building on Tornstam's theory of Gerotranscendence and Reed's theory of Self-Transcendence, these findings offer compelling directions for research investigating typologies of worldview change in old age, and how beliefs and values might alter behavior, particularly for those suffering with a chronic or terminal illness.

### **THE IDENTIFICATION OF REGIONS OF SIGNIFICANCE IN THE EFFECT OF MULTIMORBIDITY ON DEPRESSIVE SYMPTOMS USING LONGITUDINAL DATA: AN APPLICATION OF THE JOHNSON-NEYMAN TECHNIQUE**

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The investigation of multimorbidity and aging is complex and highly intertwined with aging-related changes in physical and cognitive capabilities. Under these circumstances it is important to understand how the effects of chronic conditions evolve over time relative to aging-related and end of life changes. The identification of periods in time where multimorbidity impacts particular outcomes, such as depressive symptoms, versus periods of time where this is not the case, reduces the complexity of the phenomenon. We present the Johnson-Neyman (J-N) technique in the context of a curvilinear longitudinal model with higher-order terms to probe moderators and to identify regions of statistical significance. In essence, the J-N technique allows one to identify conditions under which moderators impact an outcome from conditions where these effects are not significant. To illustrate the use of the J-N technique in a longitudinal sample, we used data from the Health and Retirement Study (HRS). Analyses were based on time-to-death models including participants who died within the study duration of 12 years. Multimorbidity differentially affects rates of change in depression. For some periods in time the effects are statistically significant while in other periods the same effects are not statistically different from zero. The J-N technique is useful to continuously probe moderating effects and to identify particular interactions with the model for time when certain effects are or are not statistically significant. In the context of

multimorbidity this method is particularly useful for interpreting the complex interactions with differential change over time.

## SESSION 1765 (PAPER)

### FAMILY CONTEXTS AND CAREGIVING

#### SHOULD I DO THIS? FACTORS INFLUENCING THE DECISION TO RAISE A GRANDCHILD AMONG CUSTODIAL GRANDPARENTS

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Previous work exploring custodial grandparenting has focused upon reactions to the newly assumed parental role. Over and above a simple description of the reason for assuming care (e.g. incarceration, divorce, or drug use of the adult child), no work has explored in depth those factors that influence the decision to raise one's grandchild. The present study explored in detail those parameters impacting the decision-making processes among grandparents in developing a typology of influences framed in terms of negative (i.e., "escape/avoidance") and positive (i.e., "enrichment/strengthening") poles influencing such decision-making. Eighty-nine custodial grandparents (85% women, Mage = 58.6, 73% Caucasian) described this decision-making process in detail, wherein 15 derived dimensions regarding decision-making processes was coded as both positive and negative in nature (e.g. love for the grandchild vs. acting on concerns for his/her safety; enhancing one's self vs. undermining one's lifestyle; positive parenting vs. guilt over past failures) were derived. Based upon 15 randomly selected protocols, we found that the positive and negative poles of each dimension could be scored (presence/absence) reliably (> 80% agreement). The elicited frequency of both the positive and negative poles was independent of both grandparent caregiver and grandchild characteristics, and with the exception of the normalcy dimension, was elicited in at least 30% of the cases. The typology of decision-making derived here enables a more in-depth and qualitative understanding of those influences on the choices grandparents make in raising a grandchild, over and above a simple accounting of events leading to the adoption of the grandparent caregiving role.

#### COMPARATIVE EFFECTIVENESS OF INTERVENTIONS FOR IMPROVING THE WELL-BEING OF CUSTODIAL GRANDMOTHERS AND GRANDCHILDREN

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No large randomized clinical trials (RCT) have yet examined the efficacy of psychoeducational interventions delivered to custodial grandmothers (CGM). We conducted a multi-site RCT with 343 CGM (M age = 54) of target grandchildren (TGC) ages 4-12 (M age = 7.81; 51% male) enrolled across four states comparing the efficacy of Behavioral Parent Training (BPT), Cognitive Behavioral Coping (CBC), and an Information-only control condition (IOC). Each RCT condition was administered to CGM through 10 two-hour group sessions co-lead by professionals and peers. Consistent with the Family Stress Model, outcomes included multitrait-multimethod indices of CGM psychological distress; CGM parenting practices; and TCG behavioral difficulties assessed within one month windows at pre and post-intervention. Intent-to-treat analyses were performed using a repeated measures latent difference score model with dummy variables created to compare RCT conditions on pre to post-intervention change across all outcomes with missing data considered (Mplus 7.1). No significant differences by RCT

condition emerged for the latent constructs of CGM distress (self-reports and clinical ratings of anxiety and depression) and parenting warmth (nurturance and positive regard). However, compared to IOC, both CBC and BPT were more effective at reducing (a) CGM ineffective discipline (harsh and inconsistent); (b) TCG externalizing symptoms (conduct problems and hyperactivity); and (c) TCG internalizing symptoms (emotional and peer problems). Effect sizes for these comparisons ranged from .32 to .72. The applied and theoretical implications of these findings will be discussed from the perspective of the Family Stress Model. [Funded by R01NR012256]

#### FAMILY PARTICIPATION, SUPPORTIVE STAFF, AND FAMILY MEMBER WELL-BEING IN ALZHEIMER'S CAREGIVING

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Caregiving distress among the family of individuals affected by Alzheimer's disease continues to be an important public health concern. Limited participation in caregiving among family members can negatively impact the well-being of family caregivers. Evidence also suggests positive impacts of support from formal care staff. Using social network methodology, we evaluated the roles of family participation in caregiving processes and presence of supportive staff at care facilities on the psychological well-being of family members. Seventy-two family members from 30 families recruited through three residential and two adult day care facilities in Memphis, TN, were interviewed and provided information about 908 network members (family, friends, formal caregivers). Hierarchical linear regression analyses were conducted to account for the clustered nature of the data. Higher participant distress (CES-D) was associated with lower proportion of family members over-contributing in direct care ( $b = -3.66$ ,  $p = 0.005$ ) controlling for caregiver burden and demographic covariates; however, this became marginally significant ( $p = 0.08$ ) when the number of supportive staff ( $b = -0.28$ ,  $p = 0.04$ ) was included. Higher proportion under-contributing in support provision to family caregivers ( $b = 2.35$ ,  $p = 0.03$ ) was associated with higher distress which became marginal ( $p = 0.06$ ) when staff support ( $b = -0.32$ ,  $p = 0.04$ ) was added to the model. Presence of supportive facility staff may be particularly important in family caregivers' psychological well-being when expectations about participation in care within family are not being met. Future research will investigate how best to involve facility staff in preventing or minimizing psychological distress among family caregivers associated with limited family participation in caregiving processes.

#### DOES CAREGIVER BURDEN MEDIATE THE RELATIONSHIP BETWEEN BEHAVIOR DISTURBANCES AND LONG-TERM CARE IN PERSONS WITH ALZHEIMER'S?

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The relationship between behavioral disturbances, caregiver burden, and nursing home admission (NHA) has been investigated but is not completely understood. The purpose of this study was to evaluate if Zarit Burden Interview (ZBI) scores mediate the relationship between Neuropsychiatric Inventory (NPI) outcomes and NHA. Cases and controls were selected from the South Carolina Alzheimer's Disease Registry and were eligible for NHA. Cases ( $n = 352$ ) had entered a NHA within 6 months of study initiation; controls ( $n = 289$ ) remained in the community. Registry data was combined with data from a survey of caregivers, which included the 12-domain NPI and the ZBI. Mediation analyses were assessed for statistical significance of the Sobel test and percent of the total effect mediated. Mediation was evaluated with and without adjustment for covariates. The NPI, NPI-4 (i.e. NPI scale

assessing 4 behavioral disturbances: agitation, irritability, disinhibition, and aberrant motor behavior), and 12 individual domains of the NPI were all considered as independent variables. The results of the Sobel tests were statistically significant for all mediation models. Adjustment for covariates increased the percentage of total effect mediated for all NPI outcomes except for NPI-4 and the domains of hallucinations, disinhibition, aberrant motor, and sleep. ZBI score mediates the relationship between NPI and NHA, meaning behavioral disturbances influence caregiver burden which in turn influences nursing home admission. These results suggest interventions that support caregivers and help to alleviate their sense of burden may be effective in reducing and/or delaying nursing home admission, in effect, alleviating burden on the healthcare system.

## SESSION 1770 (PAPER)

### EMOTIONS AND WELL-BEING

#### POSITIVE AFFECT COUNTERACTS THE BIASING EFFECT OF NEGATIVE AFFECT ON PERCEIVED HEALTH IN OLDER ADULTS

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Subjective health reports biased by affect—or affective health bias—is a persistent concern, particularly in studies of later life. This project address two gaps present in the existing literature. First, most studies have focused on Negative and high-arousal affect within the context of health bias; here, the role of both Positive and Negative Affect (PA/NA)—represented by both low- and high-arousal items—are examined. Second, the majority of health bias literature focuses on samples suffering from a certain diagnosis or on reports of a specific symptom; here, we investigate health bias in a more general sample of community-dwelling older adults. 153 adults aged 56-82 years ( $M=71.2$ ) completed a global questionnaire (assessing Perceived Health and Affect) and a physical health battery (assessing Objective Health via cholesterol, blood pressure, heart rate, and physician diagnoses). Structural equation modeling tested the extent to which the association between Perceived and Objective Health was moderated by PA or NA. All measurement models demonstrated good fit, with significant factor loadings ( $p<.0001$ ) and strong model fit (CFI's from 0.93-0.99). Structural models revealed evidence for a moderation (biasing) effect for NA ( $B=-0.187$ ,  $p=.036$ ), but not for PA; the combined model indicated a mediating role for PA, however, such that it serves to make the NA bias term non-significant ( $p=.07$ ). Results provide evidence that health bias does occur within a general health context, and not only within specific symptom or diagnostic paradigms; the findings also reveal that both PA and NA play important—albeit distinct—roles in the process.

#### THE INFLUENCE OF CONTROL ON DAILY AFFECT REGULATION IN LATER LIFE: LONGITUDINAL AND DEVELOPMENTAL APPROACHES TO UNDERSTANDING CHANGE

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Control is not a unidimensional construct, and different aspects of control, such as control over one's environment (primary control) or one's emotional responses (secondary control), may be important at different points in the lifespan or under different life circumstances. Data from the Notre Dame Study of Health & Well-being was used to assess the complementary and compensatory nature of primary and secondary control as well as individual differences in intraindividual change in these important processes. A three-level MLM was used to maximize the three levels of data (day-level, burst-level, and person-level). Results indicated a significant daily relationship between

environmental control and negative affect, and that this relationship decreased in strength across a 5-year period. Global emotion control (but not global environmental control) moderated the daily relationship; specifically, on days of lower environmental control, individuals with higher global emotion control had lower negative affect than those with lower global emotion control. Age also moderated the daily relationship, with relatively older adults demonstrating lower negative affect on days of lower environmental control. Implications of these findings are discussed with regard to the compensatory nature of secondary control, aging, and intraindividual change and interindividual differences.

#### DAILY INTERACTIONS AND AFFECT BALANCE: FUNCTIONS OF FRIEND AND FAMILY SUPPORT

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Although scores of studies suggest that family and friend support differentially impact well-being, relatively few investigate how these relationships function day-to-day. The current study explored how interactions with family and with friends related to individuals' daily experience of positive and negative emotion. Multilevel random coefficient modeling illuminated these linkages in data from 83 participants from Successful Aging in Context: The Macroevironment and Daily Lived Experience ( $Mage=66.7$  years,  $SDage=5.3$  years; 45% Male, 55% Female). Results revealed significant relationships between affect balance and satisfaction with the amount of support provided by family and by friends; in general, individuals reported a higher ratio of positive to negative affect on days they were more satisfied with the amount of support received. Results of Level-2 analyses suggested that both relying on friends for help and affection and seeking advice and companionship from them moderated the relationship between daily support and affect balance, but in different directions. Utilizing friend support for coping purposes was negatively related to the daily friend support-affect balance association; it could be that individuals sought more of this type of support on days that they were struggling. Conversely, utilizing friend relationships for release and relaxation was associated with a stronger relationship between daily friend support and reporting more positive emotions than negative. The variables did not predict individual differences in the daily relationship between family support and affect balance. Results can be applied toward explicating the process by which elders use social support to facilitate emotional well-being on daily basis.

#### PSYCHOLOGICAL IMPACT OF PAST LIFE EVENTS: MEDIATING EFFECTS OF EMOTION REGULATION STRATEGIES IN THE EXPLANATION OF PSYCHOLOGICAL DISTRESS

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Introduction and objectives Life events have a direct impact on psychological well-being. While it is known that emotion regulation strategies (e.g. rumination, experiential avoidance or personal growth) have a mediating effect on the impact of life events on well-being, this effect has been sparsely studied in elderly. The objective of this study is to analyze the impact of past life events (positive/negative) on the well-being of elderly, and to analyze the possible mediating role of emotion regulation strategies in this relationship. Method Participants in this study were 393 people older than 60 years (mean age: 71.5 years; d.t: 6.9, 70.2% women). Life events, emotion regulation variables (experiential avoidance -EA-, ruminative style -RS-, ruminative-thinking about life events -RTLE- and personal-growth associated to life events -PGLE-) and psychological distress (well-being and depressive

symptoms) were assessed. A model of psychological distress, based on the stress and coping model, was analyzed through structural equation modeling. Results The model fit excellently ( $\chi^2/df=1.77$ , GFI=.98, CFI=.99, TLI=.97, RMSEA=.04). The occurrence of positive life events exerts a direct effect on psychological distress ( $r=-.14$ ,  $p\leq 0.01$ ). However, the impact of negative life events on distress is indirect, mediated by emotion regulation strategies, which have a direct effect on distress (EA:  $E=.34$ ; RS:  $r=.40$ ; RTLE:  $r=.14$ ; PGLE:  $r=-.15$ ,  $p\leq 0.01$ ). The final model explained 71% of the variance of psychological distress. Conclusions Emotion regulation strategies have a significant role in the explanation of how past negative life events have an impact on current psychologic

### AGING, REACTIVITY TO DAILY STRESSORS AND LONG-TERM HPA-AXIS DYSREGULATION

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Daily stressors have been linked to short-term changes in physiological biomarkers (e.g., Stawski, Cichi, Piazza, & Almeida, 2013). It is unclear, however, whether these minor daily hassles have long-term physiological consequences. The current study examined this question by determining whether an individual's reactivity to daily stressors predicted their likelihood of experiencing long-term HPA-axis dysregulation. Participants from the Midlife Development in the United States Survey ( $n = 287$ ; ages 34-84), completed a series of daily diary interviews in the mid-1990's. Ten years later, participants were re-contacted for a second series of interviews and a comprehensive physiological assessment. Results revealed that age and reactivity to daily stressors worked synergistically to predict HPA-axis dysregulation. No differences in HPA-axis dysregulation emerged for younger adults, regardless of level of stressor reactivity. Highly reactivity older adults, however, were significantly more likely to show evidence of HPA-axis dysregulation than were less reactive older adults ( $\beta = .051$ ,  $p < .05$ ).

## SESSION 1775 (SYMPOSIUM)

### MULTIPLE PERCEPTIONS ON GAIT MECHANICS AND MOBILITY: FROM THE BALTIMORE LONGITUDINAL STUDY OF AGING

**Chair:** E.M. Simonsick, *National Institute on Aging, Baltimore, Maryland*

**Discussant:** S. Studenski, *National Institute on Aging, Baltimore, Maryland*

Perceptual feedback from sensory processes and perceived effort likely condition short and long-term behavioral choices (e.g., preferred gait speed and activity level) critical for maintaining functional capacity with aging. This symposium uses data from the Baltimore Longitudinal Study of Aging (BLSA), a continuous enrollment cohort study of initially healthy well-functioning individuals evaluated every 1-4 years depending on age during a 2-3 day clinic stay, to examine the association between multiple perceptual factors including ankle proprioception, visual contrast sensitivity and stereo-acuity, mechanical work and mechanical load and their association with subjective and objective assessments of mobility and activity level. Ankle proprioception assessed using a newly developed automated performance test is examined in relation to gait mechanics derived from a state-of-the-art gait laboratory in persons with and without impaired balance and in relation to multiple gait speed parameters and reported walking ability. Using measures of mechanical work at multiple joints derived from force-plate readings in the gait lab, the impact of perceived effort is evaluated in relation to self-selected daily activity levels from accelerometry testing in the home environment. Comprehensive measures of visual impairment are investigated with respect to longitudinal change

in preferred gait speed and perceived walking ability. Lastly, cross-sectionally and longitudinally, the association of excess body weight (i.e., mechanical load) on distance walked at preferred speed is evaluated. Findings support the important role of sensory-related perception in the disablement process and perceived effort or work in conditioning self-selected activity level and gait speed.

### CONTRAST SENSITIVITY AND STEREOACUITY IMPAIRMENT AND MOBILITY DECLINE

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Capacity to distinguish contrast and depth perception has received limited attention in the disablement process. In 520 non-mobility limited BLSA participants aged 60-95 years (52% men, 25% black), we examined whether impaired contrast sensitivity and stereoacuity predicted change in usual gait speed and self-reported walking ability over a mean follow-up of 2.3 years. Overall, 11.7%, 6.7% and 2.5% had impaired contrast sensitivity ( $\log\text{Contrast} < 1.55$ ), stereoacuity ( $> 85$  arc seconds) and distance visual acuity (worse than 20/40), respectively. Adjusting for age, age-squared, sex, race, BLSA visit status, other visual impairment, initial gait speed (or self-report ability) and follow-up time, persons with contrast sensitivity impairment had slower gait speeds ( $\beta = -0.061$ ;  $p = 0.013$ ). The stereoacuity impaired had slower gait speeds ( $\beta = -0.066$ ;  $p < 0.033$ ) and trended toward poorer walking ability (range 0-9) ( $\beta = -0.458$ ;  $p = 0.062$ ). Ascertaining broader and potentially more prevalent visual impairments may aid in identifying an overlooked threat to mobility loss in clinical and research settings.

### ANKLE PROPRICEPTION ASSOCIATED GAIT PATTERNS IN OLDER ADULTS WITH AND WITHOUT IMPAIRED BALANCE: RESULTS FROM THE BLSA

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Ankle proprioception training has been found to improve balance-related gait disorders; yet, the relationship between ankle proprioception and specific gait patterns in older adults with impaired balance has not been systematically examined. This study characterizes gait patterns of 208 older adults aged 60-92 evaluated in the Baltimore Longitudinal Study of Aging (BLSA) gait laboratory with ( $n=66$ ) and without impaired balance and examines ankle proprioception performance. Participants with impaired balance defined as inability to successfully complete a narrow walk had poorer ankle proprioception performance than those with unimpaired balance ( $p < 0.001$ ). Stride length, ankle ROM, and hip concentric MWE were negatively associated with ankle proprioception performance ( $p < 0.050$  for all) but only in participants with impaired balance. Results indicate that assessment of ankle proprioception performance in older adults especially those with impaired balance may provide important insights and better targeting of interventions to improve balance-related gait disorders.

### ANKLE PROPRICEPTION AND OBJECTIVE AND SUBJECTIVE MOBILITY IN OLDER PERSONS

N. Deshpande<sup>1</sup>, E.M. Simonsick<sup>2</sup>, S. Ko<sup>3</sup>, 1. *Queen's University, Kingston, Ontario, Canada*, 2. *NIA/NIH, Baltimore, Maryland*, 3. *Chonnam National University, Yeosu, Republic of Korea*

Ability to sense body position at the ankle may influence walking ability. We examined the association of threshold for perception of passive movement (TPPM) at the ankle joint in 685 BLSA participants aged 65-85 who completed TPPM measurement. Gait speed was measured as usual fast and on a narrow-path (20cm width). Walking index score (0-9) ranged from self-reported inability to walk ¼ mile to "very

easy” to walk 1 mile. Adjusting for age and height, usual gait speed was slower in the lowest two TPPM quintiles ( $p<0.001$ ). These differences persisted for fast walking ( $p=0.001$ ) and narrow-path walking ( $p=0.003$ ) even after adjusting for usual speed. Adjusting for age, higher ( $p=0.011$ ) proportion of participants in the lowest two quintiles failed narrow-path walking. Walking-index was worse in lowest two quintiles ( $p<0.001$ ). Persons with ankle TPPM $>1.35$  degrees, consistently demonstrated worse objective and subjective mobility supporting assessment of ankle proprioception for preventative intervention.

#### **ASSOCIATION OF WEIGHT AND WALKING ENDURANCE: CROSS-SECTIONAL AND LONGITUDINAL PERSPECTIVES**

G.J. Jerome<sup>1</sup>, D. Kauffman<sup>2</sup>, S. Ko<sup>3</sup>, E.M. Simonsick<sup>2</sup>, 1. Towson University, Towson, Maryland, 2. National Institute on Aging, Baltimore, Maryland, 3. Chonnam National University, Yeosu, Republic of Korea

Excess mass or weight may create additional burden when walking even short distances. Using data on 385 BLSA participants (48% men, 29% black) aged 60-80, with average BMI of 28(SD=4.8) who completed a 2:30 normal-pace walk on two separate visits which were on average 2.3 years apart. Cross-sectional analysis accounting for age, sex, race, height, and self-reported physical activity level, indicate that for every 3 kg of body weight above average weight of 79 kg, distance covered was lower by 1.6 meters ( $p<.001$ ) which was similar in magnitude to an additional year of age. Longitudinal analyses indicated that for every 3 kg of body weight above the average at baseline, distance covered at follow-up was lower by 0.5 meters ( $p=.05$ ) adjusting for the aforementioned covariates, baseline distance walked and time to follow-up. Results indicate that excess weight may threaten current and future walking endurance and contribute to accelerated aging.

#### **SEX AND AGE-SPECIFIC ASSOCIATIONS BETWEEN GAIT EFFICIENCY AND DAILY ACTIVITY**

D. Kauffman<sup>1</sup>, E.M. Simonsick<sup>1</sup>, G.J. Jerome<sup>2</sup>, J.A. Schrack<sup>3,1</sup>, S. Ko<sup>4</sup>, S. Studenski<sup>1</sup>, 1. National Institute of Aging/National Institutes of Health, Baltimore, Maryland, 2. College of Health Professions, Towson University, Towson, Maryland, 3. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 4. Chonnam National University, Yeosu, Republic of Korea

Energetic cost of moving may be related to physical activity level. However, relationships between gait efficiency and activity in men and women and at different ages have not been investigated. Work expenditure was calculated from the kinematics and kinetics of a 3D gait analysis system in 240 participants of the BLSA (age 60-93) without walking limitation who wore the Actiheart accelerometer/heart rate monitor 7.2( $\pm$ 3.2) days in their home environment. Gait efficiency and activity were associated beginning in the 7th decade in women and 8th decade in men. These associations were mainly attributed to hip joint movements in women and ankle joint movements in men, largely in the frontal plane. Efficiency was lower in the lowest versus the highest activity tertile in both older women ( $p=.004$ ) and men ( $p=.022$ ). Sex-specific interventions are needed to determine directionality of the gait efficiency and physical activity relationship.

## **SESSION 1780 (SYMPOSIUM)**

### **NOT ALL ACTIVITY THAT COUNTS CAN BE COUNTED: METHODS FOR OBJECTIVE ASSESSMENT OF ACTIVITY IN OLDER POPULATIONS**

**Chair:** J.A. Schrack, *Epidemiology, Johns Hopkins School of Public Health, Baltimore, Maryland, National Institute on Aging, Baltimore, Maryland*

**Co-Chair:** T. Glass, *Epidemiology, Johns Hopkins School of Public Health, Baltimore, Maryland*

**Discussant:** L. Ferrucci, *National Institute on Aging, Baltimore, Maryland*

The advent of wearable devices has introduced a new layer of complexity to assessing physical activity and mobility in older adults. These devices collect data with an unprecedented level of detail and produce massive amount of data that can be managed, analyzed, and interpreted in multiple dimensions. This symposium focuses on the methodological challenges associated with analyzing and interpreting accelerometry data from participants of the Baltimore Longitudinal Study of Aging (BLSA), the Developmental Epidemiological Cohort Study (DECOS), and the LifeMETER study. We will discuss challenges to assessing physical activity in older adults using the standard population-level activity count cut point thresholds and general daily summaries, and demonstrate methods to: (i) aggregate and analyze raw activity data using a multi-layered analytic approach, (ii) quantify day-to-day variability and fragmentation of activity, and (iii) assess the effects of age-related covariates on activity metrics over the course of a day. These issues will be presented with a special emphasis on quantitative approaches that provide reproducible and highly reliable measures crucial to translating physical activity data into meaningful analyses of health and functional status in older populations. Development of appropriate methodology to collect and analyze behavioral and physiological information will: (i) provide a new level of detail to analyses of daily activity, (ii) ultimately transform the way data is utilized across research disciplines, (ii) be widely used in the implementation of prevention efforts, and (iii) contribute to efforts to optimize interventions that extend healthy aging and improve longevity.

### **QUANTIFYING SEDENTARY BEHAVIOR IN OLDER POPULATIONS USING COUNTS AND CUTPOINTS**

J.A. Schrack<sup>1,2</sup>, L. Xiao<sup>3</sup>, V. Zippunikov<sup>3</sup>, E.M. Simonsick<sup>2</sup>, L. Ferrucci<sup>2</sup>, C. Crainiceanu<sup>3</sup>, 1. *Epidemiology, Johns Hopkins School of Public Health, Baltimore, Maryland, 2. National Institute on Aging, Baltimore, Maryland, 3. Johns Hopkins School of Public Health - Biostatistics, Baltimore, Maryland*

Accurately quantifying sedentary behavior is vital to understanding changes in activity with age and preventing comorbidities and conditions. We modeled the association between sedentary behavior and age at four activity count-per-minute thresholds (0, 25, 50, 100) in 611 BLSA participants (50% male, mean age 67, range 32-93) adjusted for age, sex, BMI, and comorbidities. Sedentary time increased with age regardless of cutpoint, but varied greatly according to definition of “activity” from 57.7% at cutpoint 0 to 94.3% at cutpoint 100 ( $p<.001$ ). Women were less sedentary than men at all cutpoints except 100 counts/min ( $p<.05$ ), suggesting women are more likely to engage in low levels of activity similar to those associated with activities of daily living, not typically classified as “physical activity.” Future studies assessing activity in older adults should consider using lower cut points to include low levels of activity that may provide meaningful insight on health and functional status.

## MODERN STATISTICAL APPROACHES FOR ACTIGRAPHY DATA

V. Zipunnikov, J.A. Schrack, J. Goldsmith, J. Bai, L. Ferrucci, C. Crainiceanu, *Biostatistics, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Current methods for analyzing actigraphy data fail to make use of the full range of data collected, often relying on summaries such as multi-day averages, and may miss opportunities to provide insight into activity metrics that may be quite meaningful for health outcomes in older adults. We will discuss three fundamental issues of this oversimplification: (i) the loss of information about the temporal distribution of activity over the course of a day, (ii) the loss of potentially informative features beyond activity intensity (e.g., distribution and variability of activity intensity within activity bouts, fragmentation of activity profiles with respect to alternating activity and inactivity bouts), and (iii) day-to-day variability in activity patterns over all observed days. We will apply new methods to actigraphy data of 611 participants of Baltimore Longitudinal Study of Aging and recover several previously unknown hallmarks of age-related functional decline.

## ACCELEROMETRY DATA AT MULTIPLE RESOLUTIONS: QUANTIFYING HUMAN ACTIVITY IN THE WILD

C. Crainiceanu<sup>1</sup>, J.A. Schrack<sup>1,2</sup>, V. Zipunnikov<sup>1</sup>, J. Bai<sup>1</sup>, N.W. Glynn<sup>3</sup>, T. Harris<sup>2</sup>, T. Glass<sup>1</sup>, L. Ferrucci<sup>2</sup>, *1. Johns Hopkins University, Baltimore, Maryland, 2. National Institute of Aging, Baltimore, Maryland, 3. University of Pittsburgh, Pittsburgh, Pennsylvania*

Wearable devices deployed in large observational studies allow continuous monitoring of activity at unprecedented resolutions. Such devices are altering the way we think about activity and are disrupting the current status quo in activity research. Indeed, cheap waterproof accelerometers can now record tri-axial accelerometer data at 100Hz (300 observations per second) for weeks at the time without changing the battery or replacing the device. This raises questions about what information and at what resolution should be quantified and how to relate such information with health outcomes. Indeed, information can be visualized in its native, sub-second, space or can be aggregated at the minute, hour, or daily level. I will discuss the various levels of data aggregation, the types of analyses required by different levels of data compression, and the opportunities provided by a multi-layered analytic approach. Data from several studies including BLSA, DECOS, and LifeMETER will be discussed and analyzed. Several experimental designs for future studies will be suggested, while current opportunities and limitations of data and analytic methods will be discussed.

## USING FUNCTIONAL DATA METHODS TO ASSESS COVARIATE EFFECTS ON DAILY ACTIVITY PATTERNS

J. Goldsmith<sup>1</sup>, W. Tang<sup>1</sup>, V. Zipunnikov<sup>2</sup>, C. Crainiceanu<sup>2</sup>, J.A. Schrack<sup>2</sup>, L. Ferrucci<sup>3</sup>, *1. Columbia University, New York, New York, 2. Johns Hopkins University, Baltimore, Maryland, 3. National Institute on Aging, Baltimore, Maryland*

Characterizing observed activity in older populations requires the development of regression models in which measures of activity, observed minute-by-minute over several days for each subject, are the outcome of interest. Specifically, studying the effect of age, BMI, and other covariates on activity counts may provide vital information when planning physical activity interventions in older populations. We formulated regression methods that allow for complete daily time courses as the response of interest using data from the Baltimore Longitudinal Study of Aging. Our model is directly related to standard multilevel models using daily average activity as a scalar outcome, but utilizes the minute-level data to assess covariate effects over time. Simulations indicate that the proposed method yields accurate estimation and inference and suggest time-specific age and BMI effects on physical activity,

which may be quite meaningful to future studies assessing specific effects of age-related conditions on physical activity.

## SESSION 1785 (SYMPOSIUM)

### IMPLICATIONS OF HEARING IMPAIRMENT FOR PHYSICAL AND MENTAL FUNCTIONING IN OLDER ADULTS

**Chair:** F.R. Lin, *Johns Hopkins University, Baltimore, Maryland*

**Discussant:** M.K. Pichora-Fuller, *University of Toronto, Toronto, Ontario, Canada*

The potential functional consequences of age-related hearing loss for older adults are beginning to surface in epidemiologic studies demonstrating independent associations of hearing with cognitive and physical functioning. Multiple mechanisms may mediate these observed associations including effects of hearing loss on cognitive load, social isolation, poorer health related oral literacy, and reduced awareness of the auditory environment. Alternatively, a common pathologic cause could also underlie hearing loss and impaired functioning in older adults. These pathways are not mutually exclusive, and multiple pathways could likely co-exist and contribute to functional impairments. Importantly, the hypothesized mechanistic pathways are intriguing because they suggest that hearing rehabilitative treatments could potentially help mitigate cognitive and physical functional declines in older adults. The public health impact of investigating these associations is substantial given that hearing loss is prevalent in nearly two-thirds of all adults over 70 years and fewer than 20% use a hearing aid. In this symposium, we will present recent epidemiologic and experimental studies from the United States and Canada that have investigated the association of hearing loss with frailty, gait, depression, and hospitalizations, and we will discuss the practical and research implications of these findings for geriatrics and gerontology.

### HEARING IMPAIRMENT AND INCIDENT FRAILITY IN OLDER ADULTS

R.J. Kamil<sup>1</sup>, J. Betz<sup>2,7</sup>, H.N. Ayonayon<sup>3</sup>, S. Satterfield<sup>4</sup>, B. Brott Powers<sup>5</sup>, E.M. Simonsick<sup>6</sup>, F.R. Lin<sup>7,8</sup>, *1. Albert Einstein College of Medicine, Bronx, New York, 2. Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, 3. University of California San Francisco, San Francisco, California, 4. University of Tennessee Health Science Center, Memphis, Tennessee, 5. University of Pittsburg Medical Center, Pittsburgh, Pennsylvania, 6. National Institutes of Health, Baltimore, Maryland, 7. Johns Hopkins Center of Aging and Health, Baltimore, Maryland, 8. Johns Hopkins Departments of Otolaryngology-Head and Neck Surgery, Geriatric Medicine, Mental Health, and Epidemiology, Baltimore, Maryland*

Frailty is a state characterized by decreased physiologic reserve and weakness. Whether hearing impairment which is associated with physical and cognitive decline is also associated with frailty is unknown. We analyzed 2,000 individuals aged 70 and older with complete data who were followed prospectively in the Health, Aging, and Body Composition Study for up to 11 years (1997-2008). Audiometry was conducted from 2001-2. Incident frailty was defined as a gait speed of less than 0.6 m/s and/or inability to rise from a chair without the use of arms. The association of hearing impairment with incident frailty was analyzed using Cox Proportional Hazard models adjusted for demographic factors, cardiovascular risk factors, depression, and cognition. Individuals with moderate or greater hearing impairment had a 61.3% increased risk of incident frailty compared to normal hearing individuals [HR 1.61, (95% CI 1.24, 2.09)]. Hearing impairment in older adults is independently associated with incident frailty.



## LISTENING WHILE WALKING: AN EXPERIMENTAL EXAMINATION OF THE HEARING-MOBILITY CONNECTION

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Epidemiological aging research links hearing loss with cognitive decline, slower walking, and falls risk. A candidate explanation for these links is that both hearing and motor performance involve the recruitment of cognitive capacity. To examine this possibility, concurrent listening while walking was assessed in young, old, and older adults with hearing loss. Each task was also assessed singly (walking or listening). The listening task involved memory for simple target sentences presented simultaneously with two distractor sentences. Self-paced treadmill walking was done within an immersive Virtual Reality lab simulating a dynamic street-crossing. Listening task accuracy was negatively affected by age, unpredictable target location, and concurrent task load. Conversely, kinematic parameters of walking regularity suggest that in challenging circumstances older adults prioritize their physical safety and task performance due to reductions in cognitive capacity. Together, the results provide early experimental evidence to explain the link between age-related hearing loss and reduced mobility.

## ASSOCIATION OF HEARING IMPAIRMENT AND INCIDENT DEPRESSION IN OLDER ADULTS

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Associations between hearing impairment (HI) and worsening depressive symptomatology were studied in 1056 women and 940 men (mean age 73.9, 34% Black) Health ABC study participants, who had audiometric testing and repeated CES-D-10 administrations for up to 10 years follow-up. Participants were classified as having major depressive disorder (MD) (5.0%) when CES-D-10 scores  $\geq 10$ . Associations between HI and longitudinal CES-D-10 scores and incident MD were analyzed respectively, using linear mixed effects and continuous time Cox proportional hazard models adjusted for demographic and cardiovascular risk factors. Participants with untreated moderate or greater HI had higher CES-D-10 scores 5 years after hearing assessment ( $\beta=1.01$ ,  $p<0.007$ ) had an increased risk of incident MD (HR(95% CI):1.55 (1.15-2.09)) at 10 year follow-up than participants with normal hearing; hearing-aid users had no increase in depressive outcomes. Recognition and treatment of HI may diminish risk of elevated depressive symptoms and MD in community-dwelling elders.

## ASSOCIATION OF HEARING IMPAIRMENT WITH RISK OF HOSPITALIZATION IN OLDER ADULTS

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Hearing impairment (HI) is independently associated with poorer cognitive and physical functioning in older adults. Whether HI is associated with broader outcomes is unclear. We analyzed 12 years of data from 2,176 older adults in the Health ABC Study to investigate prospective associations of HI with incidence and annual rate of hospitalization. Hearing was defined as pure-tone average of thresholds at 0.5-4 kHz in the better ear (mild  $>25-40$  dB; moderate-or-greater  $>40$  dB). Hospitalization details were adjudicated with hospital records. After adjusting for demographics and cardiovascular comorbidities, mild and moderate-or-greater HI, respectively, were associated with a 16% (HR:1.16, 95%CI:1.04-1.29) and 19% (HR:1.19, 95%CI:1.03-1.37) increased risk of incident hospitalization, and a 14% (IRR:1.14, 95%CI:1.02-1.29) and 15% (IRR:1.15, 95%CI:1.00-1.33) increased annual rate of hospitalization compared to normal hearing. Hearing impairment is independently associated with increased risk of hospitalization in older adults. Understanding the basis of this association requires further study.

## SESSION 1790 (SYMPOSIUM)

### LINKING STUDY OF OSTEOPOROTIC FRACTURES (SOF) COHORT DATA WITH MEDICARE CLAIMS DATA: PROCESS, HEALTH CARE UTILIZATION OUTCOMES, RESULTS, AND LESSONS LEARNED

**Chair:** K. Ensrud, *University of Minnesota, Minneapolis, Minnesota, Minneapolis VA Health Care System, Minneapolis, Minnesota*

**Discussant:** J. Schousboe, *University of Minnesota, Minneapolis, Minnesota*

Linking existing cohort data with Medicare claims provides an innovative opportunity to determine associations of distinctive phenotypes identified using cohort data with health-care utilization (HCU) outcomes defined using claims data. However, there are challenges when combining these comprehensive and complex data sources as well as when analyzing associations of cohort phenotypes with claims-based HCU outcomes. We present our experience of linking data from participants in the Study of Osteoporotic Fractures (SOF, a large and well characterized cohort of community-dwelling women aged  $\geq 65$  years at enrollment in 1986-1988) to their Medicare claims data (1991-2010). First, we provide an overview of the linkage and outline methodology used to define and analyze HCU outcomes. Then, in separate presentations, we present findings regarding the associations of SOF phenotypes (sarcopenia, physical performance, cognition function and prevalent vertebral fracture) with HCU outcomes (hospitalization, rate of inpatient days among hospitalized women, longterm placement in nursing facility). Finally, we present methodology for calculation of total outpatient health care costs from claims data. In conclusion, despite challenges, linking cohort data with claims data provides the unique opportunity to quantify effects of individual patient characteristics such as impaired cognition and poor lower extremity physical performance on health care utilization. Findings are important for health care policy planning and for designing future intervention studies to reduce HCU among older adults.

## LINKAGE OF STUDY OF OSTEOPOROTIC FRACTURES (SOF) WITH MEDICARE CLAIMS DATA AND METHODS TO ANALYZE HEALTH CARE UTILIZATION OUTCOMES

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Methods exist to identify health-care utilization(HCU) outcomes in Medicare claims data, however linking long-term cohort study participants to their claims is complicated by lengthy follow-up periods and enrollment in Medicare Advantage plans. We linked 9,228 (92.4%) women enrolled in the Study of Osteoporotic Fractures to their Medicare Claims from 1991-2010 to identify HCU outcomes including inpatient hospital days and long-term nursing home placement, the latter by adapting an algorithm from Yun (2010). 6,435 (69.7%) of women (aged  $\geq$  75.1 years) were enrolled in  $>1$  months of fee-for-service. To model risk of hospitalization and rates of inpatient hospital days, we used logit-Poisson hurdle models with bootstrapped confidence intervals and compared that approach to alternative methodologies. While methodological challenges must be overcome, linkage of cohort to Medicare claims data allows quantification of effects of individual participant characteristics on HCU.

## HEALTH CARE UTILIZATION (HCU) AND SARCOPENIA IN OLDER WOMEN

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We quantified HCU by sarcopenia status per consensus definitions [International Working Group; European Working Group for Sarcopenia in Older Persons; Foundation for the NIH Sarcopenia Project], using Study of Osteoporotic Fractures data (women aged  $\geq$  68, Year 10 visit, 1997-8) and Medicare Claims over 3 years post-visit. Using unadjusted logit-Poisson Hurdle models and bootstrapped 95% confidence intervals, we analyzed the likelihood of hospitalization; the rate ratio (RR) of inpatient days among those hospitalized; and the annualized rate of inpatient days among all participants by sarcopenia status. Sarcopenia was not associated with HCU by any definition. When summary definitions components were evaluated separately, only slowness but not weakness nor low lean mass, was associated with greater HCU. For example, those with slowness (gait speed  $\leq$  0.8 m/s) by FNIIH were more likely to be hospitalized (OR: 2.5, 95%CI: 1.7, 3.6) and had greater rates of inpatient days than women without slowness.

## PHYSICAL PERFORMANCE, COGNITION, AND INPATIENT HEALTH CARE UTILIZATION (HCU) IN OLDER WOMEN

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The inter-relationship of physical performance and cognition with risk of inpatient HCU is uncertain. We studied 387 women (mean age

87.6 years) enrolled in Fee-for-Service with adjudicated cognitive status (normal, mild cognitive impairment [MCI], dementia) and the Short Physical Performance Battery (SPPB) at visit 9 (2006-2008). Inpatient HCU was determined over the following 12 months. We analyzed likelihood of inpatient hospitalization and the rate ratio of inpatient days among those hospitalized (Logit-Poisson Hurdle models and bootstrapped 95% CI). Physical performance and cognition were associated with the odds of hospitalization in a graded manner. Compared with women with high performance (SPPB 10-12)/normal cognition, women with low performance (SPPB 0-3) and MCI/dementia were 5-fold more likely to be hospitalized (OR 5.0 [2.3-10.5]); once hospitalized, they had a 2.5-fold (1.2-5.3) higher rate of inpatient days. Quantification of effects of physical performance and cognition on inpatient HCU is important for health care policy planning.

## HEALTHCARE UTILIZATION AND VERTEBRAL FRACTURE IN OLDER WOMEN: STUDY OF OSTEOPOROTIC FRACTURES (SOF)

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Vertebral fractures (VFX) are the most common osteoporotic fractures. We tested the hypothesis that VFX impacts healthcare utilization. We studied 3552 women enrolled in SOF (mean age 75y) who had radiographic information on VFX at visit 3 (1990-91). Healthcare utilization was determined over the 3 years after the visit using linked Medicare claims data. We analyzed unadjusted likelihood of inpatient hospitalization and the rate:ratio (RR) of inpatient days among those hospitalized with Logit-Poisson Hurdle models and longterm ( $>100$  days) in a skilled nursing facility (SNF) by Cox proportional Hazards models. Women with a VFX were 36% more likely to be hospitalized, odds ratio=1.36(1.16, 1.59); once hospitalized, they had a 12% higher RR of inpatient days. The hazard ratio for longterm SNF within 3 years was 2.57(1.35, 4.90). Preliminary analyses suggest that the public health impact of VFX may include an increased risk of hospitalization with longer stays and SNF placement.

## DOES MEDICARE PAYMENT ACCURATELY REFLECT TRUE RESOURCE COSTS OF OUTPATIENT CARE FOR MEDICARE BENEFICIARIES?

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Improving efficiency of care for the elderly requires accurate estimates of the costs. Medicare payments have been used as a surrogate measure of these, but Medicare adjusts provider payments based on provider characteristics and geographic location regardless of patient medical acuity and comorbidity. For each Study of Osteoporotic Fractures (SOF) participant in each year 2004 to 2010, we used the merged dataset of SOF with Medicare claims to estimate the yearly sum of outpatient Medicare allowable charges in the Carrier and Outpatient

Standard Analytic Files (SAF), and the yearly sum of standardized resource costs after removing Medicare adjustments from each line of utilization. Spearman rank correlations for total allowable charges and standardized resource costs for each year were 0.99 in all years and within a mean \$121 of each other. Allowable charges in Medicare Carrier and Outpatient SAF claims are reasonable surrogates for true outpatient care resource costs.

## SESSION 1795 (SYMPOSIUM)

### EVOLVING CHALLENGES IN DRUG PRODUCT DEVELOPMENT IN INCREASINGLY OLDER AND COMPLEX PATIENT POPULATIONS

**Chair:** S. Stegemann, *Geriatric Medicine Society, Aachen, Germany*

**Co-Chair:** M. Gogol, *Geriatric Medicine Society, Aachen, Germany*

Geriatricians and gerontologists are increasingly faced with patients at very old age that due to multimorbidity and polypharmacy represent a largely heterogeneous and complex patient population. The drug approval process, labeling and the prescription decisions of new drugs are based on clinical trials that should be performed in representative patient populations. While this requirement should not be compromised, the rapidly changing representative patient populations are leading to several new issues and challenges in generating meaningful and reasonable clinical and non-clinical data. This symposium will review and discuss these issues and try to identify the areas that need to be addressed urgently in a multidisciplinary environment to support future drug development.

### KEY DIFFERENCES IN REAL DRUG THERAPY TO OLDER AND MULTIMORBID PATIENTS

M. Gogol, *Geriatric Department, Krankenhaus Lindenbrunn, Copenbruegge, Germany*

Drug research usual not include greater numbers of elderly patients which will take the most drugs for chronic conditions. The real world drug consumers differ widely in terms of different biological state, comorbidity, polypharmacy, functional health, and specific conditions (e.g. cognitive decline, low social support, low health literacy). The key question is how research has to be designed to solve this problems. As randomized controlled trials seems to be the gold standard the first goal has to be to perform research in elderly real world patients. This will lead to the fact that more concomitant factors has to be included into trial analyzes and outcomes variables will change. Well designed cohort studies could be an alternative solution. Another major question is how and when to include elderly persons and consumer healthcare organizations into drug and device development and how adherence can be improved over a longterm period.

### THE IMPACT OF OLDER AGE, MULTIMORBIDITY AND POLYPHARMACY ON THE RISK FOR ADRS AND PK/PD VARIANCES AND MEDICATION MANAGEMENT ISSUES

J.L. Beizer, *College of Pharmacy & Health Sciences, St. John's University, Queens, New York*

Older adults are at risk for adverse drug events due to a number of factors that can affect the pharmacokinetics and pharmacodynamics of medications. Some of these factors include physiologic changes that occur with aging, the effect of multiple disease states, and drug interactions. In addition, the burden of polypharmacy can make adherence difficult for older adults. This session will discuss the common problems associated with medication use in the elderly and the role of the pharmacist in medication management.

### CLINICAL OUTCOME ASSESSMENTS, INCLUDING PATIENT-REPORTED OUTCOME ASSESSMENTS, IN OLDER ADULTS AND MULTIMORBID PATIENTS: A REGULATORY PERSPECTIVE ON GOOD RESEARCH PRACTICES

A.F. Slagle, *CDER/OND, FDA, Silver Spring, Maryland*

Clinical outcome assessments (COAs), including patient-reported outcome (PRO) assessments, can be used to determine whether or not a drug has been demonstrated to provide treatment benefit. A conclusion of treatment benefit is described in drug labeling in terms of the concept of interest, or the thing measured by the COA. The appropriateness of a COA for use in clinical trials to support drug approval or labeling depends on a review of the evidence and a conclusion that the COA is a well-defined and reliable assessment of a meaningful concept of interest in the specified context of use. This session will provide a regulatory perspective on the development or selection of COAs. Key considerations will be discussed, including understanding the disease or condition, conceptualizing treatment benefit, and evaluating measurement properties of a COA to ensure well-defined, reliable, and interpretable outcome assessments are used in trials of older adults and multimorbid patients.

## SESSION 1800 (SYMPOSIUM)

### PERFORMANCE AND PARTICIPATION IN MEDICALLY COMPLEX-OLDER ADULTS

**Chair:** C. Ciro, *OUHSC, Oklahoma City, Oklahoma*

**Discussant:** L.N. Gitlin, *Johns Hopkins University, Baltimore, Maryland*

In our symposium, we will highlight research which advances the understanding of performance of and participation in daily activities among medically complex-older adults, including those with mild cognitive impairment (MCI), Alzheimer's disease and related dementias, and frailty. Paper one will highlight preclinical disability in performance of instrumental activities of daily living in older adults with MCI compared to those with normal cognition using an observation-based assessment, the Performance of Self-Care Skills. These results may improve our understanding of changes in performance of daily activities for older adults with MCI and inform the diagnostic process. Paper two will describe quantitative and qualitative results of delivering the STOMP (Skill-building through Task-Oriented Motor Practice) intervention for improving performance in older adults with mild-moderate dementia, comparing a home (multi-site) and clinic trial. Demonstrating the capacity for improvements in the performance of daily activities in older adults with mild-moderate dementia is an important step in improving the quality of life for both older adults with dementia and their caregivers. Paper three will review preliminary results of a study examining the feasibility of an intervention anchored by Goal Attainment Scaling that employs compensatory strategies to increase participation in daily activities of frail older adults transitioning out of a nursing home. As we move away from institutionalization models for older adults and the population of older adults living with multiple, chronic conditions continues to increase, we need evidence for interventions that improve function and quality of life.

### FEASIBILITY OF IMPLEMENTING A CLIENT-CENTERED INTERVENTION FOR FRAIL OLDER ADULTS TRANSITIONING TO THE COMMUNITY

P.E. Toto, E. Skidmore, N. Castle, *Occupational Therapy, University of Pittsburgh, Pittsburgh, Pennsylvania*

This presentation will highlight the implementation and preliminary evaluation of TRANSITIONS, a compensatory-focused intervention anchored by Goal Attainment Scaling (GAS) to facilitate activity-based goal achievement, limit disability, promote participation, and reduce adverse events in frail older adults transitioning back to the community

following short-term rehabilitation in a skilled nursing facility (SNF). Specifically, this presentation will: (1) outline the overall rationale and components included in the TRANSITIONS intervention; (2) describe the process used to identify and establish goals through GAS and deliver a community-based intervention targeting compensation; (3) describe the design and constructs used to evaluate TRANSITIONS and (4) discuss preliminary results addressing feasibility and opportunities/challenges learned about implementation and evaluation during the pilot phase. Preliminary outcome data examining change in GAS, disability, participation and occurrence of adverse events will also be shared.

#### **PERFORMANCE IN DAILY ACTIVITIES AMONG OLDER ADULTS AT-RISK FOR DEMENTIA**

J. Rodakowski, E. Skidmore, K.D. Raina, J.C. Rogers, *Department of Occupational Therapy, University of Pittsburgh, Pittsburgh, Pennsylvania*

We examined performance in cognitively- and physically-focused instrumental activities, functional mobility, and self-care among individuals at-risk for dementia. The Performance Assessment of Self-Care Skills (PASS) assessed daily activities through standardized observations of 122 individuals who had a history of major depression. A generalized estimating equation assessed the relationship between daily activities and dementia conversion over 2-years. Results indicated that on average improvements in physically-focused instrumental activities were protective against conversion ( $p=0.03$ ), and slight decreases in cognitively-focused instrumental daily activities were associated with increased conversion ( $p<0.001$ ), even after adjusting for medication effects. Functional mobility and self-care were not associated with conversion. Changes in performance of daily activities may predict conversion to dementia in a population of individuals at-risk for dementia due to a history of depression. Interventions addressing cognitively- and physically-focused instrumental daily activities may be able to slow conversion to dementia among individuals at-risk for conversion.

#### **COMPARING TREATMENT OUTCOMES OF THE STOMP DEMENTIA INTERVENTION DELIVERED IN THE HOME VERSUS CLINIC ENVIRONMENTS**

C. Ciro<sup>1</sup>, J. Poole<sup>2</sup>, C. Robinson<sup>1</sup>, T. Hamilton<sup>1</sup>, L.A. Hershey<sup>1</sup>, J.E. Knoefel<sup>2</sup>, *1. OUHSC, Oklahoma City, Oklahoma, 2. University of New Mexico, Albuquerque, New Mexico*

**Purpose:** Examine differences in time to ADL improvement and 90-day ADL retention scores for the STOMP (Skill-building through Task-Oriented Motor Practice) dementia intervention delivered in the home vs. in the clinic. **Methods:** Two distinct quasi-experimental studies with baseline, post-intervention and 90 day assessment of examiner -rated ADL using Goal Attainment Scaling delivered either in home or the clinic analyzed through survival analysis and Student's t-tests. **Results:** Despite moderate dementia, participants in both groups demonstrated improvement in examiner-rated ADL ( $p<.05$ ) which was retained at 90 days post-intervention. ADL improvement was achieved sooner in the home ( $M=4.9$  days) than in the clinic ( $M=6.3$  days;  $p<.05$ ). Ninety-day retention scores between home ( $M=50.47$ ) and clinic ( $M=49.98$ ) were not significantly different ( $p=.86$ ). **Discussion:** While both groups made significant improvement in ADL performance, participants treated in the home achieved ADL goals sooner and with similar 90 day retention scores compared to people treated in the clinic.

## **SESSION 1805 (PAPER)**

### **SUCCESSFUL AGING**

#### **CORRELATES OF OPTIMAL COGNITIVE AGING IN 80+ WOMEN: THE WOMEN'S HEALTH INITIATIVE MEMORY STUDY (WHIMS)**

J.S. Goveas<sup>1</sup>, S. Rapp<sup>2</sup>, P. Hogan<sup>3</sup>, K. Yaffe<sup>4</sup>, J.E. Manson<sup>5</sup>, H. Tindle<sup>6</sup>, S. Resnick<sup>7</sup>, M.A. Espeland<sup>8</sup>, *1. Medical College of Wisconsin, Milwaukee, Wisconsin, 2. Wake Forest, Winston-Salem, North Carolina, 3. Wake Forest, Winston-Salem, North Carolina, 4. University of California-San Francisco, San Francisco, California, 5. Harvard Medical School, Boston, Massachusetts, 6. University of Pittsburgh, Pittsburgh, Pennsylvania, 7. National Institute on Aging, Baltimore, Maryland, 8. Wake Forest, Winston-Salem, North Carolina*

**Objectives.** The objectives of this study were to identify factors associated with being free from cognitive impairment, and having a high level of cognitive functioning in women > 80 years of age. **Methods.** 2228 women who participated in the WHIMS were included in this analysis. Participants were assigned research diagnoses of cognitively normal ( $n=1905$ , 85.5%), mild cognitive impairment ( $n=88$ , 3.9%), dementia ( $n=121$ , 5.4%) or other cognitive impairment ( $n=114$ ,  $n=5.1\%$ ) by central adjudication. Global cognitive functioning was assessed by the Telephone Interview for Cognitive Status-modified (TICS-m). Differences between women grouped by cognitive status with respect to each potential risk factor were assessed using chi squared tests and t-tests. Backward stepwise logistic regression was used to select factors that were associated with cognitive status. For inclusion, factors were required to have associations with  $p<0.05$ . **Results.** Factors associated with being free of cognitive impairment were younger age, higher education and family incomes, being non-hispanic white, better emotional wellbeing, endorsing less depressive symptoms, being free of diabetes, more insomnia and not carrying the Apo e-4 allele. Women who were cognitively normal and had high global cognitive functioning (i.e. a TICS-m score >39;  $N=467$  (21.0%)) had younger age, higher education, better self-reported general health and had not been randomly assigned to hormone therapy after age 65 in the WHI Hormone Therapy trials. **Conclusion.** Understanding the differences between good and poor cognitive aging in women over 80 years of age can assist in designing effective interventions that may prevent pathological cognitive decline in the oldest-old.

#### **SEXUAL HEALTH, QUALITY-OF-LIFE AND WELLBEING AMONG OLDER MEN AND WOMEN IN ENGLAND: A DYADIC ANALYSIS FROM THE ENGLISH LONGITUDINAL STUDY OF AGEING**

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Positive sexual relationships and good sexual health are increasingly recognised as having important impacts on quality-of-life (QoL) and emotional wellbeing among older people. There has, however, been little research on couples. We used data from the English Longitudinal Study of Ageing (ELSA), the latest wave of which included a comprehensive Sexual Relationships and Activities questionnaire (SRA-Q), to examine the association of own and partner's sexual health with QoL and wellbeing, adjusting for age, self-rated health and depression. A total of 2030 heterosexual couples (male age= $66\pm9$ ; female age= $64\pm9$ ) were identified as married or cohabiting, with both partners completing the gender specific SRA-Q. The CASP-19 was used to assess quality-of-life (QoL) and the Satisfaction With Life Scale to measure subjective wellbeing. In ordinal logistic regression models, the odds of having poorer emotional wellbeing were higher among respondents reporting

low levels of sexual activity (e.g. sexual desire, intercourse frequency) and those with sexual problems (e.g. erectile difficulties, arousal problems, pain). Concerns about sexual health, conflicting sexual likes/dislikes, and dissatisfaction with overall sex life were associated with lower QoL scores. In dyadic analyses, measures of the female partner's sexual health were not generally associated with the male partner's QoL or emotional wellbeing. Conversely, poorer sexual health in the male partner (erectile difficulties, low sexual desire, orgasm problems) was consistently associated with poorer QoL and emotional wellbeing in the female partner. Spouses or cohabiting partners do not live in isolation. Management of older adults' sexual health to improve QoL and wellbeing should involve both partners.

#### RESEARCH AND COMMUNITY PARTNERSHIPS: THE CULTURALLY-INFORMED HEALTHY AGING MODEL

L. Bratton-Mullins, L.E. Skemp, *Our Lady of the Lake College, Baton Rouge, Louisiana*

Southern United States populations are becoming older and more ethnically diverse and at the same time have disproportionate rates of chronic illnesses, a higher poverty rate, and less access to healthcare. Community Based Participatory Research has been used to partner with communities in the conduct of research to design and implement community programs to address chronic illness. However, community readiness for and sustainability of research programming remain problematic, and in particular with ethnically diverse communities. The purpose of this presentation is to describe how the culturally-informed healthy aging model (CIHA) has been used to partner with communities to conduct community capacity building research in the Deep South. The CIHA partnership formation phase was conducted in five diverse communities in the southern United States. Strategies of the partnership phase include: a) conducting a systematic cultural and health assessment of the environment, population and social organizational structures, and b) working with key community members to identify health needs and "cultural capital" to tailor best practices for culturally-informed programming and evaluation. Observational, interview and epidemiological data were collected on partnership formation. Data analysis included content analysis of transcripts and descriptive statistics of epidemiological data. Cultural variables that influenced readiness for research in these communities include demographics and health trends, as well as environmental and regulatory relationships. CIHA strategies and the determination of community partnership formation are described and implications for community research discussed.

#### AGING VETERANS AND NON-VETERANS: AN AGE-MATCHED ANALYSIS OF COHORTS

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Most research about veterans focuses on those receiving care in the VA, with less known about the health of all veterans at the population level. Earlier cohort analyses suggested that veterans (including those receiving care in and/or outside the VA) were similar to non-veterans on most health determinants. We hypothesized that these similarities in health status between veterans and non-veterans would persist over time when examined with age-matching at the individual level. We performed secondary data analysis of waves 2004 and 2010 of the Health and Retirement Study, a nationally-representative health survey. The sample included males  $\geq 51$  years (2004,  $n=4,356$  veterans; 2010,  $n=3,885$  veterans). For each wave, we grouped veterans into 4 cohorts (WWII/Korea/InterWar/Vietnam), comparing them to age-matched non-veterans. Health status determinants included diseases, dementia (performance-based measure), other geriatric conditions, and

basic/instrumental activities of daily living. Statistical methods included propensity score matching and logistic regression. In 2004, all veteran cohorts (vs. non-veterans) had similar/better health status. Dementia was substantially less prevalent in veterans for all cohorts (e.g., WWII, 11.2% vs. 16.8%,  $p<.01$ ). These findings generally persisted through 2010. However, Vietnam-era veterans now exhibited greater prevalence of certain diseases (heart, lung, arthritis,  $p<.05$  for each) and no longer had decreased prevalence of dementia. Longitudinal population data suggest that veteran health status may be cohort dependent, with more recent survey data indicating that Vietnam-era veterans have poorer health. As Vietnam veterans age and become the dominant veteran cohort, these changes in health have implications for VA health policy and care priorities.

#### ACUTE IMPACT OF POOR SLEEP ON CEREBRAL OXYGENATION IN OLDER ADULTS

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**Introduction:** Poor sleep, characterized by low sleep efficiency, occurring 2-3 times a week, is common in older adults but its effects on brain health are not fully understood. The aim of this study is to explore the acute effects of poor sleep on cerebral oxygenation in a community-dwelling sample of older adults (70+ years). **Methods:** 115 older adults (mean age=78.3yrs, F=64%) underwent 2-nights of standard polysomnography (mean TIB=7.2 hours), including cerebral oximetry measures of percent oxyhemoglobin saturation (rcSO<sub>2</sub>). RM-ANOVA tested trends in sleep parameters and rcSO<sub>2</sub> across the 2 study nights. **Results:** Sleep efficiency on Night 1 (EF1) were low (< 70%) in 51 and normal ( $\geq 70\%$ ) in 64 subjects. Compared to subjects with normal EF1, sleep latencies were significantly lower on Night 2 in those with low EF1 ( $F_{(1,113)}=3.8$ ,  $p=.05$ ). Otherwise, the change in sleep parameters, from Night 1 to Night 2, did not differ by group. Across the nights, the time spent in S1&2 NREM ( $F_{(1,113)}=3.9$ ,  $p=.05$ ) and REM sleep ( $F_{(1,113)}=13.8$ ,  $p<.001$ ) increased, while the time spent in S3&4 NREM sleep remained unchanged ( $F_{(1,113)}=.52$ , NS). Cerebral oxygenation did not differ between the two groups but lower EF1 was significantly associated with greater rcSO<sub>2</sub> values on Night 2 ( $r=-.75$ ,  $p=.03$ ). **Conclusions:** The findings suggest that less efficient sleep has an acute negative impact on cerebral oxygenation. Future studies will explore how this association between sleep and cerebral oxygenation varies together across several days and its association with daytime cognitive function. **Support:** NR08032 and RR00046.

#### SESSION 1810 (PAPER)

##### DEMENTIA

#### STOPPING INEFFECTIVE TREATMENTS FOR PEOPLE WITH DEMENTIA: THE TRACK AND TRIGGER TREATMENT PROTOCOL

C.R. Kovach, *University of Wisconsin-Milwaukee, Milwaukee, Wisconsin*

Failure to stop ineffective and unneeded treatment is a particular concern for people with dementia because of their diminished capacity for tolerating physiological, psychosocial and environmental challenges. This presentation will: a) describe results of two preliminary studies that informed development of the Track and Trigger Treatment (T3) Protocol; and b) describe the development of the T3 Protocol and the pilot testing. The studies were conducted in 14 nursing homes with sample sizes of 112-134. We found a high frequency of failure to conduct an assessment following resident changes in behavior (87 of 112) and the continued use of the same ineffective treatments over multiple

days (60 of 112). Controlling for functional status, baseline behavior, and lack of assessment, the continued use of ineffective interventions was the strongest predictor of recurrence of agitation (change in  $R^2 = 20.1\%$ ,  $p < .001$ ). Among the 134 participants, 93 (69.4%) had between 1 and 12 treatments started, and 56 (41.8%) had treatments stopped over six weeks. The total number of treatments stopped was significantly predicted by nursing assessment and follow through. The T3 Protocol is designed to stop ineffective and unneeded treatments through an innovative approach to serial tracking of treatment response by nurses. The T3 Protocol fills a unique gap by providing a critical thinking system (tracking of treatment effectiveness) coupled with event flags (for treatments that are potentially no longer needed, ineffective, associated with side effects, or are inconsistent with the goals of care) that trigger action (to stop or change treatments).

#### **DIFFERENTIATING SUBTYPES OF APATHY IN YOUNG-ONSET DEMENTIA**

L.M. Massimo<sup>1,2</sup>, J. Powers<sup>1</sup>, L.K. Evans<sup>1</sup>, C. McMillan<sup>1</sup>, P. Eslinger<sup>2</sup>, M. Ersek<sup>1</sup>, B. Morgan<sup>1</sup>, M. Grossman<sup>1</sup>, 1. *University of Pennsylvania, Philadelphia, Pennsylvania*, 2. *The Pennsylvania State University, University Park, Pennsylvania*

**BACKGROUND:** Apathy, a reduction in goal-directed behavior (GDB), is the most common behavioral syndrome in at least one young onset dementia—behavioral variant Frontotemporal Degeneration (bvFTD), where it occurs in up to 90.5% of patients with mild stage disease. Core GDB processes include initiation, planning and motivation; when any of these processes is compromised, apathy results. The current study sought to identify selective impairments of these apathy components in bvFTD and their underlying neuroanatomical associations. **METHODS:** In twenty participants with bvFTD, we derived individualized apathy profiles to postulate subtypes of apathy by measuring reaction times using a novel computerized procedure—The Philadelphia Apathy Computerized Test (PACT)—to quantify performance for each of three GDB components – initiation, planning and motivation. We examined neuroanatomical associations of these performance profiles using a region of interest volumetric analysis. **RESULTS:** We found isolated deficits in each component of GDB in 12 (60%) bvFTD participants: two (10%) with initiation, eight (40%) with planning and two (10%) with motivation impairments. An additional eight (40%) participants were impaired on multiple components of the PACT. Voxel-based morphometry revealed that participants with reduced initiation had anterior cingulate atrophy; those with impaired planning had atrophy in dorsolateral prefrontal cortex, and those with poor motivation had orbitofrontal atrophy. **CONCLUSION:** Apathy is a complex, multi-component syndrome. We found quantitative reduction in three GDB processes contributing to subtypes of apathy in bvFTD. Future individualized treatments for apathy would be appropriately tailored to the specific compromised component(s) of goal-directed behavior.

#### **RECRUITING OLDER ADULTS INTO RESEARCH (ROAR)**

N. Silverberg<sup>1</sup>, J.L. Watson<sup>1</sup>, K. Gordon<sup>2</sup>, H. McKay<sup>2</sup>, A. Wiatr-Rodriguez<sup>3</sup>, 1. *National Institute on Aging, Bethesda, Maryland*, 2. *Administration for Community Living, Washington, DC, District of Columbia*, 3. *Administration for Community Living, Chicago, Illinois*

Currently, there are not enough older adults, especially those of diverse backgrounds, in Alzheimer's disease & related dementias (ADRD) research. Clinical trials, other studies to test therapies to prevent or cure diseases like Alzheimer's, and other types of research (e.g., survey) urgently need volunteers, but researchers often struggle to find participants, resulting in delays and greater costs for the research. With the National Plan to Address Alzheimer's as a spark, the Administration for Community Living (ACL), the National Institute on Aging (NIA) and the Centers for Disease Control and Prevention (CDC) collaborated on a project, Recruiting Older Adults into Research (ROAR). The primary goal of this outreach and communications initiative is to increase

the number of older adults, including those of diverse ethnic and racial backgrounds, volunteering for research participation, starting with Alzheimer's research, through leveraging state and local Aging Services and Public Health networks. This presentation will share information about the Outreach Plan, including target audiences, and materials created thus far to promote research participation messages as a part of healthy aging. Presenters will discuss examples of local collaborations to promote awareness of research participation as well as information about the utilization of national registries.

#### **NUTRITIONAL STATUS AND NEUROPSYCHIATRIC SYMPTOMS IN DEMENTIA: THE CACHE COUNTY DEMENTIA STUDY**

J. Tschanz<sup>1</sup>, C.L. Sanders<sup>1</sup>, H. Wengreen<sup>1</sup>, S. Schwartz<sup>1</sup>, S. Behrens<sup>1</sup>, C. Corcoran<sup>1</sup>, C. Lyketsos<sup>2</sup>, 1. *Center for Epidemiologic Studies, Utah State University, Logan, Utah*, 2. *The Johns Hopkins University, Baltimore, Maryland*

**Background:** Neuropsychiatric symptoms (NPS) are common in dementia and are associated with poorer patient outcomes and caregiver stress. Persons with dementia are also at greater risk for malnutrition. We examined the association between nutritional status and course of NPS in dementia in a population-based sample. **Methods:** 257 individuals with dementia (72% Alzheimer's disease, 54% female) were followed annually for up to 6.5 years. Mean(SD) age was 86(5.35). Nutritional status was assessed using a modified Mini-Nutritional Assessment (mMNA) and NPS via the 12-domain Neuropsychiatric Inventory (NPI-12). Cluster scores were calculated by summing domains for depression, anxiety and irritability (Affective) and hallucinations and delusions (Psychosis); Agitation and Apathy were single domains. Linear mixed models examined the association between nutritional status (mMNA total score or clinical groups of malnourished, risk for malnutrition, and well-nourished, 13%, 37% and 50% at baseline, respectively), and total NPI-12 score and the four symptom clusters. Covariates tested included demographics, dementia type, age of dementia onset and duration, and APOE genotype. **Results:** Total NPI-12 scores increased over time (1.3 points/year). In multivariable models, higher mMNA score was associated with lower total NPI-12 score ( $B=-1.2$ ;  $SE=.15$ ). Malnourished persons ( $B=8.10$ ;  $SE=1.37$ ) and those at risk for malnutrition ( $B=3.09$ ;  $SE=0.91$ ) had worse NPS-12 scores compared to well-nourished participants. Higher mMNA scores were associated with lower Affective ( $B=-.09$ ;  $SE=.05$ ), Psychosis ( $B=-.09$ ;  $SE=0.04$ ), and Apathy ( $B=-.19$ ;  $SE=0.05$ ) cluster scores. **Conclusion:** Nutritional status is associated with NPS in dementia. Addressing nutritional deficiencies may provide a potential intervention to reduce the occurrence and severity of NPS.

#### **MEASUREMENT OF KNOWLEDGE OF ALZHEIMER'S DISEASE IN A RURAL APPALACHIAN POPULATION**

L.K. Wiese, C.L. Williams, R.M. Tappen, D. Newman, *Florida Atlantic University, Boca Raton, Florida*

Alzheimer's disease (AD) threatens the health of older rural Appalachians yet research on AD in this population is scarce. In order to improve screening rates for AD, Appalachians need to understand their vulnerability. The first step would be to assess their knowledge about AD but a suitable AD knowledge test has not been developed. The purpose of this study was to test the reliability and validity of a new measure of knowledge about AD that is culturally congruent, and to examine factors that may predict AD knowledge in this rural population. A descriptive study was conducted with 240 participants from four samples of older adults in south central rural Appalachian West Virginia using surveys and face-to-face interviews. Results from tests for stability, reliability including Rasch modeling, discrimination and point biserial indices, and concurrent, divergent, and construct validity were favorable. Findings were that although more diversity in test item difficulty is needed, the test discriminated well between persons with higher and lower levels of education [ $F(2, 226) = 170.51$ ,  $p = .001$ ].

Using multiple regression, the predictors of AD knowledge included caregiver status, miles from a healthcare provider, gender, and education; ( $R^2=.05$ ,  $F(4,187) = 2.65$ ,  $p = .04$ ). Only years of education accounted for a significant proportion of unique variance in predicting the total BKAD score ( $t = 2.14$ ,  $p = .03$ ). Implications include the need for testing for health literacy and community based approaches in designing programs that will ultimately increase screening and detection of Alzheimer's disease in rural populations.

## SESSION 1815 (SYMPOSIUM)

### MAKING CONNECTIONS THROUGH THE ART OF LOSING: USING HUMANITIES APPROACHES TO UNDERSTAND LATER LIFE

**Chair:** K. de Medeiros, *Sociology and Gerontology, Miami University, Oxford, Ohio*

**Co-Chair:** R. Maierhofer, *University of Graz, Graz, Austria*

**Discussant:** S.R. Sabat, *Georgetown University, Washington, DC, District of Columbia*

Unlike research in the social and biomedical sciences, where the focus is on explanatory models or questions of "how," humanities research focuses explanations of meaning or questions of "why." Sources of data in the humanities include cultural artifacts, critical essays, interviews, historical documents, and many others. The purpose of this symposium is to present three humanities-based research papers which challenge normative assumptions about aging. The first paper critically examines the positioning of dementia within tropes of threats and catastrophes linked to older age. The second paper explores how patients' stories can inform the clinician about the experience of aging, thereby providing insights that extend far beyond skills learned during medical training. The third paper provides an analysis of a recent television show, *Derek*, whereby the title character and the residents he cares for challenge ageist stereotypes in a unique and non-glamorized way. Overall, the papers provide new ways of addressing key concepts in gerontology and demonstrate the ways in which humanities-based research can inform approaches to understanding older age.

### LIVING A LONG LIFE BY INTERCONNECTEDNESS: CELLS, CULTURE AND SOCIETY

T.R. Cole, *University of Texas, Health Science Center, Houston, Texas*

As the Alzheimer Association has not become tired of insisting, the "greatest known risk factor for Alzheimer's is advancing age." Based on a need for funding and recognition, the American Alzheimer's Association has shown how a successful campaign can in the public imagination establish a disease as a discourse of anxiety and fear. Discussion of dementia has been dominated by images of risk and metaphors of natural catastrophes. During the G8 summit in December 2013 in London, David Cameron spoke of a global threat. The binary opposition of nature versus culture has played a major role in shaping our understanding of life-course identity. My paper will deal with the topic of age and aging by investigating how our understanding of natural risks influences our notion of agency, and offer a subversive deconstruction of normative age concepts.

### FOSTERING HEALING BY LISTENING TO OUR PATIENTS' STORIES

A. Green, *Johns Hopkins University School of Medicine, Baltimore, Maryland*

"The art of losing isn't hard to master," writes Elizabeth Bishop in her poem "One Art." "So many things seem filled with the intent to be lost." Aging is an emotional experience as much as a physical one. Clinicians who care for older adults know that there are some calamities we cannot fix, and that the answers do not always lie in our medical toolbox. Four structured vignettes will demonstrate the importance of

listening to patients' stories. These cases will illustrate how clinicians can foster healing by cultivating the humanistic care of older adults.

## CHANGING THE PERFORMANCE OF OLD AGE: A CRITICAL ANALYSIS OF *DEREK*

K. de Medeiros, *Sociology and Gerontology, Miami University, Oxford, Ohio*

In 2013, comedian/actor Ricky Gervais launched a new series, *Derek*, in which he portrays a socially awkward, middle-aged man who works at a retirement home. While outsiders to the home view Derek and the residents as having lives filled with continuing loss, Derek and the others see their lives as full of hope despite challenging circumstances. The purpose of this paper is therefore to provide a critical analysis of *Derek* Season 1 in light of the question: Who loses is old age? Is it older people themselves or "outsiders" to the experience who fear change? Drawing on work by Cruikshank, Gullette, and other theorists, I argue that *Derek* offers a new window through which to consider how old age is performed and understood

## SESSION 1820 (SYMPOSIUM)

### INCREASING REPORT CARD PATIENT-CENTEREDNESS AND RELEVANCY FOR DIVERSE ELDERS

**Chair:** J. Gaudet Hefe, *Brandeis University, Waltham, Massachusetts*

Consumer engagement lies at the heart of any strategy to improve quality through public reporting. Yet studies show minimal consumer use of healthcare report cards, despite consumers' reported interest in seeing this information and using it for decision-making. While research on what consumers are looking for in report cards is lacking, the disconnect between consumers' interest in and use of report card information may be driven by current report card content, which may not be meeting consumers' needs. In particular, consumers often report the desire for personalized health care information to inform their decision-making, which current report cards often fail to provide. Meeting consumers' needs in this domain is crucial if report cards are to have their intended effect of informing consumers' decisions and driving quality improvement. This session brings together researchers whose empirical studies address these questions from a variety of perspectives. The panel will discuss research results from studies of consumer preferences for report card information and racial differences in these preferences; hospital discharge team use of report cards and perceptions of patient choice laws; the development and testing of a personalized, interactive report card; and an assessment of how quality information impacts nursing home choice for dually enrolled Medicare/Medicaid residents.

### MINORITY VOICES OFFER INSIGHTS TO ENHANCE VALUE OF NURSING HOME COMPARE REPORT CARDS

J. Gaudet Hefe, A. Acevedo, L.A. Nsiah-Jefferson, C.E. Bishop, Y. Abbas, E. Damian, *Brandeis University, Waltham, Massachusetts*

This study assessed consumer preferences for nursing home information and determined how preferences vary across race/ethnicity. Data were collected through 11 focus groups and 29 interviews (Black, Latino, and White adults aged 40+). Participants expressed interest in detailed information on staff and pricing; suggested several new measures related to preventative care and formal complaints; and wanted ratings conducted by families/residents and measures stratified by race/ethnicity. Black and Latino participants expressed more skepticism about the reports and wanted information on languages spoken and race/ethnicity. Most of the information participants desired is not currently available in Nursing Home Compare (NHC). Consumer needs can be better met with more detailed information and customer reviews. Given minorities' low report card use rates, focus should be on meeting the information needs of these users. The overall lack of awareness of

NHC underscores the need for a marketing campaign and the role of navigators.

#### **DO DUALY ELIGIBLE CONSUMERS BENEFIT FROM PUBLIC REPORTING OF NURSING HOME QUALITY?**

R. Konetzka<sup>1</sup>, D. Grabowski<sup>2</sup>, M. Coca-Perraillon<sup>1</sup>, R.M. Werner<sup>3</sup>, *1. University of Chicago, Chicago, Illinois, 2. Harvard Medical School, Boston, Massachusetts, 3. University of Pennsylvania, Philadelphia, Pennsylvania*

Individuals enrolled in both Medicare and Medicaid (“duals”) are attracting increasing health policy attention due to their disproportionate use of health care services and costs. The nursing home sector has long been a target of concern about low quality of care, and duals are often disproportionately affected by these quality problems. Public reporting of nursing home quality is an important policy initiative intended to improve quality. In this study, we use 2006–2010 national resident-level assessment data from nursing homes to test whether duals are less likely to respond to, and benefit from, quality information than non-duals, and why. Preliminary results reveal that, rather than choosing higher-quality facilities, duals have increased propensity to be admitted to low-quality facilities under public reporting. By assessing the relative importance of barriers to effective use of quality information by duals, we identify promising avenues to improve access to high-quality care for a particularly vulnerable population.

#### **CONSUMER AND HOSPITAL CASE MANAGER PERSPECTIVES ON HOME HEALTH REPORTS**

S. Gravenstein<sup>1,2,3</sup>, R. Baier<sup>1,4</sup>, E. Cooper<sup>1</sup>, A. Wysocki<sup>4</sup>, V. Mor<sup>4,5</sup>, M. Clark<sup>4</sup>, *1. Healthcentric Advisors, Providence, Rhode Island, 2. Case Western Reserve University School of Medicine, Cleveland, Ohio, 3. Warren Alpert Medical School of Brown University, Providence, Rhode Island, 4. School of Public Health of Brown University, Providence, Rhode Island, 5. Providence Veterans Affairs Medical Center, HSR&D Research Service, Providence, Rhode Island*

We aimed to determine how consumers and hospital case managers (CMs) use existing Rhode Island or Medicare home health public reports, and what changes they recommend. We conducted focus groups (consumers) and structured interviews (CMs), and then performed qualitative analysis. None of the subjects were familiar with existing reports. Both groups expressed a desire for logistical information (e.g., insurance, service area, services); consumers were comparatively more interested in quality and satisfaction. CMs reported routinely asking patients to choose agencies based on lists, and were reluctant to provide any information that could be construed as noncompliance with Medicare and Social Security ‘patient choice’ laws. These findings may help to tailor the form and content of public reports to overcome barriers (real or perceived) to engaging patients in informed decision making. This is timely given policies to increase patient engagement and to require hospitals to assume financial risk for patients’ post-discharge care.

#### **NURSING HOME COMPARE PLUS (NHCPLUS): A PERSONALIZED, PATIENT CENTERED, REPORT CARD FOR NURSING HOMES**

D.B. Mukamel<sup>1</sup>, A.N. Amin<sup>1</sup>, D. Weimer<sup>2</sup>, J. Sharit<sup>3</sup>, D. Gustafson<sup>1</sup>, D. Sorkin<sup>1</sup>, *1. University of California, Irvine, Irvine, California, 2. University of Wisconsin-Madison, Madison, Wisconsin, 3. University of Miami, Miami, Florida*

The Nursing Home Compare (NHC) report card published by the CMS includes 19 clinical quality measures (QMs), staffing, and citation information. These measures are not correlated, making choosing a nursing-home difficult for consumers. This study was designed to develop an alternative: an iPad-based application (NHCPlus) allowing consumers to create composite scores for nursing-homes based on their personal health needs and preferences, effectively creating a person-

alized, patient centered report card. Key informant interviews were performed with patients and family members (N=20) to obtain feedback about usability, usefulness, and applicability. All informants reported that NHCPlus would have been extremely helpful in choosing a nursing-home, and that they were willing to spend a substantial amount of time (20-30 minutes or more) with the application to help them make their choice. The NHCPlus application we developed and pilot tested offers a prototype for combining personalized preferences with quality metrics for other report cards.

### **SESSION 550 (SYMPOSIUM)**

#### **POLICY SERIES: ELDER FINANCIAL EXPLOITATION: NEW FEDERAL AND STATE INITIATIVES FOR PREVENTION, DETECTION AND RESPONSE**

**Chair:** N. Karp, *Consumer Financial Protection Bureau, Washington, District of Columbia*

The Consumer Financial Protection Bureau (CFPB), launched in 2011, has an Office for Older Americans—the only federal office specifically dedicated to the financial health of Americans age 62 and over. The Office is collaborating with a multitude of stakeholders and experts to enhance protection for older adults and their nest eggs through policy and practice. CFPB staff and experts from several disciplines will present key projects including: guides for “financial caregivers” handling finances for older adults who can no longer manage their money; strengthening the role of financial institutions in preventing financial abuse; tools for assisted living and nursing facilities to protect residents; and supporting state-level coalitions working to strengthen state policy and services.

### **SESSION 1830 (SYMPOSIUM)**

#### **SUCCESSFUL AGING: CONNECTING CRITICAL GERONTOLOGY AND CRITICAL ANTHROPOLOGY**

**Chair:** J.C. Robbins-Ruszkowski, *Anthropology, University of Michigan, Ann Arbor, Michigan*

**Co-Chair:** S. Lamb, *Brandeis University, Waltham, Massachusetts*

**Discussant:** T. Calasanti, *Virginia Polytechnic Institute and State University, Blacksburg, Virginia*

The successful aging paradigm provided a necessary corrective to previous theories that assumed decline, decay, and decrepitude to be old age’s dominant characteristics. “Successful aging” has now itself succeeded, having become a well-established field of study and an inspiring goal for researchers, community organizations, older adults, and the public alike. This paradigm holds that we each have the potential—and a moral, political obligation—to make our own aging “successful,” staving off late life’s potential disabilities and burdens. However, this symposium reveals this model’s inherent assumptions, which arise from its cultural and political context. That is, “successful aging” is underpinned by North American and European ideals of personhood, the life course, and biomedicine. This symposium challenges such naturalized assumptions by presenting mixed-method qualitative research findings from diverse cultural, political, and economic contexts: the US, Poland, India, Thailand. Panelists will connect experiences of Catholic nuns, Alaska Native Elders, Hindu ashram dwellers, Thais of diverse ethnicities, Polish and American lifelong learning aspirants, and dementia sufferers, to gerontological, medical, and public discourses on successful aging. This symposium’s critical perspective expands gerontological theories of successful aging by: 1) decentering Euro-American perspectives through cross-cultural data; and 2) suggesting that “successful aging” is only one model of a worthy old age—and that, given its increasingly global status as the dominant form of valued elder personhood, “successful aging” may be counterproductive and exclusionary. By connecting critical gerontological and anthropological perspectives,



this symposium integrates empirical data with social theory to suggest new directions for gerontological research.

### STRATIFICATION AND HETEROGENEITY OF SUCCESSFUL AGING CONSTRUCTS IN THAILAND AND USA

M.R. Luborsky<sup>1,2</sup>, C. Thianthai<sup>3</sup>, 1. *Institute of Gerontology, Wayne State University, Detroit, Michigan*, 2. *NVS, Karolinska Institutet, Stockholm, Sweden*, 3. *Chulalongkorn University, Bangkok, Thailand*

The 2013 World Bank systematic study, Global Burden of Disease Injuries and Risk Factors, documented both continued life expectancy gains and elderly living more years with injury and illness. Trenchant questions remain about how to think about what should be the form of a just societal life for all which is attuned to diverse elders, community and culture-specific constructions of a good later life. Using in-depth interviews with elders and minority elders in Thailand (Thai, Muslim, Chinese) and Michigan (African American) and public document analyses we compare notions and pathways of successful aging. Findings indicate: socially stratified ideals cross-cutting national contexts; local specific contents; and shared situated dilemmas. Final discussion explores findings in light of competing models for healthy aging and their political embeddedness. [Funding acknowledgement: Chula University]

### THE IMPORTANCE OF OPTIMISM IN MAINTAINING HEALTHY AGING IN RURAL ALASKA

J.P. Lewis, *School of Social Work, University of Washington, Seattle, Washington*

Many Alaska Native Elders attended government-run boarding schools as children, were forbidden to speak their native language, and were forced to abandon their traditional subsistence lifestyle, yet they maintained an optimistic outlook and continued to age well. The Explanatory Model Interview Protocol was adapted to interview a purposive sample of Alaska Native Elders (n = 26) and grounded theory was used to develop a model of successful aging for Alaska Native Elders in Bristol Bay, Alaska. The theme of optimism was significant in the findings and was also found in each of the elements of successful aging, which were spirituality, emotional well-being, community engagement, and physical health. The Elders believed they were able to age successfully because they continued to be optimistic despite the challenges they faced (and are currently facing) in their communities.

### MEASURING SUCCESS: AGING WELL IN A CATHOLIC CONVENT

A. Corwin, *Anthropology, UCLA, Los Angeles, California*

American Catholic nuns have been found to experience greater physical and psychological well-being than their lay counterparts. While these nuns have been heralded as models of “successful aging,” analysis reveals that the nuns’ ideologies of health and aging may, in fact, contradict many of the tenants of “successful aging” seen in the popular and academic literature such as independence, productivity, agency, and control. Drawing on a corpus of hundreds of hours of audio- and video-recorded ethnographic data collected over four years in a Catholic convent infirmary, the paper examines the models of well-being and aging as they emerge in everyday interaction within the community. The paper expands critical theories of successful aging by: 1) demonstrating that the nuns’ model of well-being contradicts the values held in Western models of successful aging; and 2) proposing an expanded model for the evaluation of “success” at the end of life.

### THE POLITICS OF SUCCESSFUL AGING IN POLAND: FINDINGS FROM AN ETHNOGRAPHIC STUDY

J.C. Robbins-Ruszkowski, *Anthropology, University of Michigan, Ann Arbor, Michigan*

Older people who participate in Universities of the Third Age (UTAs) in Poland often connect such experiences to Poland’s post-socialist transformations and European Union membership. That is, lifelong learning is associated with living—and aging—in an idealized West. Successful aging in Poland is thus a political practice in which older Poles can overcome stigma associated with the socialist past by striving for a European future. However, this possible future is not equally accessible to everyone; achieving ideals of successful aging is limited by class and health status. Moreover, some achieve a worthy old age through different means than those promoted by UTAs. Drawing on twenty months of ethnographic research in Polish educational and medical institutions, this paper demonstrates that successful aging is culturally specific and connected to global politics, and can be exclusionary. “Successful aging” thus benefits from a political-economic perspective as a step towards overcoming its exclusionary nature.

### AGELESS AGING OR MEANINGFUL DECLINE? PERSPECTIVES FROM INDIA, THE U.S. AND A CRITICAL ANTHROPOLOGY

S. Lamb, *Anthropology, Brandeis University, Waltham, Massachusetts*

The successful aging paradigm rests on cultural biases that often go unrecognized. Drawing on two decades of ethnographic fieldwork on aging in social-cultural life in India as well as twelve months of fieldwork among two groups of (financially-privileged and low-income) Boston-area elders, the paper illuminates Western successful-aging assumptions while offering alternative perspectives to explore. Although the majority of the financially-privileged US elders in this study embrace and are inspired by Western ideals of successful aging—which emphasize independence, activity, self-responsibility, and agelessness—others in India and the U.S. critique the model for overemphasizing independence and insufficiently incorporating the human realities of mortality and decline. The paper uses the critical perspectives of interviewees to ask: Does the prevailing successful aging model overemphasize independence and declining to decline at the expense of coming to meaningful terms with late-life changes, situations of (inter)dependence, possibilities of frailty, and the condition of human transience?

### SESSION 1835 (SYMPOSIUM)

#### SUPPORTING ENGAGEMENT IN CARE: HIV KNOWLEDGE, THE SOCIAL CONTEXT, AND ACCESS CONCERNS FOR OLDER ADULTS WITH HIV

**Chair:** A.K. Hughes, *School of Social Work, Michigan State University, East Lansing, Michigan*

**Discussant:** S.E. Karpiak, *ACRIA, New York, New York*

Access and active participation in health care is essential for older adults with HIV/AIDS. Knowledge of HIV can increase awareness among older adults and supports their ability to be an engaged participant in health care. The social context of medical care interacts in important ways with access to care. The papers in this symposium will examine issues of knowledge, experience, and access from multiple perspectives. First, we ground the symposium in epidemiological data on healthcare service use from a national data set of emergency room and hospital use by older adults with HIV/AIDS. This paper discusses the costs associated with, and implications of, care needs that are met in the emergency room setting. The next paper will detail the development of the first HIV/AIDS knowledge measure developed specifically for use with older adults. This measure has good initial validity and its uses in research and practice will be discussed. Because social sup-

ports are instrumental to care experiences among older adults with HIV/AIDS, the next paper uses qualitative methods to explore social supports among older Black women who regularly attend HIV-care. Findings indicated that engagement in care was negatively affected by disease stigma and insufficient social supports, while receiving social support was found to be key in maintaining regular participation in care. The discussion will explore how these multiple sources of data increase our understanding of the myriad factors related to engagement in health care among older adults with HIV/AIDS, including implications for policy, practice, and future research.

#### **HIV-RELATED EMERGENCY DEPARTMENT VISITS AMONG OLDER ADULTS**

M. Carter, *Towson University, Towson, Maryland*

Increasing rates of HIV infection among adults aged 50 and over is an immediate public health concern. In comparison with their younger counterparts, older adults with HIV are more often diagnosed later in the course of the disease and experience more rapid immune-system decline. However, patterns of healthcare service use and outcomes among older adults with HIV are not well understood. In response, this study draws upon the Nationwide Emergency Department Sample to examine the epidemiology of HIV-related ED visits among older adults. Descriptive and multivariate analyses are used to describe HIV-related visit rates, service use, costs and outcomes, including per capita estimates, hospital admission status, and commonly occurring comorbidities observed during the visit. Findings suggest that roughly 101,112 HIV-related patient-visits occur annually among adults aged 50 and over, with nearly 2/3 of these resulting in hospitalization. Implications for access, care, and healthcare costs are discussed.

#### **HIV/AIDS KNOWLEDGE MEASUREMENT: PROCESS AND PRODUCT**

A.K. Hughes, *School of Social Work, Michigan State University, East Lansing, Michigan*

There are currently no available HIV knowledge measures that are targeted to older adults. This study aimed to fill this gap by developing and validating a measure specifically for older adults. Through review of extant knowledge measures and expert feedback we created a pilot measure. It was reviewed by three HIV experts and eight focus groups of older adults for face and content validity, and updated based on their feedback. A validation sample of adults aged 50 and older was then recruited from the community to complete the pilot measure as well as other measures to assess concurrent and divergent validity. This measure shows initial promise given the favorable internal consistency reliability and convergent validity results. The measure performs well in a racially diverse sample. It has potential for use in clinical research evaluating HIV educational efforts with older adults as well as in healthcare settings.

#### **THE PERCEIVED EFFECTS OF STIGMA AND SOCIAL SUPPORT AMONG OLDER BLACK WOMEN ATTENDING REGULAR HIV CARE**

M. McDoom<sup>1,2</sup>, M. Drainoni<sup>5,3,4</sup>, B. Bokhour<sup>5,3</sup>, M. Sullivan<sup>4</sup>, 1. *Social Science Research Center, Mississippi State University, Starkville, Mississippi*, 2. *Department of Global Health and Population, Harvard School of Public Health, Boston, Massachusetts*, 3. *Department of Health Policy and Management, Boston University School of Public Health, Boston, Massachusetts*, 4. *Department of Medicine, Boston University School of Medicine, Boston, Massachusetts*, 5. *Center for Healthcare Organization and Implementation Research, Edith Nourse Rogers Memorial VA Hospital, Bedford, Massachusetts*

Despite the fact that consistent engagement in HIV care improves outcomes among people living with HIV, engagement in HIV care among older populations has been less studied compared to younger

populations, and few studies have focused on this issue from the perspective of older Black women. To further understand how older Black women (age 50+) perceive the effects of stigma and social support on regular attendance to HIV care, we conducted a qualitative study to explore how the roles of stigma and social support were related to engagement and retention in care among 20 older Black women. Women who did not receive social support or experienced ongoing stigma portrayed their social world as a source of distress that affected their ability to engage in care. However, women engaged in care if they could successfully limit their distress by disclosing their HIV status to someone and receive social support.

#### **SESSION 1840 (SYMPOSIUM)**

#### **AGING IN PLACE IN SENIOR HOUSING: DEVELOPING A "VILLAGE" MODEL TO INCLUDE LOW INCOME RESIDENTS**

**Chair:** R. Dunkle, *University of Michigan, Ann Arbor, Michigan*

**Discussant:** A.E. Scharlach, *University of California, Berkeley, California*

The "Village" model has emerged over the last two decades as a way to provide support and services to older people who want to continue to live in the community. Many villages thus far have been grassroots, community-based organizations that are lead and funded by residents living in a neighborhood. While this has been a successful strategy for some older adults, those with lower incomes or living in congregate housing arrangements have had difficulty gaining access to this model. This symposium describes the development of a statewide village initiative formed through a partnership among a service provider, housing provider, and a university that intentionally included low income residents in HUD housing. The first paper examines the necessary steps to develop a strategic alliance among these three organizations. The second paper focuses on the service delivery model, including data used to define the model and strategies to solicit participation by HUD housing residents and older adults living in the community. Using qualitative data collected from service coordinators in current and future intervention sites, the third paper examines the role of service coordination in this model and the challenges of aging in places in congregate housing. Using quantitative data gathered from residents, the fourth paper compares the well-being of those living at intervention sites and those in comparison sites. Implications for designing a village that intentionally includes low income residents in an urban setting as well as recommendations for promoting this model in suburban and rural areas will be discussed.

#### **STRATEGIC ALLIANCE FOR AGING IN COMMUNITIES: COMMUNITY CONNECTIONS IN DETROIT AND BEYOND**

K. Harlow-Rosentraub<sup>1</sup>, R. Dunkle<sup>1</sup>, T. Wintermute<sup>2</sup>, J. Robinson<sup>3</sup>, 1. *School of Social Work, University of Michigan, Ann Arbor, Michigan*, 2. *Hannan Foundation, Detroit, Michigan*, 3. *Presbyterian Villages of Michigan, Detroit, Michigan*

Presbyterian Villages of Michigan and the Hannan Foundation, a provider of senior services, having similar interests in senior housing and community services, formed a partnership based on shared values. These two organizations coupled with the research expertise of University of Michigan provided a unique opportunity for planning and development of a Strategic Alliance. The collaborative developed and implemented a new, evidence-based model of service coordination for senior housing and surrounding neighborhoods that adapted some aspects of the national village-to-village model but emphasized both market rate and subsidized housing, focusing on access, wellness, and social engagement for village residents and neighbors in surrounding communities. The cooperation of board members and the development of an MOU helped to align strategies and resources to achieve mutual goals. Process measures, lessons learned and best practices in devel-

oping and evaluating a collaboration that is greater than the sum of its individual members will be discussed.

### **COMMUNITY CONNECTIONS: A DATA-DRIVEN, VILLAGE-TO-VILLAGE MODEL PROGRAM**

A. Smyth<sup>2</sup>, R. Dunkle<sup>1</sup>, S. Savas<sup>1</sup>, K. Harlow-Rosentraub<sup>1</sup>, P. Allen<sup>1</sup>, 1. *School of Social Work, University of Michigan, Ann Arbor, Michigan*, 2. *Presbyterian Villages of Michigan, Southfield, Michigan*

This presentation describes the development of the Community Connections model. This community-centric model is designed to support aging in place for community members and village residents regardless of place and income. Three models (urban, suburban, and rural) are in various stages of implementation. Data collected to support the launch of the model and facilitate successful community entre will be presented. Collection sources included community conversations, focus groups, and mapping (asset and ArcGIS). The data were gathered to inform recruitment strategies, community member engagement, business engagement, and initial service offerings. Results indicated that members can identify their aging in place “wants”, their service needs (current and anticipated), and their connection to the community. Local businesses are interested in partnering with Community Connections to meet the gaps in providing home health care, handyman, and house-keeping services for older adults. Logic model and data collection protocols will be shared.

### **VILLAGE RESIDENT VOICES: RECRUITING, INTERVIEWING AND DOCUMENTING**

K. Harlow-Rosentraub, R. Dunkle, S. Savas, *School of Social Work, University of Michigan, Ann Arbor, Michigan*

As the Michigan Village Initiative moved forward with design plans for a variation of the Village-to-Village model for senior services, a Planning Information Pyramid model was developed. At the fourth or top level, primary databases are required. Two village sites where a service coordinator was in residence (n=108) were compared to two comparison sites without a coordinator (n=51). Recruitment involved gift certificates for small amounts and completion rates ranged from 67-69%. Interviews were conducted on-site in apartments or common areas. Survey developed from UC Berkeley data and Legacy Corps focused on access, utilization, well-being and social engagement. Baseline assessment found few differences in intervention and comparison sites but the residents are substantially different from other village studies with more low income and minority participants. Recontact within a year will measure changes in health status, wellness perceptions and increased engagement in village and community activities and governance.

### **THE ROLE OF SERVICE COORDINATORS IN AGING IN PLACE AND POTENTIAL CONTRIBUTIONS TO A VILLAGE MODEL**

A.J. Lehning<sup>1,3</sup>, B. Carney<sup>2</sup>, H. Wiseman<sup>1</sup>, 1. *University of Maryland, Baltimore, Maryland*, 2. *The Luella Hannan Memorial Foundation, Detroit, Michigan*, 3. *University of Michigan, Ann Arbor, Michigan*

Service coordination is thought to have numerous benefits for older adults including helping them age in place. The mechanisms by which service coordination contributes to positive outcomes, however, are not well understood because of limited research. Using interview data collected from service coordinators in current and future intervention sites of a village initiative, this presentation explores service coordinators' perceptions of 1) their roles and responsibilities, and 2) the barriers to aging in place experienced by low-income residents living in HUD housing. Content analyses indicate that service coordinators perceive their ability to monitor residents and detect potential problems early as key to facilitating aging in place. The ability of service coordinators to

assist residents is limited, however, by challenges from family members, community infrastructure, requirements of the job and, most commonly, residents themselves. The paper concludes with implications of including formal service coordination in a village initiative.

## **SESSION 1845 (PAPER)**

### **CHRONIC ILLNESS CARE AND DISEASE MANAGEMENT**

#### **INTEGRATED TELEHEALTH EDUCATION ACTIVATION FOR MOOD AND CHRONIC ILLNESS IN GERIATRIC HOMECARE PATIENTS: THE I-TEAM STUDY**

Z.D. Gellis<sup>1</sup>, B.L. Kenaley<sup>2</sup>, 1. *University of Pennsylvania, Philadelphia, Pennsylvania*, 2. *Boise State University, Boise, Idaho*

Approximately 20% of geriatric home care patients with chronic diseases are readmitted to hospital within one month of discharge underscoring health system challenges. Delivering integrated telehealth services may provide one effective approach to this problem by monitoring physical symptoms, increasing communication on patient status with primary care, and delivering evidence-based treatments for depression. This is the first study to report the results of a randomized controlled trial of I-TEAM© (Integrated Telehealth Education and Activation of Mood), an integrated telehealth care model for chronic illness and co-morbid depression vs usual in-home care plus psychoeducation. The 3-month intervention was comprised of a telehealth nurse conducting daily telemonitoring of symptoms, body weight, and medication use, providing problem-solving treatment for depression, and communicating with the patient's primary care physician who prescribed antidepressants. The two groups were compared at baseline, 3 and 6-months post-baseline on depression, health status, problem solving, and health utilization (number of readmissions, patient episodes of care, and ER visits). At 3 and 6 months post-baseline, depression scores decreased by 50% in the I-TEAM group as compared to usual care. The I-TEAM group reported significant improvement in problem solving skills and self-efficacy in managing their medical condition compared to controls. The I-TEAM group had significantly lower ER visits ( $P < .03$ ) at 12-month post-baseline compared to usual care. Patients reported that telehealth services were feasible and satisfactory. After attending this activity, participants will be able to discuss the I-TEAM integrated health and mental health model and associated benefits with telehealth technology.

#### **EFFECTIVENESS OF INTENSIVE HOME HEALTH AND PHYSICIAN VISITS IN REDUCING HEART FAILURE READMISSIONS**

C.M. Murtaugh<sup>1</sup>, P. Deb<sup>2</sup>, T. Peng<sup>1</sup>, C. Zhu<sup>3</sup>, S. Moore<sup>4</sup>, Y. Barrón<sup>1</sup>, S. Shah<sup>1</sup>, E. Cohen<sup>5</sup>, 1. *Center for Home Care Policy & Research, Visiting Nurse Service of New York, New York, New York*, 2. *Hunter College, New York City, New York*, 3. *Icahn School of Medicine at Mount Sinai, New York, New York*, 4. *Independent Contractor, Bonny Doon, California*, 5. *Princeton University, Princeton, New Jersey*

**Objective.** To identify the most effective strategy for reducing readmissions among heart failure (HF) patients discharged to home health care by comparing the effectiveness of: (1) early, intensive home health nursing (i.e., at least 1 visit within 24 hours of discharge and 3+ visits in the first week); (2) at least 1 outpatient physician visit in the week after discharge; and (3) both “interventions.” **Methods.** Medicare data were used to identify all fee-for-service beneficiaries hospitalized for HF and then discharged to home health care between 7/1/09 and 6/30/10. There were 98,722 index hospitalizations where patients had a full week following hospital discharge in which to receive the interventions. Instrumental variables estimation was used to produce unbiased estimates of intervention effects on 30-day all-cause readmis-

sion rates relative to patients who did not receive any intervention. The instruments are hospital-level practice patterns excluding HF patients. Results. The rate of rehospitalization was reduced 7.2 percentage points (SE=2.6;  $p<0.01$ ) for patients receiving both interventions (11.1% of all observations). Neither intervention alone had a statistically significant effect. Conclusions. Among Medicare HF patients discharged to home health care, the combination of early, intensive nursing services and at least 1 outpatient physician visit in the week after hospital discharge very substantially reduces the risk of rehospitalization. No change in Medicare policy is necessary for home health agencies and physicians to more widely implement these practices. Thus, the findings have the potential to rapidly change clinical practice and directly benefit the growing number of older persons with HF.

#### **DELIVERING MULTIPLE EVIDENCE-BASED PROGRAMS TO AT-RISK SENIORS**

S.D. Towne<sup>1</sup>, M.L. Smith<sup>2,1</sup>, S. Ahn<sup>3,1</sup>, B. Belza<sup>4</sup>, M. Altpeter<sup>5</sup>, K. Kulinski<sup>6</sup>, M.G. Ory<sup>1</sup>, 1. *Health Promotion and Community Health Sciences, Texas A&M Health Science Center, College Station, Texas*, 2. *University of Georgia, Athens, Georgia*, 3. *University of Memphis, Memphis, Tennessee*, 4. *University of Washington, Seattle, Washington*, 5. *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*, 6. *National Council on Aging, Center for Healthy Aging, Washington, District of Columbia*

The Chronic Disease Self-Management Program (CDSMP), A Matter of Balance/Volunteer-Lay-Leader (AMOB/VLL) and EnhanceFitness (EF) are evidence-based programs (EBP) that have been disseminated nationwide but comparable reach/retention among vulnerable populations has limited documentation. We conducted cross-sectional analyses of three EBPs disseminated throughout the US (2006-2009) as part of the AoA Evidence-Based Disease Prevention Initiative. Our objective was to document the extent to which these EBPs reached vulnerable older adults, the presence of multiple programs across service sectors, and factors associated with successful completion. All programs attracted participants with comorbidities (63% for CDSMP, 59% for AMOB/VLL and 64% for EF) and approximately one-quarter of participants in all programs had incomes under \$15,000. EnhanceFitness had the highest reach in terms of both minority (43% for EF vs 38% for CDSMP and 26% for AMOB/VLL) and rural (25% for EF vs 18% for CDSMP and 17% for AMOB/VLL) penetration among EBPs. The presence of multiple programs was less common in rural areas where having one of the three EBPs was more likely. Successful completion of CDSMP (attending 4+ of 6 sessions) was significantly associated ( $p<.05$ ) with race (White-versus-Black), residing in rural areas or partial HPSA and having few chronic conditions, while successful completion of AMOB/VLL (attending 5+ of 8 sessions) was associated with race/ethnicity (White-versus-Hispanic and Black-versus-White), residing in a full HPSA and being in a lower income group. These programs reached more vulnerable older adults than reached previously. Variations in successful completion suggests the importance of tailored strategies for obtaining higher completion rates.

#### **ORAL CANCER SCREENING IN LONG-TERM FACILITIES FOR OLDER ADULTS**

T. Cadet<sup>1,2</sup>, P. Maramaldi<sup>1,2,3</sup>, 1. *School of Social Work, Simmons College, Boston, Massachusetts*, 2. *Harvard School of Dental Medicine, Boston, Massachusetts*, 3. *Harvard School of Public Health, Boston, Massachusetts*

An estimated 41,000 Americans will be diagnosed with oral cancer in 2014, while almost 8,000 will die. Approximately 25% of these deaths are attributable to late diagnosis and treatment. Most recent data (2011) indicates that approximately 40% of those diagnosed with oral cancer were over age 65, and almost 60% of the deaths occurred in people age 65 and older. Older nursing home residents are most vulnerable to poor oral health, which is associated with late stage diagnosis of oral

cancer. Early diagnosis—through screening—is key to improved oral cancer morbidity and decreased mortality. The reported study used a conceptual framework and analysis integrating the Health Belief Model, Transtheoretical Model and Implementation Science. We interviewed and surveyed administrators responsible for overall care of elders in long-term care facilities across the Commonwealth of Massachusetts. Results from our NIH funded pilot study indicate that regular oral cancer screening is not generally provided to nursing home residents despite the commitment of administrators to excellent oral care. We found a lack of knowledge about oral cancer risk among nursing home residents, family members, and staff combined with low self-efficacy about oral cancer screening contributed to low screening rates. Furthermore, findings suggest high motivation to divert resources toward safety and nutrition might be redirected to include oral health. This investigation provides formative data for the development of empirically grounded interventions that identify opportunities, and motivations to implement oral cancer screening across disciplines involved in the care of elders in residential facilities.

#### **PREDICTING NURSING HOME FALLS: METHODOLOGY USING ELECTRONIC MEDICAL RECORDS**

A. Marier<sup>1</sup>, W.D. Spector<sup>2</sup>, W. Rhodes<sup>1</sup>, 1. *Abt Associates, Inc., Bethesda, Maryland*, 2. *Agency for Healthcare Research and Quality, Rockville, Maryland*

Falls are the most frequently reported adverse event among frail nursing home residents, and are associated with considerable mortality, morbidity, and reduced functioning. Nursing home fall rates range from approximately 0.2 to 3.6 falls per bed per year with a mean of 15 reported falls per year for an average nursing home with 100 beds. In 2000, the average estimated direct medical cost associated with a non-fatal fall was \$7,307 for adults older than 65 years of age. Falls in a nursing home setting can be prevented before they occur with an appropriate risk factor alert system and staff vigilance. Most nursing home fall literature employs a resident's Minimum Data Set (MDS) assessments as a primary data source. However, MDS assessments can relay lagged information about resident fall risk. The recent emergence of electronic medical record (EMR) data in nursing homes has spurred research that uses timelier fall risk information. This paper provides a methodological framework that uses time-varying clinical data to predict nursing home resident fall risks. We use EMR and MDS data jointly to predict the probability of a nursing home resident's fall using a piece-wise exponential hazard model. We show that the predictive power of the model using both primary data sources is superior to that of a model using MDS assessments alone. Electronic medical records allow clinicians the ability to assess health service provision in real time. Our proposed model provides the missing link between health technology and quality improvement efforts.

#### **SESSION 1850 (SYMPOSIUM)**

##### **EMERGING MECHANISMS & INTERVENTIONS**

**Chair:** R. De Cabo, *National Institute On Aging, Baltimore, Maryland*

This session will focus on newly identified mechanisms underlying age-related decline in function related to epigenetics and metabolism. Dana Miller, University of Washington, will present "Epigenetic memory of hydrogen sulfide declines with age in *C. elegans*"; Marcia Haigis, Harvard University, will present work on "The role of mitochondrial metabolism in immune aging. In addition, one talk from submitted abstracts will be included.

## **EPIGENETIC MEMORY OF HYDROGEN SULFIDE DECLINES WITH AGE IN C. ELEGANS**

E.M. Fawcett, D.L. Miller, *Washington University School of Medicine, St. Louis, Missouri*

One consequence of aging is a decline in the ability to respond appropriately to fluctuating environments. As a result, the aged are generally less able to maintain homeostasis and survive stressful conditions. One strategy to survive harsh environments is to predict environmental changes based on previous experiences. Epigenetic bookmarking is one example of this, where a physiological memory of exposure to an environmental factor allows for a more robust response if that factor is encountered again. We have discovered a new epigenetic bookmark in *C. elegans* that is formed by exposure to the gas hydrogen sulfide (H<sub>2</sub>S). A short, transient exposure to H<sub>2</sub>S allows animals to survive subsequent exposure to otherwise lethal H<sub>2</sub>S exposures. The H<sub>2</sub>S-induced bookmark can persist through embryonic cell divisions and requires the conserved SWI/SNF chromatin-remodeling complex. This adaptive response is less effective in old animals. In older animals, the initial adaptation to H<sub>2</sub>S is intact, but the physiological memory is not efficiently maintained. This decline in epigenetic function is associated with the end of reproduction, suggesting a mechanistic link with germline-related aging signals. We propose that signals from the germline act to promote the function of SWI/SNF in young animals, allowing for remodeling of the chromatin landscape at H<sub>2</sub>S-inducible gene promoters and more efficient transcriptional activation upon subsequent exposures to H<sub>2</sub>S.

## **MICROVASCULAR MECHANISMS OF AGE-RELATED COGNITIVE DECLINE**

Z. Ungvari, *Reynolds Oklahoma Center on Aging, Department of Geriatric Medicine, University of Oklahoma Health Sciences Center, Reynolds, Oklahoma*

Hypertension in the elderly substantially contributes to cerebrovascular damage and promotes the development of vascular cognitive impairment. Despite the importance of the myogenic mechanism in cerebrovascular protection, it is not well understood how aging affects the functional adaptation of cerebral arteries to high blood pressure. Hypertension was induced in young (3 mo) and aged (24 mo) C57/BL6 mice by chronic infusion of angiotensin II. In young hypertensive mice, the range of cerebral blood flow autoregulation was extended to higher pressure values and the pressure-induced tone of MCA was increased. In aged hypertensive mice autoregulation was markedly disrupted, and MCAs did not show adaptive increases in myogenic tone. In young mice the mechanism of adaptation to hypertension involved up-regulation of the 20-HETE/TRPC6 pathway and this mechanism was impaired in aged hypertensive mice. Downstream consequences of cerebrovascular autoregulatory dysfunction in aged angiotensin II-induced hypertensive mice include exacerbated disruption of the blood-brain barrier and neuroinflammation (microglia activation, up-regulation of pro-inflammatory cytokines and chemokines), which were associated with impaired hippocampal cognitive function. Collectively, aging impairs autoregulatory protection in the brain of mice with angiotensin II-induced hypertension, potentially exacerbating cerebrovascular injury and neuroinflammation.

## **MAKING CONNECTIONS: FROM STRESS RESISTANCE TO A LONGER HEALTH SPAN**

T.E. Johnson<sup>1</sup>, W. Chick<sup>2</sup>, J. Cypser<sup>1</sup>, G. Fahy<sup>3,1</sup>, D.A. Kitzenberg<sup>2</sup>, M. Ludwig<sup>2</sup>, B. Newell<sup>1</sup>, P. Tedesco<sup>1</sup>, *1. Univ of Colorado Boulder, Boulder, Colorado, 2. Univ of Colorado Denver, Denver, Colorado, 3. 21st Century Medicine, Santa Monica, California*

Increased resistance to multiple stressors is a biomarker that can be used to predict subsequent longevity and health span. We have developed a platform enabling the production of novel longevity mutants in the mouse. Non-targeted genetic screens allow the detection and rapid

cloning of genes that are firm candidates for slowed aging and extended life in the mouse model. The platform is extremely high throughput with the ability to selectively screen 25,000 mutant clones in 2 weeks. Both dominant and recessive mutants can be isolated and the origin of the mutational events can be determined within a week. The platform has been applied to several distinct phenotypes, including multi-stress resistance and a variety of genes have been implicated and drug development is underway.

## **SESSION 1855 (SYMPOSIUM)**

### **THE PINE STUDY- THE POPULATION-BASED STUDY OF CHINESE ELDERLY IN CHICAGO: RESEARCH, METHODS, IMPLICATIONS, AND OPPORTUNITIES**

**Chair:** X. Dong, *Rush University, Chicago, Illinois*

Population-based studies in aging sciences have constituted an important basis for the understanding of the distribution of illness and diseases, thus allowing estimation of population-attributable health and aging factors needed for leveraging public decision making and policy changes. While the U.S. older population grows larger and faster as reflected in the recent demographic changes, the call to examine the needs of its diverse populations is present and clear. In order to expand current knowledge base, The PINE study - Population Study of Chinese Elderly in Chicago-is a comprehensive survey that examines the health and well-being of over 3,000 Chinese older adults aged 60 and over in the greater Chicago area. To our knowledge, the PINE study is among the largest cohorts of Chinese elderly assembled for epidemiological research in Western countries. Session 1 will provide a brief introduction of the PINE study and its place within an increasing set of population-based longitudinal studies on aging. Session 2 will detail the survey methodology of the PINE study, including the survey development, sample design, innovative data collection, and field implementation with culturally and linguistically sensitive measures. Session 3 will briefly summarize the findings of the baseline survey with respect to the social and psychological well-being of Chinese older adults. Session 4 will highlight the challenges faced and lessons learned from developing impact-driven health community-academic partnerships through conducting the PINE study guided by community-based participatory research approach. Session 5 will discuss the study's policy and practice implications for advancing social change.

### **INTRODUCTION TO THE POPULATION-BASED STUDY OF CHINESE ELDERLY IN CHICAGO (THE PINE STUDY)**

X. Dong<sup>1</sup>, M.A. Simon<sup>2</sup>, E. Chang<sup>1</sup>, R. Chen<sup>1</sup>, *1. Rush Institute for Healthy Aging, Rush University Medical Center, Chicago, Illinois, 2. Northwestern University Medical Center, Chicago, Illinois*

U.S. Chinese population is amongst the fastest growing ethnic/minority group in the country. While there is a pressing socio-demographic imperative to investigate their health and well-being of Chinese older adults, population-based research with Chinese older adults has been scarce due to multiple structural and cultural barriers in research participation. Influenced by a history of population-based survey research in the field of health and aging, the PINE study is a population-based epidemiological study of 3,159 community-dwelling Chinese older adults aged 60 years and older in greater Chicago area. With its data collection took place between July 2011 to June 2013, the PINE study assessed a wide array of psychological, social, and other health indicators closely intertwined with their cultural ideal on health and well-being. This introduction will also briefly summarize the findings of the baseline survey.

## STUDY DESIGN AND SURVEY METHODOLOGY FOR THE PINE STUDY

M.A. Simon<sup>2</sup>, E. Chang<sup>1</sup>, M. Zhang<sup>1</sup>, X. Dong<sup>1</sup>, 1. *Rush Institute for Healthy Aging, Rush University Medical Center, Chicago, Illinois*, 2. *Northwestern University Medical Center, Chicago, Illinois*

With the goal to collect a representative population-based sample of Chinese older adults in the greater Chicago area, the PINE study partnership developed up-to-date scientific strategies to increase resource efficiency, cost-effectiveness, and is carried out with several noteworthy features in its study development, design, and field implementation. First, we implemented a targeted community-based recruitment strategy guided by community-based participatory research approach, yielding a response rate of 91.9%. Second, the study was operationalized on a multi-lingual and multi-cultural infrastructure, ranging from survey design, interviewer training, study materials, to data collection, with each step the field implementation designed toward serving the needs of linguistically and culturally diverse Chinese community. Third, data were collected using state-of-the-science innovative web-based software applications which recorded simultaneously in English and Chinese. In conclusion, the PINE study was implemented in accordance with the local cultural, social, and environmental contexts of Chinese aging population. Implications for minority aging research studies are discussed.

## PSYCHOLOGICAL AND SOCIAL WELL-BEING OF U.S. CHINESE OLDER ADULTS: KEY FINDINGS FROM THE PINE STUDY

E. Chang<sup>1</sup>, M.A. Simon<sup>2</sup>, J. Ruan<sup>1</sup>, R. Chen<sup>1</sup>, X. Dong<sup>1</sup>, 1. *Rush Institute for Healthy Aging, Rush University Medical Center, Chicago, Illinois*, 2. *Northwestern University Medical Center, Chicago, Illinois*

Despite the fact that health disparities continue to disproportionately affect older adults, vast knowledge gaps still persist in understanding the late-life psychological and social well-being of Chinese immigrant older adults – one of the fastest-growing minority communities in the U.S. This paper will examine some of the key findings based on the PINE study findings with respect to depression, anxiety, loneliness, and suicidal thoughts and attempts, as well as social well-being indicators of social isolation and elder abuse. Collectively, the PINE study findings show that contrary to the model minority image, U.S. Chinese older adults were significantly affected by psychological and social distress. These results call for further longitudinal studies to examine how the health and well-being of these older adults' changes over time in order to better examine risk and protective factors associated with health disparities among Chinese older adults.

## CHALLENGES FACED AND LESSONS LEARNED FROM SUSTAINING COMMUNITY-BASED PARTICIPATORY RESEARCH PARTNERSHIP IN THE CHINESE COMMUNITY IN CHICAGO

R. Chen<sup>1</sup>, M.A. Simon<sup>2</sup>, E. Chang<sup>1</sup>, Y. Li<sup>1</sup>, X. Dong<sup>1</sup>, 1. *Rush Institute for Healthy Aging, Rush University Medical Center, Chicago, Illinois*, 2. *Northwestern University Medical Center, Chicago, Illinois*

Community-academic partnership is among the most commonly practiced collaborations in community-based participatory research (CBPR) projects. Despite growing interests and demands in partnerships, less attention is given on partnership sustainability—a critical issue to the management of successful community health initiatives. Following the community-based, action-oriented collaboration model, the PINE study was led by a synergistic community-academic partnership to overcome barriers in minority health research. In this presentation we aim to present challenges faced and lessons learned from our CBPR experience in the Chinese aging community in Chicago. Working with Chinese older adults requires trust, respect, and understandings

of their unique historical, social and cultural positions in the Chinese community. We will also discuss culturally appropriate strategies to sustain evidence-based, impact-driven partnership and ways to leverage research for health advocacy.

## MAXIMIZE THE IMPACT OF POPULATION-BASED RESEARCH WITH MINORITY OLDER ADULTS: IMPLICATIONS FOR COMMUNITY HEALTH

X. Dong<sup>1</sup>, M.A. Simon<sup>2</sup>, E. Chang<sup>1</sup>, C. Li<sup>1</sup>, 1. *Rush Institute for Healthy Aging, Rush University Medical Center, Chicago, Illinois*, 2. *Northwestern University Medical Center, Chicago, Illinois*

The PINE Study has created a rich dataset on the psychological and social being of U.S. Chinese older adults within a culturally appropriate context. The assessments hold potential produce a significant number of critical findings that contributes to our understanding to the health and well-being of minority aging populations in the U.S. Our findings suggest that Chinese older adults were disproportionately affected by psychological and social distress. An expanded research agenda is needed to deepen our current knowledge of the biological, behavioral, familial, social, and cultural factors that may predispose minority older adults to health disparities. In addition, we call for increased family and community care, improved delivery of care, practice changes and policy reform, to prepare for the growing numbers of older adults who may need more culturally and linguistically appropriate health and social services.

## SESSION 1860 (SYMPOSIUM)

### SUCCESSFUL ADAPTATION TO HEALTH EVENTS AND DISABILITY: FINDINGS FROM LARGE LONGITUDINAL SURVEYS

**Chair:** S.M. Spuling, *German Centre of Gerontology, Berlin, Germany*

**Co-Chair:** J.K. Wolff, *German Centre of Gerontology, Berlin, Germany*

**Discussant:** S. Wurm, *Friedrich-Alexander University, Nuremberg, Germany*

With advancing age sudden declines in health due to serious health events (e. g., the onset of diseases or accidents) or the development of disability become more and more likely. Consequences of these changes in health may affect indicators of successful aging. The present symposium focuses on factors that facilitate adapting successfully to serious health events (SHE) and disability in several domains with longitudinal data of older adults. Analyzing DEAS-data – a German representative longitudinal survey of people aged over 40 – Spuling et al. examine the role of age and education as possible moderators for the effect of SHE on self-rated health. Using both data from DEAS and PREFER, Wolff et al. show that in case of SHE, negative self-perceptions of aging are related to short-term positive as opposed to long-term negative effects on well-being and health. Deeg et al. demonstrate with the Dutch LASA survey that among others instrumental support and sense of mastery are related to experience ongoing positive affect despite long-term. Infurna and Wiest show that disability shapes developmental trajectories of life satisfaction and self-rated health with different factors associated with better adaptation using longitudinal data of 4,155 persons from the Socio-Economic Panel Study (SOEP). All of these presentations demonstrate with large longitudinal datasets that diverse factors (e.g., age, education, social participation, mastery, aging perceptions) may support successful adaptation to SHE and disability. Susanne Wurm will integrate these findings from a health and developmental psychology perspective and draw implications for prevention and resilience in old age.

## THE EFFECT OF SERIOUS HEALTH EVENTS ON SELF-RATED HEALTH: THE MODERATING ROLE OF AGE AND EDUCATION

S.M. Spuling<sup>1</sup>, J.K. Wolff<sup>1</sup>, S. Wurm<sup>2</sup>, 1. German Centre of Gerontology, Berlin, Germany, 2. Friedrich-Alexander University, Nuremberg, Germany

The present study examines if age and education – and in particular their interplay – moderate the effect of a serious health event (SHE) on self-rated health (SRH). Using longitudinal data of two waves of the German Ageing Survey (DEAS), 2,842 participants aged 40 years and older were analyzed. Between 2008 and 2011, 581 participants experienced a SHE. 66.1%, however, reported a stable or even better SRH afterwards. Multiple regression analyses showed a significant three-way interaction between SHE, age and education. Post hoc analyses revealed that without experiencing a SHE, higher educated participants showed a more favorable trajectory of SRH than those with lower education (both in younger and older adults). However, in case of a SHE, only younger adults with higher education were able to maintain a relatively high level of SRH. Possible underlying explanations and mechanisms such as differences in initial health status and availability of psychosocial resources are discussed.

## NEGATIVE SELF-PERCEPTIONS OF AGING IN OLD AGE: SHORT-TERM GAINS AND LONG-TERM LOSSES AFTER A SERIOUS HEALTH EVENT

J.K. Wolff<sup>1</sup>, L.M. Warner<sup>1,2</sup>, J.P. Ziegelmann<sup>1</sup>, B. Schüz<sup>3</sup>, S. Wurm<sup>4</sup>, 1. German Centre of Gerontology, Berlin, Germany, 2. Freie Universität, Berlin, Germany, 3. University of Tasmania, Hobart, Tasmania, Australia, 4. Friedrich Alexander University, Nuremberg, Germany

Longitudinal studies show that older adults with negative self-perceptions of aging (SPA) experience steeper declines in health. However, in the short-run negative SPA may have beneficial effects, because older adults who associate aging with physical losses might be better mentally prepared for serious health events (SHE). These persons may experience on the one hand less negative affect shortly after the event and on the other hand worse functional health later on, e.g., through less rehabilitation efforts. In the PREFER study, a subsample of the German Ageing Survey (DEAS) was investigated over a 6 month period (309 older adults, 65+). 2.5 years later, this sample was re-interviewed. In the case of a SHE, negative SPA were related to less negative affect six months later, but to more functional limitations after 2.5 years. Mechanisms such as preparatory behavior and exhaustive coping and similarities to research on unrealistic optimism are discussed.

## THE EFFECT OF DISABILITY ON LIFE SATISFACTION AND SELF-RATED HEALTH: RESILIENCE IS NOT THE PROTOTYPICAL PATTERN

F.J. Infurna<sup>1</sup>, M. Wiest<sup>2</sup>, 1. Psychology, Arizona State University, Tempe, Arizona, 2. German Centre of Gerontology, Berlin, Germany

Disability is a major stressor that affects one's developmental trajectory. Relatively little is known, however, about the effect of disability on facets beyond that of life satisfaction (LS), such as self-rated health (SRH) and whether individuals display differential trajectories. We applied growth mixture modeling to 4,155 (Mage =60, SD=14, 48% women) individuals from the SOEP who experienced disability. Four and three patterns of how LS and SRH changed were identified, respectively. Although similar patterns were found, their distribution varied and only for LS, a pattern reflecting resilience (high stable levels), was identified. Factors associated with belonging to favorable patterns were younger age and social participation. Our findings suggest that disability shapes developmental trajectories differently depending on the domain and furthermore, that resilience may not be the norm when confronted with disability. We discuss reasons why resilience may not be the norm when confronted with disability and factors promoting resilience.

## RESILIENCE AS PRESERVED WELL-BEING DESPITE LONG-TERM DISABILITY

D.J. Deeg<sup>1</sup>, M. Broese van Groenou<sup>2</sup>, H.C. Comijs<sup>4</sup>, M. Huisman<sup>1</sup>, M. Visser<sup>3</sup>, 1. VU University Medical Centre Department of Epidemiology and Biostatistics, Amsterdam, Netherlands, 2. VU University Department of Sociology, Amsterdam, Netherlands, 3. VU University Institute of Health Sciences, Amsterdam, Netherlands, 4. VU University Medical Centre Department of Psychiatry, Amsterdam, Netherlands

Ample evidence shows that health limitations are inversely associated with well-being in older persons. It is also widely acknowledged that the older population shows heterogeneity in its experience of health limitations. This study examines the subgroup that preserves well-being despite long-term disability. Nine-year follow-up data from the Longitudinal Aging Study Amsterdam were used, including four waves (1992-2002, N=1503). 348 (23%) reported difficulty doing daily activities at all waves. Among them, 19% (n=66) reported positive affect at all waves. This 'resilient' group was characterised by older age, slower gait speed, a higher prevalence of lung diseases and arthritis, but also a higher sense of mastery, and more instrumental support received. Education, gender, partner status, and cognitive impairment were not significantly associated with resilience, and resilience was not associated with subsequent 9-year mortality. Thus, we identified a resilient subgroup that did not add years to life, but added life to years.

## SESSION 1865 (SYMPOSIUM)

### HEALTH DISPARITIES: DISABILITY, MORTALITY, AND HEALTH CARE USE DIFFERENTIALS AMONG IMMIGRANT AND MINORITY GROUPS

**Chair:** R. Saenz, Public Policy, University of Texas at San Antonio, San Antonio, Texas

**Discussant:** K. Markides, Public Policy, University of Texas at San Antonio, San Antonio, Texas

Health disparities in health status, healthcare utilization, and clinical outcomes have been documented by race, ethnicity, gender, immigration status, and social class both in the U.S. and other countries. Immigrant and minority populations in the United States are much younger in age structure than the non-Hispanic white and native-born populations. As such, there has been more limited research on the health outcomes of immigrant and minority populations in comparison to the white population. In an era characterized by rapid diversification of the population and substantial inequalities in resources across population groups, it is crucial that researchers and policymakers devote greater attention to the health, disability, and mortality patterns of immigrant and minority populations in the United States, particularly in the context of population aging. As such, the overall goal for this symposium is to analyze the health, disability, and mortality patterns of immigrant and minority populations residing in the United States, with particular attention to the underlying patterns of aging within all of the population subgroups to be analyzed. For this session, papers are sought that extend the understanding of the sociological forces that lie behind persistent and emerging disparities in health, disability, mortality, and healthcare utilization as well as research that examines social factors and/or public policy initiatives designed to reduce or eliminate these disparities among immigrant and minority groups residing in the United States.

### ACCULTURATION, GENDER AND ACTIVE LIFE EXPECTANCY IN THE MEXICAN-ORIGIN POPULATION

M.A. Garcia<sup>1</sup>, R. Angel<sup>1</sup>, C. Chiu<sup>2</sup>, 1. Sociology, University of Texas-Austin, Austin, Texas, 2. Health Services and Systems Research, Duke-NUS, Singapore, Singapore

**Objective:** This study explores the role of acculturation on active life expectancy based on Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (I-ADLs) in a 17 year cohort study

of Mexican-origin men and women 65 and older at baseline. Method: We employ multistage life tables to examine the impacts of level of acculturation and gender on life expectancy. Results: Life expectancy is modestly higher for men and women with low or medium levels of acculturation compared to those with the highest level. However, those with low or medium levels of acculturation spend a larger fraction of their remaining years with disability. Discussion: While lower levels of acculturation as associated with longer life spans, they are associated with lower active life expectancy. Given the rapid aging of the older Latino population and their relatively long life spans, public health interventions designed to prevent functional disability deserve serious attention.

#### **SUBJECTIVE DISABILITY AND MORTALITY RISK AMONG ELDERLY MEXICAN AMERICANS WITH SEVERE PHYSICAL LIMITATIONS**

P.A. Cantu, R. Angel, *University of Texas at Austin, Austin, Texas*

Using the disablement process framework for understanding the gradient in functioning and disability, we study how concordance of objectively measured functioning, measured through performance oriented mobility assessments (POMAs), and self-assessed disability, measured through survey questions on activities of daily living (ADLs), shapes the mortality for elderly Mexican Americans. Individuals who experience negative concordance, POMA's limited and ADL disabled, are "realist" while those who experience discordance, POMA's limitation but no ADL disability, are optimists. We investigate the association between "optimism" and mortality for elderly Mexican Americans of the Southwest US using data from the Hispanic Established Populations for the Epidemiologic Study of the Elderly (HEPESE). Using Poisson models, we find that mortality rates are higher for "realists" than "optimists". The association between optimism and mortality is mediated by more complex measures of disability. We discuss the implications of the discrepancies for understanding predictors of functional decline in the older Mexican-origin population.

#### **IMPACT OF LIVING ARRANGEMENTS AND HEALTH INSURANCE ON ROUTINE CARE FOR OLDER MINORITIES**

A.M. Reyes, *Sociology, Pennsylvania State University, University Park, Pennsylvania*

Health care spending for older adults is five times that of individuals in their 20s, which is why understanding health care utilization is particularly important for this group. This study examines how racial differences in routine care are shaped by living arrangements and health insurance stability among older adults. Using the Survey of Income and Program Participation 2004-2008, this study focuses on individuals, ages 50-64 and those 65+, and uses logistic regression models to predict having been to the doctor and having been to the dentist in the past year. Both living arrangements and health insurance are strong predictors of both types of routine care. However these effects are moderated by race. Results indicate that health insurance is less protective for Blacks and Latinos and living with extended family is less detrimental for Blacks and Latinos, whereas overall it reduces the likelihood of obtaining routine care controlling for socio-demographics.

#### **DURATION OF U.S. STAY, AGE, AND HEALTH AMONG LATINO AND ASIAN IMMIGRANTS: A TEST OF THEORETICAL PATHWAYS**

A. Ro<sup>1</sup>, G. Bostean<sup>2</sup>, *1. UC Irvine, Irvine, California, 2. Chapman University, Orange, California*

This study tested theoretical pathways through which duration of U.S. stay may affect self-rated health and chronic conditions among Latino and Asian immigrants of various ages. Using the National Latino and Asian American Survey, we conducted logistic regressions separately by age group to address: what is the relationship between

duration of stay and health; to what extent do health behaviors, English proficiency, migration-related stress, social support, and discrimination mediate the relationship between duration and health? Preliminary analyses showed little support for a duration effect among Latinos, and an inverse effect among Asians, especially older immigrants (OR=0.38,  $p < .10$  for 21+ years vs. 0-4 years). Age differences highlight that adaptation processes may impact younger immigrants more. In some cases, hypothesized pathways magnified the negative duration effect. Thus, multiple pathways with opposing effects link duration and health. Not accounting for pathways may mask important duration patterns. Additional pathways will be examined.

#### **FACETS OF SOCIOECONOMIC POSITION AND DISABILITY ONSET AND PROGRESSION: THE CASE OF MEXICO**

J. Saenz, *Preventive Medicine and Community Health, University of Texas Medical Branch, Galveston, Texas*

Introduction: United States research has found education to predict disability onset while income predicts disability progression. This framework has not been applied to developing countries experiencing rapid aging such as Mexico to understand socioeconomic status (SES) disability pathways. Aim: To determine if education is associated with Activities of Daily Living (ADL) disability onset and if income is associated with disability progression (new ADL disabilities among those with existing disability). Method: Data come from the Mexican Health & Aging Study and include respondents age 50+. Full analyses will use all three Waves of data (2001-2012), longitudinal mixed-effect models and instrumental variables for education and income. Preliminary Results: In preliminary logistic and multinomial regression models using only Waves one and three, lower education and income were associated with disability onset but neither were associated with disability progression. Discussion: Pathways between SES and disability may differ across the United States and Mexico.

#### **SESSION 1870 (SYMPOSIUM)**

#### **POPULATION AGING AND HEALTHY LIFE EXPECTANCY IN INDIA: IMPLICATIONS FOR THEORY AND POLICY**

**Chair:** T. Samanta, *Social Sciences, Indian Institute of Technology, Gandhinagar, Ahmedabad, Gujarat, India*

Empirical health research on older adults in the developing world has often constructed later life as a social pathology of disease, disability, burden and dependence. India is no exception. Drawing mortality data from the World Health Organization and the Census of India (2011) and health (specifically, functional limitations and chronic diseases) data from Longitudinal Aging Survey of India (LASI, 2011), this paper examines both life expectancy (LE) and Healthy Life Expectancy (HLE) to realistically examine the link between active aging, social connectedness and quality of life of older persons in India. Preliminary findings suggest that inequalities in healthy life expectancies exist by gender, residence (rural/urban) and region (selected states in India). In addition to advancing the scholarship on HLE by examining life expectancies through a critical gerontological theory lens, the study makes a case for a forward looking social policy on aging that is more enduring and inclusive.

#### **HEALTH EXPECTANCIES AMONG CHINESE OLDER ADULTS: EVIDENCE FROM CHINA HEALTH AND RETIREMENT LONGITUDINAL STUDY**

H. Luo<sup>1</sup>, G. Wong<sup>1</sup>, T.Y. Lum<sup>1</sup>, C.H. Gong<sup>2</sup>, H. Kendig<sup>2</sup>, *1. Sau Po Centre on Ageing, The University of Hong Kong, Hong Kong, Hong Kong, 2. The Australian National University, Canberra, Australian Capital Territory, Australia*

Although life expectancy in China is increasing, what proportions of life spend in a good health is unknown. This study aims to calculate dif-



ferent types of age-specific health expectancies for Chinese older adults who aged 50 and older by sex in 2011. Combining the information of life table from World Health Organization and 2011 baseline survey of China Health and Retirement Longitudinal Study, we calculated health expectancies in terms of self-reported health, chronic disease, ADL, and disability using Sullivan's method. We found that men and women have similar health expectancies for self-reported health and chronic disease. Women have longer health expectancies in terms of ADL and disability. However, women's proportions of life spend with good health are generally lower than men. This study calls for a thorough investigation of the trend of China's HLE for older adults so that health-care cost and pension provision schemes can be adjusted accordingly.

#### **HEALTHY AGING IN KOREA: AN INVESTIGATION OF GEOGRAPHIC VARIATIONS**

J. Min, J. Lee, *Davis School of Gerontology, USC, Los Angeles, California*

Korea, with remarkable economic growth and strategic public health investment, has achieved significant increase in life expectancy from 61.9 years in 1970 to 81.2 in 2011. However, both economic development and life expectancies are unequal across regions within the country: according to the 2011 Census, the residents in the richest region had 33.4% more disposable income and 3 additional years of life expectancy than those in the poorest region. Using the 2012 Korean Longitudinal Study on Aging, we investigated geographic variations in health among older adults and examine their association with stage of economic development and health care resources (both personnel and facilities) of the regions. We found health, particularly difficulties with daily activities, differed significantly across 15 regions ( $F=2.49$ ,  $p<.001$ ) and such geographic variations were significantly associated with disposable individual income of the regions.

#### **HEALTHY LIFE EXPECTANCIES AND HEALTH INEQUALITIES AMONG THE ASIA-PACIFIC COUNTRIES: EVIDENCE FROM AUSTRALIA, KOREA, CHINA, SINGAPORE AND INDIA**

Y. Saito<sup>1</sup>, C.H. Gong<sup>2</sup>, H. Kendig<sup>2</sup>, *1. Nihon University, Tokyo, Japan, 2. Australian National University, Canberra, Australian Capital Territory, Australia*

The Life Expectancies (LE) have increased dramatically in both developed and developing countries, however, old people might have to live longer with an increasing burden of diseases, disabilities, hence needs for assistance in core activities of daily living. It is important to understand both LE and Healthy Life Expectancies (HLE). However, the international comparison literature of HLE is dominated by Europe and North America, with significant gaps existing for the Asia-Pacific countries. The objective of this symposium is to bring together world experts to present their emerging research on HLE and health inequalities in Australia, Korea, China and India. This country configuration of East-West and levels of development will bring a new range of studies into the international comparison literature of HLE with different culture and social economic environment. By drawing the information of life tables from WHO or national statistics, and health information from Census or longitudinal surveys of ageing (such as HILDA, KLoSA CHARLS and LASI), the four papers in this symposium will look at the gender and regional disparities in terms of HLE measured by different health variables, including self-assessed health, diseases, disabilities, need for assistance in core activities and dependence. Sullivan method will be used to calculate HLE and a cross-state meta-regression analysis to identify socio-economic factors influencing the inequalities in healthy life years among older people.

#### **HEALTHY LIFE EXPECTANCY AMONG OLDER AUSTRALIANS: EVIDENCE AND DRIVING FACTORS OF GENDER AND REGIONAL DISPARITIES**

C.H. Gong<sup>1,2</sup>, J.C. Enticott<sup>3</sup>, H. Kendig<sup>1,2</sup>, C. Browning<sup>4</sup>, H. Luo<sup>5</sup>, *1. Centre for Research on Ageing, Health and Wellbeing, Australian National University, Canberra, Australian Capital Territory, Australia, 2. ARC Centre of Excellence in Population Ageing Research, Canberra, Australian Capital Territory, Australia, 3. School of Psychology and Psychiatry, Monash University, Melbourne, Victoria, Australia, 4. School of Primary Health Care, Monash University, Melbourne, Victoria, Australia, 5. Sau Po Centre on Ageing, the University of Hong Kong, Hong Kong, China*

Population is ageing rapidly in Australia and its associated needs for assistance in core activities of daily living and utilizations of aged care service are increasing. This paper draws on data from a national census in 2011 to calculate Life Expectancies (LE) and Need-assistance Free Life Expectancies (NAFLE) for men and women at age 50 years. Preliminary findings indicate that LE is 3.70 years longer for women than for men while NAFLE is 2.03 years longer for women. Men, however, can expect to have a higher proportion of their remaining years without needs for assistance (87.28%) as compared to women (82.95%); NAFLE findings varied slightly between the states and territories. A cross-state meta-regression analysis will be used to identify socio-economic factors influencing the inequalities in healthy life years among older Australians. Implications for the future and for health promotion and aged care will be discussed.

#### **ACTIVE LIFE EXPECTANCY AND FUNCTIONAL LIMITATIONS AMONG OLDER SINGAPOREANS: GENDER, EDUCATIONAL AND ETHNIC DIFFERENCES**

C. Chiu<sup>1</sup>, A. Chan<sup>1</sup>, V. Haldane<sup>1</sup>, D. Matchar<sup>1</sup>, Y. Saito<sup>2,1</sup>, *1. Duke-NUS Graduate Medical School Singapore, Singapore, Singapore, 2. Nihon University, Tokyo, Japan*

As the world's population ages it's also urbanizing - the intersection of these factors creates challenges in planning and policies to meet the needs of the increasing numbers of urban elderly. The WHO has proposed an Age-Friendly City approach to planning urban spaces and communities, so as to address the challenges of urban aging and best capitalize on the resources available in urban centers to promote active aging. The first aim of this paper was to provide information base for "Age-Friendly City" in Singapore through better understanding age-specific transition probabilities of functional limitations. The second aim was to examine health inequality for older Singaporean. Significant differences in functional limitation incidence and health expectancy have been shown in this study. This study highlights the importance of devising policies, programs and services that recognize the nuances and differing effects of sex, ethnicity and education on functional limitations in an "Age-Friendly City".

#### **SESSION 1875 (SYMPOSIUM)**

##### **CONNECTING PERCEPTIONS OF AGING AND DEVELOPMENTAL OUTCOMES: NEW INSIGHTS ON PATHWAYS AND DOMAINS**

**Chair:** J. Menkin, *University of California - Los Angeles, Los Angeles, California*

**Co-Chair:** A.E. Kornadt, *Bielefeld University, Bielefeld, Germany*

**Discussant:** B.R. Levy, *Yale School of Public Health, New Haven, Connecticut*

Perceptions of aging influence how we age. Longitudinal and experimental research has linked more positive perceptions of aging to greater physical and cognitive function and even increased longevity. This symposium brings together research from the US, Canada, and Germany to examine the role of perceptions of aging across a variety of outcomes. In addition to extending findings to relatively unexplored

domains (preparation and social outcomes), the symposium investigates pathways through which perceptions of aging operate and interact with contextual factors to influence established outcomes like memory and health. The symposium first offers longitudinal evidence from domains where beliefs about aging may have a substantial impact. Kornadt et al. illustrate how domain-specific perceptions of aging influence one's preparation for anticipated age-related changes. Menkin et al. present how expectations regarding aging are related to social behavior (e.g. social integration). Next, the symposium offers mechanisms linking perceptions of aging to established outcomes. Two presentations link implicit theories or beliefs about malleability of memory and the aging process with subsequent memory performance. First, Chasteen will introduce how believing memory and abilities in general are more fixed (vs. malleable) predicts worse memory performance for older adults. Second, Weiss & Staudinger will further examine how essentialist beliefs, expecting less malleability, changes how experimental exposure to negative age stereotypes influences memory performance. Finally, Wurm & Benyamini propose optimism as a moderator of the self-perceptions of aging - health relationship. Becca Levy will integrate the contributions and offer future questions for theory and research.

### **PERCEPTIONS OF AGING AND PREPARATION FOR AGE-RELATED CHANGES – RESULTS FROM A LONGITUDINAL STUDY**

A.E. Kornadt<sup>1</sup>, P. Voss<sup>2</sup>, K. Rothermund<sup>2</sup>, 1. *Bielefeld University, Bielefeld, Germany*, 2. *Friedrich-Schiller-University Jena, Jena, Germany*

Perceptions of aging, such as age stereotypes and future self-views, influence how people actually age. One mechanism linking perceptions of aging and actual developmental outcomes might be how people prepare for anticipated age-related changes. Since preparation and perceptions of aging have been demonstrated to be domain-specific, we investigated the relationship between age stereotypes, future self-views and preparation for age-related changes in different life domains. In a 4-year longitudinal design (core sample N = 593, aged 30 to 80 at T1), age stereotypes as well as future self-views predicted subsequent changes in self-reported preparation in the majority of domains. For the domains finances and work, preparation also predicted changes in perceptions of aging. The results point to the importance of perceptions of aging for age-related preparation, and call for further research linking the affordances and constraints of life domains to this relationship.

### **EXPECTATIONS REGARDING AGING AND SOCIAL INTEGRATION IN LATER LIFE**

J. Menkin<sup>1</sup>, T. Robles<sup>1</sup>, T. Seeman<sup>1</sup>, T.L. Gruenewald<sup>2</sup>, E. Tanner<sup>3</sup>, 1. *University of California - Los Angeles, Los Angeles, California*, 2. *University of Southern California, Los Angeles, California*, 3. *Johns Hopkins University, Baltimore, Maryland*

Negative schemas of aging predict worse mental and physical functioning, but do they influence social engagement? With older adults alternately portrayed as lonely curmudgeons or perfect grandparents, more positive expectations about aging likely provide greater motivation to maintain or bolster one's social network. In a subset of participants (age 59 to 85) from the longitudinal Baltimore Experience Corps Trial (a civic engagement intervention), positive expectations regarding aging were related to greater social integration over time. Independent of intervention group status, participants with more positive expectations at baseline had greater perceived support availability 12 months later, controlling for baseline levels of perceived support availability, depression, health status, and demographic characteristics (N = 386). The correlates of new friendship formation, potential third variables and causal directionality will be discussed. Enhancing age-related self-stereotypes may facilitate more positive trajectories of social engagement in older adulthood and consequently promote better health and well-being.

### **CAN A LEOPARD CHANGE ITS SPOTS? HOW OLDER ADULTS' LAY THEORIES ABOUT ABILITIES PREDICT THEIR MEMORY PERFORMANCE**

A. Chasteen, J. Plaks, *University of Toronto, Toronto, Ontario, Canada*

There is growing evidence that the memory performance of older adults is significantly influenced by subjective beliefs regarding aging and memory. In this talk I will extend this literature by introducing a more general class of implicit theories that may affect memory function in older adults. Specifically, I will present recent work from our lab that investigated whether older adults' implicit theories regarding the fixedness (entity theory) or malleability (incremental theory) of memory in particular and abilities in general would predict memory performance. In addition to demonstrating the role that implicit theories play in older people's memory performance, I will consider a possible mechanism through which these theories have an effect. Taken together, these studies suggest that individual differences in entity versus incremental beliefs may represent a key influence on older adults' memory performance.

### **CORRELATES AND CONSEQUENCES OF ESSENTIALIST BELIEFS ABOUT AGING**

D. Weiss, U.M. Staudinger, *Sociomedical Sciences, Columbia University, New York, New York*

Essentialist beliefs about the aging process are defined as views that link chronological age with underlying, immutable, and dispositional properties. In light of negative age stereotypes, then, older adults are often seen as incompetent, harder to train, and inflexible. A first study (N = 93, 18-81 years) showed that essentialist beliefs about aging are associated with a more restricted future time perspective and lower levels of perceived control. In a second study (N = 79, 61-87 years) we tested the moderating role of older adults' essentialist beliefs in the face of activating negative age stereotypes on memory performance. Results showed that depending on their degree of essentialist beliefs older adults showed a more or less impairment of their memory performance when confronted with negative age stereotypes (vs. control condition). We discuss mediating mechanisms and propose a novel intervention to stimulate positive plasticity by changing essentialist beliefs about old age.

### **DOES OPTIMISM BUFFER THE DETRIMENTAL EFFECT OF NEGATIVE SELF-PERCEPTIONS OF AGING ON PHYSICAL AND MENTAL HEALTH?**

S. Wurm<sup>1,2</sup>, Y. Benyamini<sup>3</sup>, 1. *Institute of Psychogerontology, Friedrich-Alexander University Erlangen-Nuremberg, Nuremberg, Germany*, 2. *German Centre of Gerontology, Berlin, Germany*, 3. *Tel Aviv University, Bob Shapell School of Social Work, Tel Aviv, Israel*

Previous studies have shown a detrimental effect of negative self-perceptions of aging (SPA) on physical health outcomes. The present study examined whether an optimistic outlook to the future can buffer the effect of negative SPA on physical and mental health outcomes. Data for this study comes from the 2008 and 2011 waves of the German Aging Survey (DEAS; n = 6,205), a population-based representative survey of adults aged 40 to 85 years. Multiple regression analyses indicated that negative SPA predicted deterioration in the three health outcomes over a three-year period, controlling for demographics and illnesses. The most remarkable finding is the interaction with optimism: People who were prepared for physical losses (negative SPA) and who were nevertheless optimistic, were better able to maintain better physical functioning, and lower depressive symptoms. A multidimensional perspective on aging therefore seems to be best for the maintenance of good health.

## SESSION 1880 (SYMPOSIUM)

### **GEOGRAPHIC DISPARITIES: THE INFLUENCE OF REGIONAL AND LOCAL CHARACTERISTICS ON INDIVIDUAL DEVELOPMENT IN OLD AGE**

**Chair:** N. Vogel, *Humboldt University, Berlin, Germany*

**Co-Chair:** C. Tesch-Roemer, *German Centre of Gerontology, Berlin, Germany*

**Discussant:** M.P. Cutchin, *Wayne State University, Detroit, Michigan*

Lifespan and life course perspectives highlight the contextual embeddedness of individual development. Local and regional contexts can be expected to support or constrain processes of adaptation and regulation, particularly when individual resources are scarce, and create geographic disparities which are often overlooked. The sources of these geographic discrepancies come from various levels: Differences across states in regulations in old age policies, variations across counties in wealth and infrastructure, dissimilarities across neighborhoods in resources and barriers. This symposium brings together five papers that highlight how geographic factors at various levels of analysis shape individual development in later adulthood both theoretically and empirically in Germany and the US. Giasson & Smith use data from the Health and Retirement Study (HRS) to examine variations of satisfaction with aging in states and regions of different population density in the United States. Simonson et al., using data from the nationally representative German Aging Survey (DEAS), explore regional disparities in volunteering. Wiest et al., using data from the DEAS, study county-level economic and demographic structures in social activity and health. Vogel et al. explore the role of county-level care characteristics for development of life satisfaction with the German Socio-Economic Panel Study (SOEP). Ailshire examines the link between neighborhood socioeconomic status and development of well-being using data from the HRS. The discussion by Malcolm P. Cutchin integrates the papers, highlights their theoretical contributions from a geographical perspective, and considers challenges and opportunities of research linking geographic variations and individual-level outcomes.

### **REGIONAL VARIATIONS IN SATISFACTION WITH AGING: CORRELATES IN THE UNITED STATES**

H.L. Giasson<sup>1</sup>, J. Smith<sup>1,2</sup>, *1. Psychology, University of Michigan, Ann Arbor, Michigan, 2. Institute for Social Research, Ann Arbor, Michigan*

This study explores variations in satisfaction with aging between states in the U.S. Regional differences in patterns of satisfaction with aging by population density are also explored. Although there was no main effect of population density (urban, suburban, rural) on satisfaction with aging, there was a significant interaction between population density and region. Follow-up analyses revealed that in some regions satisfaction was higher in the rural areas than in the urban areas, whereas in other regions the reverse pattern was true. Such findings emphasize the need for sensitivity to regional variations in community-level predictors of aging experiences. Because satisfaction with aging is related to health and well-being outcomes, understanding geographic and community-level predictors of satisfaction with aging will help inform policy efforts to reduce health and well-being disparities among older individuals across the U.S. Discussion will focus on examining the linkages between state and region level social ecological characteristics.

### **REGIONAL DISPARITIES IN VOLUNTEERING AND EDUCATIONAL ACTIVITIES**

J. Simonson<sup>1</sup>, C. Hagen<sup>1</sup>, C. Vogel<sup>1</sup>, A. Motel-Klingebiel<sup>2</sup>, C. Tesch-Roemer<sup>1</sup>, *1. German Centre of Gerontology, Berlin, Germany, 2. Linköping University, Linköping, Sweden*

Societal participation like volunteering and continuing education is socially and spatially structured. Lower SES individuals are

less often involved in educational activities or in volunteering, and it can be expected that spatial disparities reinforce this effect of social inequality. Based on two waves (2008, 2011) of the German Ageing Survey (DEAS) we investigated access to and dynamics of volunteering and educational activities depending on social and spatial aspects of inequality (spatial units: German counties or "Kreise"). Cross-sectional analyses (n=4,025) show that individuals living in economically disadvantaged counties are less likely to participate in volunteering and educational activities than those in economically strong counties. Longitudinal analyses (n=1,834) show that individuals living in advantaged counties remain more often active over time than individuals living in less advantage counties. Disadvantages accumulate if low individual resources overlap with poor economic conditions in the living area.

### **REGIONAL STRUCTURES OF ECONOMIC AND DEMOGRAPHIC DEVELOPMENT IN GERMANY AND THEIR EFFECTS ON INDIVIDUAL AGING**

M. Wiest, S. Nowossadeck, C. Tesch-Roemer, *German Centre of Gerontology, Berlin, Germany*

Societal and economic conditions shape individual aging not only on the individual level (e.g. socio-economic status of a person), but also on the level of regional contexts, like neighborhoods and counties. We assumed that regional characteristics influence different domains of functioning in old age, independently of individual SES. We analyzed national representative data of the German Ageing Survey of 2,774 participants (Age M = 73,1, SD = 5,3; 45,2% women) living in 206 counties ("Kreise") using multi-level modelling. All analyses were controlled for age, gender, education, income, marital status and migration background. Results showed that living in counties with a shrinking and rapidly aging population was associated with worse health and fewer social activities, as compared to demographically stable counties. We discuss how individuals are challenged by the characteristics of the regions they live in and point out that regional resources (and barriers) contribute to individual differences in old age.

### **HOW DO LOCAL CARE AMENITIES SHAPE LATE-LIFE DEVELOPMENT IN WELL-BEING?**

N. Vogel<sup>1,2</sup>, D. Gerstorff<sup>1,2,3</sup>, N. Ram<sup>2,3</sup>, J. Göbel<sup>2</sup>, G.G. Wagner<sup>2,4,5</sup>, *1. Humboldt University, Berlin, Germany, 2. German Institute for Economic Research, Berlin, Germany, 3. Pennsylvania State University, State College, Germany, 4. Max Planck Institute for Human Development, Berlin, Germany, 5. University of Technology, Berlin, Germany*

Both psychologists and sociologists highlight the role context plays in shaping individual development across the life span. We combine 22 waves of yearly, longitudinal reports of life satisfaction obtained from now deceased participants (n = 3,257) in the Socio-Economic Panel Study (SOEP) with German Statistics of Care (German Federal Bureau of Statistics) to examine associations between context, operationalized as the characteristics of care services in one's county, and late-life development, operationalized as terminal decline in life satisfaction. We find that between-county differences contribute 7 % of variance to between-person differences in both level and rates of change in life satisfaction. Specifically, availability of beneficial care services (e.g., lower working load in inpatient facilities) contributes to more positive life satisfaction trajectories. Our results support long-standing notions that local amenities play a role for individual late-life development, and we discuss possible routes through which local care services contribute to well-being trajectories.

## NEIGHBORHOOD SES AND 4-YEAR CHANGE IN PSYCHOLOGICAL WELL-BEING AMONG OLDER ADULTS

J.A. Ailshire, *Andrus Gerontology Center, Univ Southern California, Los Angeles, California*

The links between neighborhood conditions and physical health are well-documented, but the potential influence of neighborhoods on residents' psychological well-being has received less attention. This study examined the association between area-level indicators of socioeconomic status (SES) and 4-year change in psychological well-being. Individual data from the 2006 and 2010 Health and Retirement Study were linked to 2000 tract-level Census data. Respondents living in tracts with a higher proportion of college educated neighbors reported feeling less hopeless and more in control both at baseline and follow-up. Higher neighborhood median income was also associated with less hopelessness and a greater sense of control. Respondents living in tracts characterized by high levels of poverty were more likely to feel hopeless and not in control both at baseline and over time. Neighborhood SES is associated with psychological well-being and provides an important context for understanding change in well-being over time.

## SESSION 1885 (SYMPOSIUM)

### CONNECTING CLINICIANS & CANCER PATIENTS: MODES OF COMMUNICATING, MHEALTH, AND SMS TEXT MESSAGING

**Chair:** S. Spoelstra, *College of Nursing, Michigan State University, East Lansing, Michigan*

**Discussant:** S. Cotten, *Michigan State University - Department of Telecommunication, Information Studies, and Media, East Lansing, Michigan*

Cancer patients are challenged to find ways to obtain information to self-manage. This includes health promotion (physical activity and nutrition), disease prevention (mammograms and colonoscopies), and disease management (symptom management and treatment adherence) needs. Presently, research on preferred modes of obtaining information and testing mHealth innovations are limited. This symposium will highlight preferred modes of communication among older cancer patients across the care continuum, from active treatment to the post-treatment survivorship phase of life. This will be followed by a mHealth text message trials experience with recruitment and enrollment activities; and acceptability and preliminary efficacy on symptom severity and medication adherence. In the first presentation, Dr. Leach will describe the preferred mode of receiving cancer, nutrition, and physical activity information stratified by age. Next, Ms. DeKoekkoek will present on cancer patients undergoing active treatment, and their preferred mode of receiving symptom management and treatment adherence assistance from clinicians. Dr. Given will then explore recruitment and enrollment of older cancer patients in a mHealth text message intervention to promote strategies to self-manage medication adherence and symptom management for active treatment. Next, Dr. Spoelstra will report on acceptability and a preliminary efficacy of a mHealth text message intervention built on self-efficacy theory, to promote strategies to self-manage medication adherence and symptoms for active cancer treatment. Finally, the discussant, Dr. Cotten, an aging researcher focused on eHealth and use of computers in older adults, will emphasize how these presentations underscore the need for research initiatives to promote clinicians and cancer patient communication.

## PREFERRED MODES FOR CANCER-RELATED INFORMATION RECEIPT AMONG OLDER VERSUS YOUNGER CANCER SURVIVORS

C. Leach<sup>1</sup>, D. Wiatrek<sup>2</sup>, A. Troeschel<sup>1</sup>, *1. American Cancer Society, Behavioral Research Center, Atlanta, Georgia, 2. American Cancer Society, Health Promotions Department, Atlanta, Georgia*

Many cancer survivors struggle during and after treatment to get the cancer-related information they need, in a format they prefer. Data from a national study of breast, prostate, and colorectal cancer survivors (N=1240) were used to examine age differences in information mode preferences for cancer-related information. In general, both older (> 65, n=559) and younger (<65, n=681) survivors preferred receiving cancer-related information from a health professional (87.4% wanted information in this form) or in hard copy/print format (76.3% wanted information in this form) over other modes of information delivery. Younger survivors were more likely to prefer receiving cancer-related information from a health professional (p=.03), by phone from a cancer information service (p<.001), in hard copy print format (p<.001), from the internet (p<.001), and from email (p<.001) or online chat (p<.001) with a cancer service/organization than their older counterparts. Older survivors were more likely to be unsure of their preferences.

## PREFERRED MODES FOR SELF-MANAGEMENT INFORMATION WHILE UNDERGOING ACTIVE CANCER TREATMENT IN OLDER ADULTS

T. DeKoekkoek<sup>1</sup>, B.A. Given<sup>1</sup>, C.W. Given<sup>2</sup>, S. Spoelstra<sup>1</sup>, *1. Michigan State University College of Nursing, East Lansing, Michigan, 2. Michigan State University Department of Family Medicine, Institute for Health Policy, East Lansing, Michigan*

Over 50 oral anti-cancer agents are on the market, and growing rapidly. This has shifted delivery of active treatment from infusion centers to the home setting. This 8-week study assessed 30 cancer patients via 5-interviews while taking oral agents at 3-cancer centers in the Midwest. Patients were asked their preferred mode for information to self-manage. Mean age was 65.2 years, 50% were Female, 87% Caucasian and 13% African American. Of the 30 patients, 36.7% (n=11) preferred phone calls (30% land-line; 6.7% cell phone); 26.7% (n=8) preferred written material; 23.3% (n=7) email; 10% (n=3) face-to-face; and 3.3% (n=1) text messages. There was no difference in preference by age, gender, race, and type of cancer, oral agent or other treatment (IV chemo and radiation). Patients with later stage cancer preferred written material (p=.03). Combining cell and landlines, confidence intervals were 19.9-56.1, 28.3-65.7, 26.5-64.3, 23.5-61.1, and 31.3-68.7 across assessments, respectively.

## RECRUITMENT AND ENROLLMENT OF OLDER CANCER PATIENTS IN A TEXT MESSAGE TRIAL

C.W. Given<sup>1</sup>, B.A. Given<sup>2</sup>, A. Sikorskii<sup>3</sup>, C.K. Coursaris<sup>4</sup>, A. Majumder<sup>3</sup>, T. DeKoekkoek<sup>2</sup>, M. Schueller<sup>2</sup>, S. Spoelstra<sup>2</sup>, *1. College of Human Medicine, Michigan State University, East Lansing, Michigan, 2. Michigan State University College of Nursing, East Lansing, Michigan, 3. Michigan State University Department of Statistics and Probability, East Lansing, Michigan, 4. Michigan State University Department of Telecommunication, Information Studies, and Media, East Lansing, Michigan*

Data on enrollment of older adults in trials using text messaging are lacking. Recruitment from 2 trials (N=88) of 21-day SMS interventions to promote oral agent adherence and/or symptom management are presented. Five cancer centers and a specialty pharmacy participated. Mean age of consented patients was 58.5 (range 34-82); 58% female; compared to 57.2 years (range 32-93); 38% female for eligible not enrolled; and 63.9 years (range 26-88); 45% female for ineligible. Difference by sex was significant for consented versus eligible but not enrolled (p=.02); no difference was found in age. 58.7% of eligible (88/150) consented (60.6% [20/33] <50 years; 55.1% [38/69] 50-64;

and 62.5% [30/48] 65+). Regarding non-participants, 16.1% (10/62) were not interested in SMS; 11.3% (7/62) thought SMS would not help; 1.6% (1/62) did not want to learn SMS; 32.2% (20/62) were not interested in the study; and remainder was unknown. Enrollment is ongoing. Results will be updated.

### ACCEPTABILITY AND PRELIMINARY EFFICACY OF A SMS TEXT MESSAGE INTERVENTION IN OLDER CANCER PATIENTS

S. Spoelstra, *College of Nursing, Michigan State University, East Lansing, Michigan*

With 68% of adults owning cell phones, text messaging (herein, SMS) may be a means to prompt self-management. A 10-week trial of a 4-week SMS intervention enrolled 80 patients from 2 cancer centers and a specialty pharmacy. Regarding acceptability, 56.3% (80/142) of eligible consented. Mean age of consented was 58.5 (range 39-82); eligible not consented 57.24 (range 32-92); and ineligible 63.6 (range 26-82). Of 142 approached, consent rate according to age was: 60% (27 of 45) for those 65+, 53% (35 of 66) for those 50-64; and 58.1% (18 of 31) for those <50. Females represented 59% (n=47) of consented, 39% (n=24) of eligible not consented, and 46% (n=54) of ineligible. A significant difference by sex was found between consented versus eligible but not enrolled ( $p=.02$ ) with females participating at a higher level; no difference was found in age. Data collection is ongoing. Preliminary adherence/symptom severity efficacy will be reported.

## SESSION 1890 (SYMPOSIUM)

### RESIDENT-TO-RESIDENT ELDER MISTREATMENT: FINDINGS FROM A LARGE-SCALE PREVALENCE STUDY

**Chair:** K. Pillemer, *Cornell University, Ithaca, NY*

**Discussant:** L. Mosqueda, *University of California, Irvine, Irvine, California*  
**Discussant:** N. Castle, *University of Pittsburgh, Pittsburgh, Pennsylvania*

Over the past two decades, a growing body of research has addressed abuse experienced by older persons in long-term care facilities. This literature primarily has focused on mistreatment of residents by staff, but preliminary research and clinical experience suggest that residents are at much greater risk of aggression from other facility residents. However, the prevalence of and risk factors associated with resident-to-resident elder mistreatment (R-REM) are unknown, despite the fact that R-REM events have serious physical and psychological consequences. In this symposium, we report findings from the first in-depth study of the prevalence of R-REM, which identified incidents of R-REM in 10 long-term care facilities (1903 residents) over a 2-4 week observation period. Using resident and staff interviews, a forensic chart review, direct observation by research assistants, a staff event log, and facility reports, we identified and adjudicated over 600 cases and controls to identify the prevalence rate of overall R-REM as well as subtypes: physical, verbal, sexual and other. Lachs et al. present findings on prevalence of various types of mistreatment, showing that R-REM is sufficiently widespread to be of significant clinical and policy concern. Pillemer et al. identify main correlates of R-REM and relate these findings to prior research on resident aggression. Teresi et al. present findings from an R-REM intervention study that found positive treatment effects on staff and residents. These findings suggest that R-REM should be a high priority issue for future research and intervention. Two experts will discuss implications of the findings.

### RESIDENT-TO-RESIDENT ELDER MISTREATMENT IN LONG TERM CARE: A PREVALENCE STUDY

M. Lachs<sup>1</sup>, K. Pillemer<sup>2,5</sup>, J.A. Teresi<sup>3</sup>, M. Ramirez<sup>3</sup>, K. Van Haitsma<sup>4</sup>, S. Silver<sup>3</sup>, J.P. Eimicke<sup>3</sup>, 1. *Weill Cornell Medicine College, New York, New York*, 2. *Cornell University, Ithaca, New York*, 3. *Research Division, Hebrew Home at Riverdale, Riverdale, New York*, 4. *Polisher Research Institute, Abramson Center for Jewish Life, North Wales, Pennsylvania*, 5. *Columbia University Stroud Center, New York, New York*

Resident-to-Resident Mistreatment (R-REM) is a likely common but understudied form of nursing home violence. Establishing the prevalence of R-REM is a necessary step in intervention planning, but to date no prevalence studies have been conducted. We conducted the first such study in long-term care facilities (n=1903 residents) over a 2 to 4 week observation period. This presentation reports the first prevalence estimates of R-REM in long-term care. Using triangulated case finding methodology that included resident and staff interviews, chart reviews, direct observation by research assistants, a staff event log, and facility reports, we estimated the prevalence rate of overall R-REM as well as subtypes: physical, verbal, sexual and other. Among the 1405 residents of the 5 larger urban sites, the prevalence of R-REM ranged from 9.8% to 31.2%. The impact on resident quality of life is discussed, as these rates suggest that intervention strategies are greatly needed.

### CORRELATES OF RESIDENT-TO-RESIDENT MISTREATMENT IN NURSING HOMES

K. Pillemer<sup>1</sup>, J.A. Teresi<sup>3</sup>, E.K. Chen<sup>1</sup>, M.S. Lachs<sup>2</sup>, 1. *Cornell University, Ithaca, NY*, 2. *Weill Cornell Medical College, New York City, New York*, 3. *Research Division - Hebrew Home for the Aged, Bronx, New York*

Observed and clinical evidence indicates that Resident-to-Resident Elder Mistreatment (R-REM) is widespread in nursing homes and that incidents of R-REM are potentially harmful to residents. To date, evidence-based R-REM prevention interventions are scarce, in part because risk factors are unknown. In this study of 1405 nursing home residents, factors significantly ( $p<0.05$ ) associated with being involved in an R-REM event included behavioral problems and depression. R-REM was more likely to occur among residents who were less cognitively and functionally impaired. Black residents were less likely to be involved in R-REM events than non-Latino white and Latino residents. Residing in facilities with lower staff to resident ratios, and with higher levels of crowding, increased the likelihood of R-REM. The identification of risk factors is a first step in the development of effective interventions to reduce R-REM; implications for prevention are discussed.

### RESIDENT TO RESIDENT ELDER MISTREATMENT (R-REM): EVALUATION OF A STAFF TRAINING PROGRAM

J.A. Teresi<sup>1,2,3</sup>, M. Ramirez<sup>2,3</sup>, S. Silver<sup>2,3</sup>, G.D. Boratgis<sup>2</sup>, R. Meador<sup>5</sup>, M. Lachs<sup>3</sup>, K. Pillemer<sup>4</sup>, 1. *Columbia University Stroud Center, New York, New York*, 2. *Research Division Hebrew Home at Riverdale, New York, New York*, 3. *Weill Cornell Medical College, Division of Geriatrics and Palliative Care, New York, New York*, 4. *Cornell University Department of Human Development, Ithaca, New York*, 5. *Cornell University, Ithaca, New York*

R-REM is little studied, yet occurs with relatively high frequency. The objectives of this session are to 1) describe a training program geared toward front-line staff in recognition and reporting of R-REM and 2) report on the evaluation results. Design: A cluster randomized trial of units within 5 nursing homes was conducted. Intervention: Staff was trained in R-REM: 1) Recognition, 2) Management, and 3) Guideline Implementation. A film and the SEARCH (Support, Evaluate, Act, Report, Care Plan, Help to Avoid) approach were included. Results: The response rate was 80% (685 and 720 in the control and

experimental groups). Hypothesis 1: Knowledge gain was evidenced ( $p < 0.001$ ). Hypothesis 2: The intervention group reported significantly more R-REM events than did the control group ( $p = 0.0058$ ). Hypothesis 3: The net reduction in falls, accidents and injuries was 5%, translating to 10 saved events per year. Discussion: Although not significant ( $p = 0.29$ ), the reduction was clinically important.

## SESSION 1895 (SYMPOSIUM)

### GRANTWRITING FOR EMERGING AND JUNIOR SCHOLARS: FROM BENCH TO BEDSIDE TO POLICY

**Chair:** E. Hahn, *Brandeis University, Department of Psych, Waltham, Massachusetts*

**Discussant:** L.C. Barry, *Center on Aging, University of Connecticut, Farmington, Connecticut*

The purpose of this ESPO Presidential Symposium is to provide practical and professional advice to emerging scholars and professionals regarding the grant-writing process. The symposium is intended to be applicable to emerging scholars and professionals of various levels and backgrounds. The symposium will incorporate speakers from each section of GSA (HS, BSS, SRPP, and BS) who have had success in writing different types of grants, including dissertation grants, K awards, F32 awards, internal grant awards from universities, as well as grant awards from national organizations. Speakers will discuss advice that have been helpful in their success, as well as things they have learned from unfunded grant writing experiences. The speakers will discuss these topics within the context of their own expertise and related to specific, strong, and fundable research collaborations that incorporated a multidisciplinary team and interdisciplinary research goals. In doing so, the speakers will also discuss grant writing experiences that have an interdisciplinary focus in correspondence with the conference theme, "Making Connections: From Cells to Societies." Specifically, some of the topics that the speakers will address will include, but are not limited to, 1) choosing a grant (when and where to start), 2) preparing and applying for a grant (who should you seek for help, how long does it take), 3) peer review process (what is it, timing for submission, review, waiting period), 4) alternative or lesser-known funding sources (University-level funding, foundations), and 5) grant-writing for scholars seeking non-university careers (non-profit foundations, health care, health services research).

### WRITING A COMPETITIVE NIH FELLOWSHIP APPLICATION IN AN INTERDISCIPLINARY AGE

T. Vasilopoulos, *University of Florida, Gainesville, Florida*

The National Institutes of Health are committed to preparing young scientists for successful, independent careers. Furthermore, as interdisciplinary approaches play an increasingly important role in biomedical research, it is important that young scientists are exposed to, and participant in, interdisciplinary research early in their careers. This presentation will focus on the NIH Ruth L. Kirschstein National Research Service Awards for Individual Pre- and Postdoctoral Fellows. The first part of this presentation will discuss advice and best practices for preparing a competitive application, from conception to post-submission. Then, the discussion will turn its focus to how to integrate interdisciplinary training into fellowships applications.

### GRANT WRITING TIPS FOR EMERGING AND JUNIOR SCHOLARS: KEYS TO SUCCESS

G. Kim, *Center for Mental Health and Aging / Department of Psychology, University of Alabama, Tuscaloosa, Alabama*

This is a part of the ESPO Presidential Symposium focusing on grant writing for emerging scholars and professionals. Representing the BSS section, the speaker will discuss a wide range of topics relating to the grant writing process, especially focusing on NIH K awards. The speaker will use her funded grant as an example of successful interdis-

ciplinary team work. Specific topics that will be discussed include, but are not limited to the following: (1) what kinds of grant mechanisms are available and helpful for emerging and junior scholars; (2) who should consider applying for K awards (i.e., eligibility); (3) when to apply K awards; (4) how to build an interdisciplinary team; (5) how to prepare a successful grant application; and (6) what reviewers want to see in the grant application. In addition, the speaker will share general tips for the grant writing process, as well as NIH K awards specific tips.

### GRANT-WRITING TIPS FOR EMERGING SCHOLARS HIGHLIGHTING THE IMPORTANCE OF MENTORSHIP AND PEER REVIEW

S.A. Greenberg, P. Cacchione, *University of Pennsylvania, Philadelphia, Pennsylvania*

The presentation is intended to provide grant writing guidance and tips for emerging scholars in the health sciences. This will include governmental mechanisms, private foundation, and organizational funding, as well as award opportunities. Successful and non-successful experiences in the grant writing and submission process will be shared, including how to benefit and then proceed from constructive criticism and reviewer feedback to reach professional goals. The importance of mentoring and peer review will be emphasized. Interprofessional collaborations in the planning, execution, and dissemination will be highlighted.

### WRITING A DISSERTATION GRANT PROPOSAL: HELPFUL TIPS AND ADVICE

K.S. Thomas, *I. Brown University, Providence, Rhode Island, 2. Providence VA Medical Center, Providence, Rhode Island*

In this presentation, I will discuss my experience submitting grant proposals under various funding mechanisms to various funding agencies. In particular, I will highlight my experience writing and receiving funding for an R36 dissertation grant from the Agency for Healthcare Research and Quality. Reflections will be presented on the process of writing a dissertation grant: choosing an interdisciplinary mentoring team, developing a research topic, looking for the appropriate funding source, and responding to the funding agency's requirements. The discussion will also draw on my experiences submitting an R21 and K01 to the National Institutes of Health and a proposal for seed money from the Providence VA Medical Center. The events and lessons learned should be useful for both students and emerging scholars in the field of aging research.

## SESSION 1900 (PAPER)

### COST OF CAREGIVING: BENEFITS, BURDEN, OR BOTH?

**THE IMPACT OF PUBLIC LONG-TERM CARE INSURANCE ON TIME SPENT ON INFORMAL CARE AMONG AT-HOME CAREGIVERS: FINDINGS FROM JAPANESE MICRO DATA**  
M. Kan<sup>1</sup>, S. Kajitani<sup>2</sup>, *1. School of Economics, University of Hyogo, Kobe, Japan, 2. Meisei University, Hino, Japan*

The purpose of this study is to examine the impact of the public long-term care (LTC) insurance, which was introduced in year 2000 in Japan, on the time spent on informal care by at-home caregivers. Did the LTC insurance actually decrease the caring time among at-home caregivers? This is the research question we are asking. The present paper utilizes the micro data from the Survey on Time Use and Leisure Activities (STULA)—a large, nationally representative repeated cross-sectional survey of all the non-institutionalized persons aged 10 and over in the sample households. The samples for our analysis consist of at-home caregivers aged 40 or over. A difference-in-differences estimation was conducted to assess the policy effect as well as a simple before-and-after analysis. The results from the before-and-after analysis show that there

is significant decrease in informal care time among female caregivers after the introduction of LTC insurance while there is no significant effect among male caregivers. Considering DID between the treated and the controlled, which are at-home caregivers who care for the elderly aged 65 or older being eligible for the LTC insurance and those who care for other family members respectively, it is found that the time spent on informal care was decreased in year 2006 among female caregivers who do not work. There is no policy effect among male caregivers and female caregivers who have paid work.

### **“BETTER” OR “WORSE” HEALTH OUTCOME OF UNPAID CAREGIVERS IN THE U.S.?**

Y. Lee, H. Oh, I. Chi, *University of Southern California, Los Angeles, California*

**Introduction:** Caregiving experience has been often seen as a risk factor for caregiver’s health. Studies based on this viewpoint usually involved maladaptive outcomes, such as depression or burnout. However, recent reports demonstrated that caregivers also benefit from time being with their loved ones. Yet, the findings need more empirical evidence. This study aims to investigate predictors associated with both positive and negative caregiver’s health outcomes by analyzing nationally representative sample. **Method:** 720 primary unpaid caregivers caring for 50+ older Americans were drawn from “2009 Caregiving in the U.S.” data. Multinomial logistic regression analysis was conducted on caregiver’s health outcome related to caregiving experience; categorized into “became better”, “became worse”, and “not affected” (as reference group). Sample weight was given to the final analysis. **Results:** Caregivers with higher education, higher emotional, and financial strains were more likely to have “worse” health outcome than “not affected”. On the other hand, caregivers who were black or Hispanic (vs. white), less or equal to high school diploma (vs. college above), having 1-3 caregiving years (vs. less than 1 year), having lower financial, emotional, and physical strains (vs. medium or high strains) were more likely to have “better” health outcome than “not affected.” **Conclusion:** Although many factors were associated with the odds to report both better and worse health outcome, some variables had significant correlations only with better health from caregiving. This finding suggests researchers to investigate predictors on more positive aspects of caregiving for future studies on caregivers of older adults in the U.S.

### **INVESTIGATING THE PSYCHOSOCIAL IMPACTS OF DEMENTIA CAREGIVING THROUGH BLOGS**

J.G. Anderson, *School of Nursing, University of Virginia, Charlottesville, Virginia*

Individuals who suffer from Alzheimer’s disease and other dementias exhibit behavioral and psychological symptoms that can place a great deal of burden on family caregivers. This burden leads to increased stress for family caregivers and reduced quality of life. While the impact of dementia caregiving on levels of depression, anxiety and stress has been explored, more information is needed on the psychosocial impact of dementia caregiving on caregivers and families. Many individuals, including dementia caregivers, use web blogs as online journals to share their lived experiences. These blogs contain rich narratives that represent an untapped resource for understanding the psychosocial impact of caring for a person with dementia at the individual and family level. This study seeks to use blogs to explore the psychosocial impact of dementia caregiving by answering the following research questions: what strategies do caregivers use to support themselves, their families and/or their care recipients; what are the challenges or barriers to using existing support services for dementia caregivers; what is the impact of stigma on dementia caregiving; and what differences exist between caregivers of various racial and ethnic groups in terms of psychosocial impact. Blogs written by self-identified informal caregivers of persons with dementia will be identified using a systematic search method. A qualitative thematic analysis of blog posts will be conducted to gain insight

into the research questions. By understanding psychosocial impacts of dementia caregiving, interventions and services can be developed aimed at improving caregiver burden and quality of life.

### **CONTEMPLATING SUICIDE WHILE CARING FOR A FAMILY MEMBER WITH DEMENTIA**

S. O’Dwyer, W. Moyle, M.J. Zimmer-Gembeck, D. De Leo, *Griffith University, Brisbane, Queensland, Australia*

**Background** Two small studies have suggested that family caregivers of people with dementia might be a high risk group for suicide. The aims of this study were to identify: (1) the rate of suicidal ideation in a large sample; (2) the psychosocial factors associated with suicidal ideation. **Method** A cross-sectional survey of family caregivers (n=566) was conducted. The majority of participants lived in North America and Australia. Results 16% of family caregivers had contemplated suicide more than once in the previous year and one-fifth of those were likely to attempt suicide in the future. Caregivers who had contemplated suicide were younger and had more difficulty managing on their income than those who had not. They had lower self-efficacy for service use, were less satisfied with social support, used more dysfunctional coping strategies, and had higher levels of burden, depression, anxiety, and hopelessness. They also reported fewer reasons for living. In a multivariate model, age, depression, and reasons for living predicted suicidal ideation. The odds of contemplating suicide increased with increasing depression scores, but decreased with increasing age and reasons for living. Dysfunctional coping and satisfaction with social support mediated the relationship between depression and suicidal ideation. **Conclusion** Family caregivers of people with dementia contemplate suicide at more than 4 times the rate of US adults. Research is required to identify the rate of suicide attempts and deaths in this population. After this presentation, participants will be able to discuss suicide risk in family caregivers and identify directions for future research.

### **FUTILE KNOWLEDGE: THE DISSONANCE BETWEEN EVIDENCE-BASED INTERVENTION RESEARCH, MEDICARE POLICY, AND PRACTICE IN HOME CARE FOR PERSONS WITH ALZHEIMER’S DISEASE AND THEIR CAREGIVERS**

W. Cabin, *University of Michigan School of Social Work, Ann Arbor, Michigan*

**Background & Purpose** There is a significant literature addressing the need and direction of evidence-based research to guide evidence-based social work policy and practice (Epstein & Dodd, 2012; Gibbs & Gambrill, 2002; Shaw, 2003, 2004). The objective of the study is to determine social worker and nurse knowledge of, use of, and attitudes toward specific psychosocial evidence-based care interventions for persons with Alzheimer’s disease receiving Medicare home health and their caregivers. **Methods** A mailed survey was administered to home care social workers (n = 127) and home care nurses (n = 321) between October 2012 and May 2013. Subjects were recruited from the New York State Nurses Association, NASW-New York City Chapter, and NASW-New York State Chapter. Preliminary results indicate 92 percent of nurses and social workers combined had no knowledge of the two specific psychosocial interventions, with social workers’ lack of knowledge being higher (98 percent). 98 percent of social workers and nurses combined have not used either of the two specified interventions in practice. 88 percent of social workers and 95 percent of nurses responded they were taught evidence-based practice (EBP) in their education. 100 percent of social workers and 92 percent of nurses responded that Medicare policy limited their ability to use evidence-based practices. 96 percent of nurses and social workers combined responded that the inability to use EBP increased unmet patient & caregiver needs.

## SESSION 1905 (PAPER)

### ISSUES IN GERONTOLOGY EDUCATION AND EVALUATION

#### CREATING ONLINE GRADUATE PROGRAMS IN AGING AND GERIATRICS: LESSONS LEARNED

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Development of online degree programs at every educational level at accredited institutions is growing exponentially. The University of Florida values online education, recently approving two new graduate-level programs (one Master's and one Certificate program) in "Aging & Geriatric Practice". The name was chosen to reflect the name of the department through which the programs are offered, the clinical orientation of the program, and the expertise of the faculty who will teach in the programs. A team of faculty and staff took charge of conceptualizing the programs, learning the steps involved in getting new programs University-approved, and drafting the documents to be reviewed by the University committees that would ultimately approve the programs. Throughout the development and approval process, this team learned valuable, globally-applicable administrative, business, and education-oriented lessons. Examples include the investigation of resources at the University and in the private sector to provide a detailed marketing strategy for achieving enrollment goals; the importance of buy-in from the faculty members who will teach in the program; the intricacies of instructional design; and the value of collaboration with other programs on campus. We will discuss these and other lessons in more detail and their importance for creating an outstanding educational experience for learners. These "lessons learned" will be carried over to the implementation phase of the program, and will provide a guide for others in aging-related fields in the creation or continued development of their programs.

#### NON-PHARMACOLOGICAL APPROACHES IN LONG TERM CARE: EASY TO DO AND EASY TO TEACH TO YOUR STAFF

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The Centers for Medicare and Medicaid Services (CMS) kicked off a new initiative in 2012 that targets improving behavioral health and reducing the use of unnecessary antipsychotic drug use in older adults with dementia residing in nursing homes. This initiative targets person-centered care for older adults, more specifically, those with dementia who exhibit signs of anxiety, agitation or other distress. CMS' goal is for caregivers to use non-pharmacological approaches which are believed to be safer and can be used to prevent, reduce or eliminate the use of medications to attempt to control behaviors. This presentation addresses the CMS initiative by providing hands-on demonstrations of non-pharmacological approaches that take minimal time to carry out and are easily taught to all levels of staff. Demonstrations will include diversionary, sensory and nurturing strategies, along with tips to teach the strategies to your staff.

#### INSTRUMENT DEVELOPMENT: MEASURING INTERPROFESSIONAL CORE COMPETENCIES FOR THE CARE OF OLDER ADULTS

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In 2008, the Partnership for Health in Aging (PHA) developed interprofessional core competencies for the care of older adults. These competencies were adopted by the Virginia Geriatric Education Center (VGEC) in the design of its curriculum for a 160-hour interprofessional faculty development program (FDP). In addition, the VGEC used the

PHA competencies to design a self-efficacy instrument to be used as part of its assessment of learner outcomes. Self-efficacy is a performance-based measure of perceived capability (Zimmerman, 2000). The instrument is composed of six primary domains (health promotion and safety, evaluation and assessment, care planning and coordination across the spectrum, interdisciplinary and team care, caregiver support, and healthcare systems and benefits) covering 23 competencies. The VGEC administered the instrument, before and after the training, to twenty-six faculty scholars enrolled in the 160-hour interprofessional faculty development program (FDP) in geriatrics. Faculty scholars demonstrated significant gains in perceived capability in providing older adult care. Results indicated that prior to the training, overall self-efficacy levels were significantly lower ( $M = 63.98$ ;  $SD = 16.58$ ) than the mean ratings following training ( $M = 82.82$ ;  $SD = 8.62$ ). The average difference in perceived competency levels before and after training was 18.84,  $t(25) = -5.67$ ,  $p < .001$ . Statistically significant gains were also documented for each and every item within and across the six primary domains. GECs may find this instrument useful as a common core assessment of FDP outcomes. Psychometric evaluation of the instrument is pending accumulation of sufficient cases.

#### HEALTH BEHAVIOR CHANGE FOR OLDER ADULTS IN THE COMMUNITY: HOW TO EFFECTIVELY TRANSLATE EDUCATIONAL THEORY INTO PRACTICE

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Many older people living in the community have under-recognized and under-treated health challenges such as urine leakage or an increased risk of falls associated with sleeping pill consumption. Constructivist education around these issues, combined with training in self-management strategies or increased self-efficacy for engaging health care professionals in shared decision-making, may contribute to improved health, symptom management and quality of life. However, to be effective, health education must be based on educational theory and embedded in frameworks that are sensitive to the unique learning needs of older people. This paper will describe the success of two different health education and self-management interventions for older people in the community: a group continence promotion intervention delivered to untreated women with incontinence, and an educational empowerment intervention delivered individually to chronic benzodiazepine consumers. Each intervention was tested in a randomized trial. The continence promotion trial yielded a number-needed-to-treat of 2 to achieve any improvement in urinary symptoms. Both knowledge and risk reduction behaviors to avoid urine leakage significantly improved. In the second trial, an educational empowerment intervention increased perceptions of risk around sleeping pill use and led 62% of participants to initiate discussions on discontinuing their medication with a health provider. Over one-third of participants succeeded in benzodiazepine discontinuation or dose reduction over the ensuing 6 month time period, yielding a number-needed-to-treat of 5. Particular attention will be paid to the challenges and opportunities in developing and testing education interventions for seniors residing in the community.

## SESSION 1910 (PAPER)

### DISCOVERY EXCHANGE: GERONTOLOGICAL METHODS

#### IS THE METHOD DRIVING THE THEORY? LIMITATIONS OF USING SUBGROUP COMPARISON OF TRAJECTORIES AS TEST OF CUMULATIVE DIS/ADVANTAGE VERSUS AGING-AS-LEVELER HYPOTHESES

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Decades of empirical research have framed cumulative dis/advantage (CDA) theory and aging-as-leveler perspective as competing hypoth-



eses regarding the extent of inequality in older adulthood. Despite the widely-recognized limitations of focusing exclusively on central tendency measures, comparison of groups' average trajectories in panel data continues to be the "gold standard" approach. Diverging trajectories with age or over time between subgroups is considered empirical evidence in support of CDA whereas persistent gaps or converging trajectories would suggest the "leveling" effect of ontogenetic aging. With the rapid adoption of age-graded trajectory analysis using multilevel models, we argue that this approach is limited and has been somewhat reified in research. Using conceptual illustrations and empirical examples based on the Health and Retirement Study data, we demonstrate that comparing differences in groups' average trajectories does not adequately test either perspective, largely because the possible outcomes of such comparisons (divergence, convergence, persistent difference with age or over time) are not only affected by average differences in rates of change for these groups but also by how the rates themselves are parameterized in the models. Specifically, a linear parameterization of the trajectories (age) only allows one explanation per group comparison, whereas a quadratic parameterization (age-squared) can allow average differences in groups to expand or contract with age by mere virtue of the quadratic function itself. We suggest alternative methods for characterizing patterns of health and social inequality with age and caution against the reliance on a method-driven empirical framework in testing theories such as CDA and aging-as-leveler.

#### **MULTIMORBIDITY AND INCONSISTENCIES IN CHRONIC DISEASE SELF-REPORTS OVER TIME**

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Chronic disease data from longitudinal health interview surveys are often used in epidemiologic studies. Yet, these data may be limited by inconsistencies in the self-reporting of chronic diseases by respondents across interview waves. We investigated the effect of multimorbidity on the self-report of diseases over time, hypothesizing that respondents with more diseases would have greater inconsistency in their self-reports. We analyzed seven waves (1998-2010) of the Health and Retirement Study (HRS). Our sample included adults  $\geq 51$  years ( $n=24,156$ ). Diseases included hypertension, heart, lung, diabetes, cancer, arthritis, and stroke. We defined multimorbidity as any combination of  $\geq 3$  chronic diseases. We used logistic regression to analyze the association of multimorbidity on inconsistency in reporting diseases, both within and across waves (results shown for 2010). 5.7% of HRS respondents in 2010 had at least one inconsistency in their self-report of diseases. 36.9% had multimorbidity in the preceding wave. Multimorbidity was associated with a nearly three-fold increase in the odds of inconsistency ( $OR=2.73$ , 95%  $CI=2.33-3.21$ ), after adjusting for socio-demographic and health characteristics. Being partnered was associated with decreased odds of an inconsistency ( $p=0.022$ ). Hispanics had a two-fold increase in the odds of an inconsistency ( $p=0.000$ ). Inconsistent reporting of diseases across health interview survey waves is more likely for respondents having multimorbidity. This finding has implications for clinical and research settings: patients who are not clear that they have been diagnosed with a chronic disease may be less effective in their self-management efforts, and prevalence estimates may be underestimated, particularly for those with multimorbidity.

#### **PREDICTORS OF DISCREPANCIES BETWEEN PATIENT-REPORTED AND OBJECTIVELY-MEASURED SLEEP IN VA ADULT DAY HEALTH CARE PARTICIPANTS**

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Older Veterans participating in Adult Day Health Care (ADHC) are at high risk for sleep disturbance given medical comorbidities, functional limitations, and decreased activity. Addressing sleep disturbance can enhance rehabilitation and improve quality-of-life, yet our prior work suggests ADHC participants underestimate sleep disturbance. This study aimed to explore the relationship between patient-reported and objectively-monitored sleep and to explore predictors of discordance between the two. 72 ADHC participants (mean age=78.5, 94% male) completed an in-person health (Mini-Mental Status Examination; Geriatric Pain Measure; ADL/IADL function) and sleep questionnaire assessment (Pittsburgh Sleep Quality Index, PSQI; Insomnia Severity Index, ISI) and wore an Actiwatch sleep monitor for 3-5 days/nights. Relationships between patient-reported (PSQI: sleep percent, sleep quality rating, global score; ISI: sleep satisfaction rating, global score) and objective sleep measures were examined using Pearson correlations and Student's t-tests. Patient-reported sleep percent was significantly lower than objective recordings ( $p<.001$ ). There were no significant relationships between patient-reported and objective sleep measures (all  $p's>.05$ ). In a regression model predicting discordance between objective and patient-reported sleep percent, higher pain ratings were associated with greater discordance ( $p=.03$ ) while age, depression, cognitive status, functional status, and number of comorbidities were not (all  $p's>.05$ ). This finding and the overall low concordance between objective and subjective measures of sleep quality warrant further investigation. Given many healthcare providers use patient-reported sleep measures to identify candidates for behavioral sleep interventions, likely the best option for improving sleep complaints in this population, it is essential that self-report methods accurately identify individuals with poor sleep.

#### **USING A CORRELATION TO ASSESS KNOWLEDGE AND COMPLIANCE**

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For interventionists interested in determining how successful a public service announcement is, a simple calculation based on a special form of the correlation coefficient can be used to determine the number of people successfully learning the information provided. Suppose a public service announcement is being made regarding the importance of getting the shingles vaccine. As part of a survey, two questions could be asked. The first could be a piece of generally available information; for example, at which age is the inoculation is suggested (60+). The second could relate either to a piece of information describing the benefits of the vaccine specifically presented in the PSA, or to a specific piece of related information that appeared in the PSA that otherwise would be difficult to obtain (e.g. the person presenting the announcement). We show how a correlation between these two measures indicates the proportion of people who heard or saw the PSA and learned the information provided in the announcement. This form of the correlation, developed by Rovine & von Eye (1997) is a continuous variable version of the binomial effect size display developed by Rosenthal and Rubin (1982). Using simulated data we show how this coefficient works in practical situations such as telephone surveys, and further describe how this coefficient can be used to test knowledge (e.g. who has accurate information regarding a specific rule for Medicare enrollment?) and compliance (e.g. which individuals are adhering to a proper drug regimen).

## SOURCES AND STRATEGIES OF REDUCING RESPONSE BIAS IN ETHNIC MINORITY ELDERLY RESEARCH: A CASE OF KOREAN AMERICAN SENIORS

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Purpose: Response bias is one of the main sources of measurement error in survey research, which in turn leads to less than accurate conclusions. While the volume of research conducted in the ethnic minority elderly population is increasing, there is relatively little methodological discussion to identify the sources of measurement error in that research, including issues related to response bias. The purpose of this methodological study is to investigate sources of response bias and strategies to reduce such errors using multiple datasets of Korean American elderly (KAE). Methods: The data used was obtained from 5 studies involving the KAE (N ≥ 1,000; aged ≥ 60) in three states (Central Maryland, Arizona, and Central Texas) over the last 10 years. We utilized a series of tests to analyze key psychometric properties of several common measures (e.g., Sense Mastery Scale, CES-D scale). The psychometric properties were generated from both item and exploratory factor analyses. Results: The major sources of response bias identified include: 1) cultural or contextual inequivalence bias and 2) response format related bias. Results of data analysis provided consistent evidence on both categories of response bias. For example, KAE presented reluctance to endorse on items that reflected an optimistic forecast of the future. The pattern may be attributed to their cultural beliefs that such expression is considered a sign of immaturity. Implications: The results indicated that the magnitude of response bias in current research using standard instruments exerts a significant influence on power of the research. Strategies to reduce those biases will be discussed in this paper.

## PROMOTING PHYSICAL ACTIVITY AMONG OLDER MALAYSIANS USING SMS REMINDERS. A QUALITATIVE PILOT STUDY

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Physical activity is effective in promoting general health in older adults. However, most older adults are not sufficiently active to gain health benefits. A novel way to address this issue is delivering theory-framed physical activity interventions via mobile technology. The objective of this qualitative study was to explore the feasibility of a physical activity intervention delivered via SMS. Seven inactive, community dwelling older adults (55 to 77 years) were invited to participate in a workshop on physical activity and health. During the workshop the researcher introduced the concept and benefits of moderate physical activity and explained options to be more active. Participants were then asked to formulate concrete physical activity plans for the next 7 days. During the following week three to four SMS reminders containing participants' plans were sent to the participants' mobile phones. Physical activity was assessed using the International Physical Activity Questionnaire. The second meeting after the one week intervention period was conducted as a focus group discussion on the physical activity workshop, used questionnaire, the SMS reminders and the intervention feasibility in the cultural context. The focus group discussion revealed four themes: Guided, home-based programs are needed to encourage older Malaysians who are not regularly exposed to physical activity. Self-monitoring of physical activity and related health outcomes should be part of future interventions. Motivational SMS were expected to be more effective compared to sending plan reminders. Future interventions should be conducted in multiple languages. Study results will now be translated into a randomized controlled trial.

## SESSION 1915 (PAPER)

### DEMENTIA AND THE ENVIRONMENT

#### THE HEARTHSTONE BOOK CLUB—DEMENTIA-LEVEL ADJUSTED READING MATERIALS: PRELIMINARY RESULTS

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The Hearthstone Book Club (HBC) is an innovative reading program developed to enhance the lives of persons with dementia (PWD) and increase feelings of success. It involves the use of age-appropriate reading materials that are grade-level and length-adjusted for persons in the Early (MMSE 18+), Middle (MMSE 11-17), Late (MMSE 5-10), and Very Late (MMSE <5) Stages of dementia. We are exploring the effects of regularly-held reading groups on engagement and quality-of-life. To date, 30 participants at two sites have completed the study. The Menorah Park Engagement Scale (MPES) is being used to measure various types of engagement and affect on a scale of zero to two. Participants taking part in reading groups have exhibited significant increases in constructive engagement (+0.70, p<.01) and pleasure (+ 0.36, p<.01), and significant decreases in distracted engagement (-0.15, p<.01) and non-engagement (-.36, p<.01), as compared to baseline activities. Total scores on the DEMQOL, the quality-of-life measure used in the study, have significantly increased from baseline to treatment (+3.9, p<.01), indicating that regular participation in groups over a relatively long period of time (4 months) has a positive effect on the participants outside of the groups themselves. The greatest increase in DEMQOL scores, as compared to baseline, occurred when participants took part in sessions that utilized HBC books with pictures (+7.1, p<.05), indicating that pictures enhance the reading group experience.

#### MOVING PICTURES: PERSPECTIVES ON DEMENTIA FROM THE CINEMA SCREEN

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Mainstream cinema remains the dominant form of popular culture and a profoundly influential medium in which to shape attitudes to ageing and age-related illness in the public domain. Arguably the most challenging disease of older age in the 21st century, until recently, dementia has rarely featured on the mainstream cinema screen. The burgeoning multi-disciplinary research focus and concomitant increase in public awareness of the disease in recent decades correlates with a modest but notable increase in representations of dementia on the mainstream screen. In previous decades, films focussed primarily on the clinical accuracy (or otherwise) of depictions of dementia, but this has given way to more complex delineations of the disease and its consequences. Contemporary filmmakers have not only engaged with symptomatology, treatment and care in a more considered fashion, but recent films have also addressed the varying and often conflicting perspectives of the health professional, family member, carer and person with dementia. This paper will offer a thematic analysis of key films over the last two decades, positing three broad typological distinctions in relation to the narrative significance and point of view adopted in the depiction of the disease. This will in turn suggest how each cinematic category can engage and inform different and diverse sections of the viewing public, thereby making a potentially significant contribution to broader community cognizance around the physical, psychological and emotional ramifications of dementia.

## MEANINGFUL ACTIVITY FOR PERSONS WITH DEMENTIA: CAREGIVER PERSPECTIVES

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Dementia threatens the capacity to engage in activity, suggesting meaningful activity may be helpful for those with dementia. This study explores the concept of meaningful activity, as defined by informal caregivers of persons with dementia. As part of a larger research program, informal caregivers of persons with Alzheimer's disease, vascular, frontotemporal, and Lewy Body variants who were taking cholinesterase inhibitors (ChEI) were recruited. Caregivers provided a minimum of 3 hours of care over 3 days/week and were interviewed in-person (mean=97.3mins) 6-months after ChEI therapy onset. This study assessed caregiver responses (N=906) to the open-ended question "What do you believe getting involved in activities outside the home means for someone with dementia". The answers were transcribed and subjected to a phenomenological thematic content analysis. Family caregivers emphasized the importance of activity for social connectedness, physical health and mental well-being. However, they questioned whether the quality of the experience or the specific activity provided meaning. In contrast, other caregivers viewed activities as: only beneficial for respite; a reminder of declining interests and abilities; difficult/stressful; and provided no meaning for care-recipient. Finally, caregivers tied care recipients purpose and self-worth to engagement in activity. Implications for self- and social-identity, as well as personhood are discussed. Caregivers had differing views about what made activity meaningful to persons with dementia and vary by stage of disease, although not by type of dementia or gender of care recipient. This new knowledge may indicate areas for improved activity provision and for healthcare support providers.

## EFFECTS OF PHYSICAL CAPACITY AND COGNITION ON EATING IN LONG-TERM CARE ADULTS WITH DEMENTIA

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Background Eating is the one of most basic and easiest activities of daily living (ADL) to perform and the last ADL to lose among long-term care adults. Various personal and environmental factors can influence eating function. Purpose To examine the effect of physical capacity and cognition on eating among long-term care adults with moderate-to-severe dementia. Methods This study is a secondary analysis of the baseline data from two randomized controlled trials for 199 residents from 8 long-term care facilities. Descriptive data included demographics, type of long-term care setting and comorbidities. Cognitive function was measured using MMSE, physical capacity by Physical Capacity Scale, physical activity by Actigraph, depression and agitation by Cornell Scale for Depression in Dementia and Cohen-Mansfield Agitation Inventory. The outcome of interest, eating function, was measured using the single "feeding" item in the Barthel Index, and was scored on three levels of independence as "0=helper", "5=limited" and "10=intact". Results Almost one third (32.2%) had some level of dependence in eating. Eating function was associated with the type of long-term care setting, comorbidities, cognition and physical capacity. After controlling for type of setting and comorbidities, physical capacity (OR=1.158, 95% CI: 1.036, 1.293) and cognition (OR=1.095, 95% CI: 1.003, 1.196) showed impact on eating function. Conclusions This study provided information on factors of eating for developing effective interventions to optimize eating function in long-term care residents with moderate-to-severe dementia. Other personal factors except for physical capacity and cognition, as well as various environmental and institutional factors should be examined.

## EDUCATION DOES NOT MODERATE THE RATE OF COGNITIVE DECLINE PRIOR TO DEMENTIA DIAGNOSIS: EVIDENCE FROM THE OCTO-TWIN LONGITUDINAL STUDY

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Dementia represents a major challenge and the search for modifiable risk factors remains a high priority. Increased levels of education are known to be protective in terms of cognitive functioning, but less it's known in terms of cognitive decline. The current analyses have investigated various cognitive trajectories on both fluid and crystallised functions in preclinical stages of dementia and the role of education on these. The participants were drawn from the Swedish Octogenarian Twin study, a sample of individuals aged 80+ years interviewed biannually up to a maximum of 5 times. Only those who developed dementia after the study entry were included in these analyses. The cognitive tests employed were Mini-Mental State Examination, memory, inductive reasoning, language, information task and verbal meaning. Multilevel Models were employed to examine cognitive decline on each measure in relation to time to dementia diagnosis, accounting for education, age and socio-economic position. The results indicate a steeper cognitive decline prior to dementia diagnosis in most of the fluid cognitive abilities measured with MMSE, Prose Recall, Block Design, Digit Symbol, Memory Recognition, Memory Correspondence and Information tests. Education had a significant effect on the level of cognitive functioning at the time of dementia diagnosis (intercept) on both crystallised cognitive measures (synonym and information tests), but not on rate of cognitive decline (slope) in any of the cognitive measures investigated. These findings did not support the cognitive reserve hypothesis, which stipulates a protective role of education against steeper cognitive decline before dementia diagnosis.

## SESSION 1920 (PAPER)

### MENTAL HEALTH IN AGING POPULATIONS

#### INTRA-INDIVIDUAL AND CROSS-SPOUSE EFFECTS OF PAIN ON PSYCHOLOGICAL DISTRESS IN AGING COUPLES

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Research amply documents the negative consequences of pain for individuals (e.g., psychological distress) and society (e.g., costly healthcare). Pain also affects families; elevated psychological distress is common among spouses of pain patients. Because existing knowledge derives mainly from clinical samples (e.g., pain patients & spouses), little is known about couples with pain in the community—especially those in later life. Studies rarely consider that both spouses might have pain. Pain reports were examined in 5,386 aging couples in HRS 1998. In 8% of couples, both spouses reported pain. These 423 "dual-pain" couples were used to study the impact of each spouse's own pain, and the pain of his/her partner, on the psychological distress (depressive symptoms) of both spouses. Severe pain was reported by 22% of wives and 17% of husbands. Depressive symptomatology was correlated within couples (ICC=.28,  $p<.05$ ). Dual-intercept multilevel models tested intra-individual and cross-spouse effects of pain intensity on depressive symptomatology. Each spouse's own pain intensity was positively associated with his/her own depressive symptoms, though this effect was stronger in wives. A cross-spouse effect of pain was found only in husbands, and it varied depending on husbands' own pain. Increased wife pain intensity was associated with greater depressive symptoms among husbands with mild pain, but lower depressive

symptomatology among husbands with severe pain. Wives' depressive symptoms were related only to their own pain intensity. Researchers and practitioners need to consider pain from a dyadic perspective and direct greater attention to dual-pain couples.

#### **POVERTY AND DEPRESSION AMONG OLDER WOMEN IN SOUTH KOREA**

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The purpose of the study was to examine the factors affecting depression of older women in South Korea and compare the result between the poor and the non-poor subgroups; and to explore the characteristic differences presented upon different poverty lines applied. The data on 2,340 female adults of 60 years of age and over were drawn from the Korean Longitudinal Study of Ageing (KLoSA). The analyses showed that regardless of the poverty line applied, the percentage of people with depression was significantly higher in the poor than in the non-poor. The logistic regression results showed that perceived health status had the most effect on depression. Among the poor, the factors identified to reduce the odds of being depressed were perceived health status, religion, spouse, and satisfaction with the relationship with child(ren); the frequency of contact with relatives and friends increased the odds. Among the non-poor, the factors reducing the odds were perceived health status, spouse, social participation, and satisfaction with the relationship with child(ren); number of chronic disease increased the odds of being depressed. These results were then discussed and the implications to apply differentiated strategies for the subgroups of the female elderly were suggested.

#### **DEPRESSION AMONG OLDER ADULTS FOLLOWING TRAUMATIC BRAIN INJURY**

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**Background:** Sequelae of traumatic brain injury (TBI) include depression, which could exacerbate the poorer cognitive and functional recovery experienced by older adults. **Methods:** We estimated incidence rates of depression following hospital discharge for traumatic brain injury (TBI) among Medicare beneficiaries aged  $\geq 65$  years, quantified the risk of depression following TBI, and evaluated risk factors for incident depression post-TBI in an analysis of all Medicare beneficiaries  $\geq 65$  years hospitalized for TBI during 2006-2010 who survived to hospital discharge and had no documented diagnosis of depression prior to the study period ( $n=66,951$ ). We defined incident depression based on the Chronic Condition Data Warehouse date of first diagnosis. **Results:** The annualized incidence rate of depression per 1,000 beneficiaries pre-TBI was 66.1 (95% confidence interval (CI) 58.9, 61.2) in women and 50.7 (95% CI 49.0, 52.5) in men. Post-TBI, women (119.2; 95% CI 116.5, 122.0) continued to have higher incident rates of depression than men (105.6; 95% CI 102.4, 108.8). In adjusted analysis, TBI increased the risk of incident depression more in men (hazard ratio (HR) 2.0; 95% CI 1.9, 2.1) than in women (HR 1.7; 95% CI 1.7, 1.8). Discharge to a skilled nursing facility, a potential proxy for TBI severity, was associated with depression post-TBI in men (odds ratio (OR) 1.9; 95% CI 1.8, 2.1) and women (OR 1.7; 95% CI 1.6, 1.8). **Conclusions:** TBI increases the incidence of depression among older adults, especially in men and patients discharged to a skilled nursing facility.

#### **ANXIETY AND DEMENTIA IN OLDER SWEDISH TWINS**

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Anxiety is the most common mental health problem in later life. Higher anxiety has been associated with worse cognitive functioning. Furthermore, research suggests some anxiety disorders may be risk factors for developing mild cognitive impairment and/or dementia. No research has examined symptoms of anxiety and risk of dementia longitudinally over a span of many years. The purpose of this study was to examine the association between anxiety and subsequent risk of developing dementia over a span of 23 years. In 1984, 767 Swedish Twins completed an assessment of state anxiety (State Anxiety subscale from the State-Trait Personality Inventory; STPI). From 1986-2007, participants completed as many as six cognitive assessments approximately every three years. Proportional hazard regression analysis, adjusted for sex, education, and baseline age were used to examine if participants who scored above the mean on the STPI in 1984 were at greater risk of subsequently developing dementia. A random effect of twin pair was included in the model to account for the non-independence of the data. Over the period of this study, 124 participants developed dementia. Those participants who developed dementia were significantly more anxious at baseline ( $M = 20.1$ ;  $SD = 8.5$ ) than participants who did not develop dementia ( $M = 18.5$ ;  $SD = 7.6$ ;  $p = 0.04$ ). Elevated anxiety was associated with greater risk of developing dementia over age (hazard ratio = 1.59;  $p = 0.013$ ). Results indicate that anxiety may be an important overlooked risk factor for dementia in older adulthood.

#### **GENDERED ASSOCIATION BETWEEN SPOUSAL SOCIAL CLOSURE AND DEPRESSIVE SYMPTOMS AMONG OLDER ADULTS**

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**Objectives** This study investigates the relationship between depressive symptom and triadic relationship between spouses by using a complete social network of one entire Korean rural village. **Method** By using the Korean Social Life and Health Project (KSHAP) that is a population-based data set of 60 or older adults and their spouses in one village (95% of response rate), this study selects the people who had a spouse and at least one social tie (network) to examine the effects of triads (respondent, spouse, and respondent's social tie): 270 husbands and 273 wives in total. Logistic regression models are adopted to predict significant depressive symptoms. **Results** Spousal open triads where the respondents maintained social ties that are separated from their spouses, on average, helped to decrease depressive symptom for wives although this effect becomes statistically insignificant after controlling for the effect of spousal closed triad. Spousal closed triads where spouses shared their ties showed consistent and strongly gender-specific effects. When a son was a mutual tie of his both parents, his mom tended to report the depressive symptom more: adding him in the triad might aggravate his mother's role as a caregiver. In sharp contrast to this, if a daughter was the third person embedded in the closed triad, her father's depressive symptom was eased off: a daughter might play a role of another caregiver for the father. **The results highlight the importance of triadic level of older adults' relationship to understand their depressive symptoms more fully.**

## SESSION 1925 (SYMPOSIUM)

### SLOW AND STEADY WINS THE RACE: SEX DIFFERENCES IN PHYSICAL ACTIVITY

**Chair:** J.A. Schrack, *Epidemiology, Johns Hopkins School of Public Health, Baltimore, Maryland, National Institute on Aging, Baltimore, Maryland*

**Co-Chair:** T. Harris, *National Institute on Aging, Bethesda, Maryland*

**Discussant:** C. Crainiceanu, *Johns Hopkins School of Public Health - Biostatistics, Baltimore, Maryland*

Accurately identifying and quantifying active and sedentary behaviors in older men and women is crucial to preventive efforts aimed at delaying the onset of functional decline. The prevailing consensus is that men are more active than women throughout adulthood. However, emerging evidence indicates that women may actually be more active when lower levels of activity are taken into account, and that the true difference between active and sedentary behaviors may be dependent on the underlying methodology used to define “active” status. Further, sex-differences in activity patterns and trends change dramatically later in life due to changes in daily behaviors (e.g., employment) and the corresponding changes in the intensity, duration, and frequency of physical activities. This symposium will focus on the critical factors associated with analyzing and interpreting accelerometry data from participants of the Baltimore Longitudinal Study of Aging (BLSA), the National Health and Nutrition Examination Survey (NHANES), and the AGES-Reykjavik Study. We will discuss how: (i) applying standard cut point thresholds to older adults may contribute to erroneous conclusions regarding daily activity in women, (ii) differences in gait patterns between men and women may influence activity metrics, (iii) activity differences in men and women after heart surgery may contribute to recovery, and (iv) employment may contribute to differences in sedentary behaviors in older men and women. Collectively, these presentations will address critical issues in the interpretation of objective activity data that may hide meaningful insights into sex differences in daily activity with age.

### SEX DIFFERENCES IN PHYSICAL ACTIVITY: BEYOND THE BASICS

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Accurately quantifying sex-differences in active and sedentary behaviors is vital to understanding changes in activity with age and preventing functional decline. We modeled the associations among age, sex, and objectively measured activity in 611 BLSA participants (50% male, mean age 67, range 32-93), specifically examining the accumulation, intensity, and complexity of activity over the course of a day. Our results indicate women were less sedentary than men but with lower intensity of movement, suggesting women are more likely to engage in low levels of activity similar to those associated with activities of daily living and not typically classified as “physical activity.” Further, complexity of activity over the age spectrum was gradually lower with age in women, compared to a steep age-related drop in men. Future studies assessing activity in older adults should consider intensity and complexity of movement that may provide meaningful insight into sex differences in functional decline.

### EVALUATING A SEX DIFFERENCE IN ACCELEROMETER COUNTS DURING WALKING IN OLDER ADULTS

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Accelerometers have emerged as a useful tool for measuring free-living physical activity in epidemiological studies. Validity of activity estimates depends on the assumption that measurements are equivalent for males and females while performing activities of the same intensity. In an earlier comparison of a standardized 6-minute walk test, we found that, despite the fact that men walked only 7.2% faster than women, they had 13.4% greater vertical axis counts even accounting for gait speed and step length. We recently have been given access to gait data to further assess this issue to see if men have more ‘bounce’ than women per step which would lead to an excess of intensity counts while women have more lateral rotation. These data should help to address a potentially serious issue in the analysis of objective monitoring data that could confound free-living activity estimates.

### MEN AND WOMEN’S WORK: SEDENTARY BUT UNEQUAL?

T. Harris<sup>1</sup>, D.R. Van Domelen<sup>2</sup>, K.Y. Chen<sup>3</sup>, R.J. Brychta<sup>3</sup>, P. Caserotti<sup>4</sup>, A. Koster<sup>5</sup>, 1. *National Institute on Aging, Bethesda, Maryland*, 2. *Emory University, Atlanta, Maryland*, 3. *National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, Maryland*, 4. *University of Southern Denmark, Odense, Denmark*, 5. *Maastricht University, Maastricht, Netherlands*

The level of sedentary behavior in our society is rising as a proportion of the average day. This is a new exposure that may be important for the health of older persons in the future. Using data from the NHANES Study (2003-2004), we examined objective monitoring data for the total wear-time counts and proportion sedentary time for men and women aged 20-60. Sedentary jobs were identified from occupational codes and the King classification system. Men working full-time in sedentary jobs spent 57% of their total time sedentary; for women the proportion was 58%. However, when not sedentary, men were generally more active, with a greater percentage of time that was lifestyle or moderate to vigorous active, 15% versus women, 11%. Thus, sedentary work appears to affect men and women equally, while non-work activities appear to be greater in men.

### SEX DIFFERENCES IN PHYSICAL RECOVERY AFTER HEART SURGERY: A MINUTE-BY-MINUTE-BY-YEAR APPROACH

A. Eloyan<sup>1</sup>, V. Zipunnikov<sup>1</sup>, T. Harris<sup>3</sup>, P. Green<sup>2</sup>, M. Maurer<sup>2</sup>, C. Crainiceanu<sup>1</sup>, 1. *Biostatistics, Johns Hopkins University, Baltimore, Maryland*, 2. *Columbia College of Physicians and Surgeons, New York, New York*, 3. *Intramural Research Program of NIA, Laboratory of Epidemiology and Population Sciences, Bethesda, Maryland*

Wearable devices allow detailed quantification of activity at the minute level, which may be useful when assessing physical activity before and after surgery in older populations. Motivated by a clinical trial that compares standard surgery with a minimally invasive alternative, we compare the recovery of circadian patterns of activity of men and women. In this study, 50 patients (20 female and 30 male, average age = 87.7 with standard deviation = 6.21) who underwent heart surgery wore accelerometers that monitored the activity continuously before surgery and at multiple visits for several months after surgery. We will investigate whether there are baseline differences in activity levels between

men and women and investigate whether recovery and treatment effects are different between men and women. We will investigate the changes in circadian rhythms of activity as well as in the short-term day-to-day variability in the circadian rhythms of activity.

## SESSION 1930 (SYMPOSIUM)

### SHOULD COGNITION BE INCLUDED IN THE ASSESSMENT OF FRAILITY?

**Chair:** R. Varadhan, *Geriatric Medicine, Johns Hopkins Center on Aging and Health, Baltimore, Maryland*

**Co-Chair:** Q. Xue, *Geriatric Medicine, Johns Hopkins Center on Aging and Health, Baltimore, Maryland*

**Discussant:** M. Carlson, *Bloomberg School of Public Health, Johns Hopkins University, Baltimore, Maryland*

Fraility is generally characterized as a state of health signified by an increased vulnerability to adverse health outcomes in the face of stressors. It is recognized as an important health issue in older adults. Despite the explosion in frailty research over the past decade, translation of frailty into clinical and public health practice has been very limited. A major obstacle has been the lack of consensus on a precise definition and on how to assess frailty. There is also no agreement on the domains of frailty assessment (e.g., physical, cognition, and social). Nearly half of the frailty instruments include some aspect of cognition in the assessment. However, the most-cited frailty instrument, the frailty phenotype (Fried 2001), does not assess cognition. The main objective of the symposium is to discuss the rationale for and against the inclusion of cognition in the assessment of frailty. There will be 5 presentations: (1) an overview of the types of cognitive items used in the current frailty instruments and the motivation for such inclusion, (2) results from the Women's Health and Aging study (WHAS) looking at cross-sectional correlations between cognition and physical frailty, (3) results from the WHAS looking at longitudinal relations between dementia and physical frailty, (4) results from the Gait and Brain Study on memory impairment and executive dysfunction predicting mobility decline. Together these talks highlight the importance of careful attention to the construct of frailty so that the content of the frailty instrument matches its intended use.

### LONGITUDINAL ASSOCIATION BETWEEN PHYSICAL FRAILITY AND DEMENTIA: THE WOMEN'S HEALTH AND AGING STUDY II

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This study assesses the interrelationship between incident dementia and incident physical frailty. The analytic sample contains 387 women aged 70-79 years who were free of dementia and frailty at baseline and were followed up for a maximum of 9 years. Of the 387, 18% and 24% developed frailty and dementia, respectively; 17% had dementia onset before frailty; and 14% had frailty onset before dementia. Using discrete-time Cox model, we found that, after adjusting for baseline age, race, education, and diseases, women who developed frailty first were twice as likely as those who didn't to subsequently develop dementia ( $p=0.009$ ). In contrast, women who developed dementia first were 3.2 times as likely as those who didn't to subsequently develop frailty ( $p<0.001$ ). These findings suggest that frailty may be a risk factor for dementia and vice versa, which challenges the prevailing view of cognition as part of the frailty construct.

### INTERSECTION OF DOMAIN-SPECIFIC COGNITIVE IMPAIRMENT AND FRAILITY: FINDINGS FROM WHAS-II

A.L. Gross<sup>1</sup>, R. Varadhan<sup>2</sup>, M. Carlson<sup>1</sup>, Q. Xue<sup>2</sup>, 1. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*, 2. *Johns Hopkins School of Medicine, Baltimore, Maryland*

Previous studies have reported correlations between cognitive impairment and physical frailty. To evaluate the association of particular cognitive domains with physical frailty, we used 9 years of data from the Women's Health and Aging Study (WHAS-II,  $N=424$ , 6-visits). We applied clinical cutoffs on Trail-Making A and B, and immediate and delayed word-list recall. Of  $N=424$  women,  $N=73$  (17%) developed frailty. Using generalized estimating equations (GEE) to characterize interactions between time and impairment in cognition predicting frailty status, baseline impairment in Trails A (OR=9.2) and B (OR=5.2), and word-list learning immediate (OR=2.8) and delayed recall (OR=5.1) were associated cross-sectionally with frailty ( $p's<0.01$ ), but none of the associations became stronger with time ( $p>0.3$ ). In GEE Markov transition models, cognitive impairment was not associated with incidence of frailty ( $p's>0.05$ ). Findings suggest physical frailty and cognitive impairment are related cross-sectionally but not longitudinally, possibly reflecting distinct constructs with common underlying age-related processes.

### COGNITIVE DOMAINS AND ITEMS ASSESSED IN FRAILITY INSTRUMENTS

B. Buta, J.G. Godino, M. Park, A.L. Gross, R. Varadhan, *Center on Aging and Health, Johns Hopkins University, Baltimore, Maryland*

This talk provides an overview and description of the domains of cognitive function (e.g., memory) and the types of cognitive items (e.g., Mini-Mental State Examination (MMSE)) used in frailty instruments. Our literature review identified 47 unique frailty instruments. Of these, 20 (43%) used some cognitive items. Cognitive domains (and related items) in these instruments include: mental status (MMSE; Modified Mini-Mental State (3MS) examination; Short Portable Mental Status Questionnaire), psychomotor speed and attention (Trail-Making Test Part B; questions on attention and identifying the current day/month/year/time), visuospatial ability (Clock Drawing Test), memory loss / forgetfulness, presence of vascular or Alzheimer's disease, and reasoning ability. Mental status was the most common cognitive domain (35%) assessed in these instruments. We will discuss the motivation provided by authors for the inclusion of cognition in frailty instruments. We will also discuss the implications for the link between physical frailty and cognitive function.

### COGNITIVE FUNCTION IS ASSOCIATED WITH MOBILITY DECLINE AND PRE-FRAIL STATUS. RESULTS FROM THE GAIT AND BRAIN STUDY

M. Montero-Odasso, S.W. Muir, K. Gopaul, M. Speechley, *Medicine, Division of Geriatric Medicine, University of Western Ontario, London, Ontario, Canada*

It is still unknown if there is a "motor signature" associated with cognitive dysfunction and which cognitive domains affect mobility and gait. Previous studies have found that executive dysfunction is constantly associated with slower gait and future falls. The "Gait and Brain Study" is a cohort study following non-disable seniors with cognitive complaints with the aim to determine predictors of cognitive and mobility decline and frailty status. Results: One hundred fifty older participants, mean age 77+6 y/o and 57.6% female without disability were included for this analysis. Univariate analysis showed that cognitive dysfunction specifically executive dysfunction and episodic memory dysfunction were associated with gait disturbances and mobility disability. These findings remain significant after adjusting by age, gender, history of falls, physical activity and comorbidities. Conclusions: Cognitive dysfunction, specifically episodic memory impairment and executive dysfunction predicts gait disturbances and mobility disability

and prefrail status in a cohort of non disable seniors with cognitive complaints.

## SESSION 1935 (SYMPOSIUM)

### LIVWELL: DEVELOPING INTERVENTIONS TO IMPROVE HEALTH AND WELLBEING IN LATER LIFE

**Chair:** S. Moffatt, *Institute of Health & Society, Newcastle University, Newcastle upon Tyne, United Kingdom*

**Discussant:** C. Jagger, *Institute of Ageing & Health, Newcastle University, Newcastle upon Tyne, United Kingdom*

Additional life expectancy must be accompanied by good health and wellbeing in later life. The aim of the LiveWell Programme is to develop and pilot behavioural and social interventions to improve health and wellbeing through retirement transitions. Our objectives were to: identify intervention opportunities; identify intervention features associated with effectiveness; design and pilot a suite of acceptable interventions; and develop sensitive outcome measures. In this symposium, LiveWell researchers with backgrounds in four complimentary fields (social gerontology, health psychology, sociology, nutrition) will present the outcome of three steps in a research process that connects evidence production in academic spaces (qualitative research and systematic reviews) through evidence synthesis (co-design, intervention and outcome development) to the piloting of a functioning multimodal lifestyle intervention platform in the community. Presentations will cover: (i) qualitative data on retirement transitions; (ii) conceptualisations of 'later life' and 'wellbeing' with implications for intervention development; (iii) the integration of research evidence (qualitative analysis, 3 systematic reviews) through a co-design process with older people, and the production of a working intervention prototype; (iv) development of sensitive and appropriate outcome measures to assess wellbeing; (v) the use of a healthy ageing phenotype (panel of outcome measures) in piloting the prototype in a community sample. We conclude by describing challenges in the development of an integrated platform intended to facilitate preventative medicine in a particularly diverse population of older adults. Discussion will include the acceptability and feasibility of the intervention platform for assessment in a definitive randomised controlled trial.

### NARRATIVES ON WELLBEING AND LATER LIFE IN RETIREMENT: IMPLICATIONS FOR INTERVENTION DEVELOPMENT

B. Heaven<sup>1</sup>, N. Hobbs<sup>1</sup>, E. Evans<sup>1</sup>, M. White<sup>1</sup>, T.D. Meyer<sup>3</sup>, J.C. Mathers<sup>2</sup>, S. Moffatt<sup>1</sup>, *1. Institute of Health and Society, Newcastle University, Newcastle upon Tyne, Tyne and Wear, United Kingdom, 2. Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, United Kingdom, 3. Institute of Neuroscience, Newcastle University, Newcastle upon Tyne, United Kingdom*

Retirement presents an opportunity to intervene to improve outcomes in later life, as individuals adjust wellbeing-associated behaviours. Social relationships, physical activity and diet all influence wellbeing, but there is little evidence about: which social components to target; how wellbeing and later-life are defined by people around retirement; how to effectively intervene given the diversity of retirement transitions. Methods employed were: (i) a systematic review and (ii) qualitative study (n=45, focus groups, interview) using thematic analysis. Provision of 'social roles' was identified as a way to wellbeing for those looking for structure and purpose in retirement. Resources such as good health, wealth, and rewarding social relationships underpin wellbeing. However the 'capability' to mobilise resources to achieve outcomes was key in participants' accounts of wellbeing-in-practice. 'Later life' was conceptualised as a period of decline in an uncertain future. Assistance with building capability to achieve desired outcomes may be an effective intervention strategy.

### INTEGRATING MIXED-METHODS DATA TO DEVELOP A BEHAVIOUR CHANGE INTERVENTION IN RETIREMENT

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Behaviour change interventions should be theoretically sound and evidence-based. How usable and engaging they are plays an important role in their effectiveness. Key stakeholders (older adults, potential providers, commissioners and researchers) were involved in intervention development and optimisation through a process of co-design. Co-design methods were used to integrate the evidence base from qualitative research and systematic reviews to develop and prototype new intervention ideas to promote health and wellbeing in retirement. An internet-based intervention was built and subjected to an iterative process of testing and optimisation. The intervention comprises five interrelated modules (work transitions, time planning, physical activity, eating well and social roles) and a virtual mentor supports the experience. The intervention provides users with behavioural self-regulation and practical tools to help them adopt a healthier and happier lifestyle. Users can access the resources when they wish and they receive weekly email prompts to revisit the intervention regularly.

### MEASURING THE OUTCOMES OF LIFESTYLE INTERVENTIONS IN RETIREMENT: PSYCHOSOCIAL WELLBEING

E. Evans, B. Heaven, J. Lara, N. Hobbs, S. Moffatt, J.C. Mathers, T.D. Meyer, *Newcastle University, Newcastle upon Tyne, United Kingdom*

To evaluate the effectiveness of lifestyle interventions to promote wellbeing in retirement, change-sensitive, reliable and valid outcome measures are required. We aimed to identify markers of psychosocial wellbeing in retirement, and determine measures to best capture these markers. Methods employed were an international workshop on the 'Healthy Ageing Phenotype', a systematic review of psychosocial wellbeing interventions, and a concept-mapping exercise linking extant tools with wellbeing domains. Markers of psychosocial wellbeing included emotion, life satisfaction, meaning and purpose, social connectedness and social roles. Measurement challenges included diverse and overlapping wellbeing constructs, inconsistently-used terminology and lack of theoretically-derived instruments. Absence of mental illness was frequently erroneously conflated with psychosocial wellbeing. We assembled a battery of the best existing measures and developed a new measure of social roles. Psychosocial wellbeing is multidimensional, presenting measurement challenges. However, using a mixed-methods approach we produced a comprehensive, psychometrically-sound instrument battery to assess psychosocial wellbeing in retirement.

### A PILOT RCT OF AN INTERNET-BASED LIFESTYLE INTERVENTION FOR PEOPLE AROUND RETIREMENT

J. Lara<sup>2,1</sup>, E. Evans<sup>3,1</sup>, B. Heaven<sup>3,1</sup>, N. Hobbs<sup>3,1</sup>, A.C. Munro<sup>2,1</sup>, M. White<sup>3,1</sup>, J.C. Mathers<sup>2,1</sup>, *1. Newcastle University, Newcastle upon Tyne, United Kingdom, 2. Human Nutrition Research Centre, Institute for Ageing and Health, Newcastle upon Tyne, United Kingdom, 3. Institute for health and Society, Newcastle upon Tyne, United Kingdom*

There is growing interest in developing lifestyle interventions around the retirement period. We have undertaken a pilot randomised controlled trial evaluating a newly-developed internet-based lifestyle intervention (Living, eating, activity and planning through retirement (LEAP)). Ninety men and women within two years of retirement from full-time work were randomised to LEAP or to a control group using a NHS-website providing general lifestyle information. The intervention lasted two months. Participants of this study were regular internet

users living in the Northeast of England. Physical activity levels, dietary habits, and a set of functional outcomes directed to assess the healthy ageing phenotype (HAP), including physiological, physical capability, cognition, and psycho-social wellbeing, were evaluated at baseline and at 2-month follow-up. Results on primary outcomes (feasibility and acceptability of the intervention and the HAP assessment), and secondary outcomes (early indicators of change in dietary, physical activity and HAP outcomes) will be presented and discussed.

## SESSION 1940 (SYMPOSIUM)

### TACKLING THE CHALLENGES OF LONGITUDINAL AGING RESEARCH: INTEGRATIVE ANALYSIS OF LONGITUDINAL STUDIES OF AGING (IALSA)

**Chair:** G. Muniz Terrera, *Lifelong Health and Ageing, Medical Research Council, London, United Kingdom*

**Discussant:** J. Rodgers, *Vanderbilt University, Dept of Psychology, Nashville, Tennessee*

A major feature of the IALSA network is the evaluation of the reproducibility of results from longitudinal studies. The replication of longitudinal research is challenging as there are multiple ways that results can differ including features of the sample and study design and choice of statistical analysis (selection of covariates, retest effects, attrition, mortality selection within and across studies). An ongoing aim of the IALSA network is to examine the impact of alternative statistical models (Piccinin et al., 2011) on the interpretation and replicability of study results. Several projects within IALSA are evaluating the impact of statistical models on questions and conclusions regarding associations between health and cognition. Although age is often employed as a time metric to model change, its use may not be optimal and time in study may be more adequate to describe change in samples of older individuals. Analysis of change in the presence of time varying covariates is challenging as many methods can be considered, each addressing a different question. In ongoing studies, understanding the power necessary to detect rates of change is highly relevant. Particularly in the study of older adults, missing occasions and dropout due to illness and death are a big issue as is mortality selection in initial sample selection as individuals who have died are no longer available to be sampled. In this symposium, we critically evaluate alternative statistical approaches for these major issues and consider best practice for analyses of longitudinal data that will lead to reproducible research findings.

### DEMYTHIFYING THE USE OF AGE AS THE “NATURAL” METRIC TO MODEL CHANGE IN AGING STUDIES

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Age is often regarded as the “natural” metric with which to model aging-related change. However, when used in growth models fitted to age heterogeneous samples, assumptions about convergence of cross sectional and longitudinal age effects are often made without testing. Due to age differences at study entry, a decision regarding placement of the intercept is required, such as centering at the average baseline age, although alternative proposals exist. This impacts other model parameter estimates, including the association of level and rate of change with risk factors. Alternatively, when modelling change as a function of time, less arbitrary decisions about intercept placement are required and weaker assumptions and extrapolations are made. In this talk we discuss advantages, limitations and consequences of using chronological age or time since study entry as metrics of time in studies of aging, and illustrate them presenting results from studies affiliated with the IALSA network.

### ON THE ROBUSTNESS OF RESULTS FROM LONGITUDINAL OBSERVATIONAL STUDIES: A WITHIN-STUDY REPLICATION EXPERIMENT TO EXAMINE THE CONSISTENCY OF RESULTS ASSOCIATED WITH INCREASES IN NUMBER OF OCCASIONS AND STUDY DURATION

S.M. Hofer<sup>1,2</sup>, P. Rast<sup>1</sup>, G. Muniz Terrera<sup>3</sup>, A. Kelly<sup>1</sup>, A.M. Piccinin<sup>1</sup>, *1. Psychology, University of Victoria, Victoria, British Columbia, Canada, 2. Oregon Health & Science University, Portland, Oregon, 3. MRC Unit for Lifelong Health & Ageing, London, United Kingdom*

The central aim of the Integrative Analysis of Longitudinal Studies of Aging (IALSA) research network (NIH/NIA P01AG043362) is to optimize reproducible research on longitudinal and life course studies. This is achieved by evaluating comparable conceptual and statistical models at the construct-level. However, replicability of results is also a challenge within each longitudinal study as the number of assessments and overall study duration increases. While longer studies with more occasions have higher power to detect change as more within-person information becomes available, study dropout and mortality-selection must be carefully considered and the models of change shift from difference scores (2 waves) to linear change (3-4 waves) to non-linear change (5+ waves). We will discuss methodological issues related to the robustness of within-study results in regards to the selection of measures and measurement models, study design factors (number of occasions, study duration), and statistical models (linear/nonlinear change) and implications for cross-study comparison.

### ANALYSIS OF CHANGE IN THE PRESENCE OF TIME-VARYING COVARIATES

A. Robitaille<sup>1</sup>, G. Muniz<sup>2</sup>, A.M. Piccinin<sup>1</sup>, S.M. Hofer<sup>1</sup>, *1. University of Victoria, Ottawa, Ontario, Canada, 2. University College London, London, United Kingdom*

Longitudinal studies allow researchers to model interindividual differences in intraindividual change using growth models. Time-invariant covariates are commonly included to predict between-person differences in the intercept and slope. Still, many variables treated as time-invariant are, in reality, variables that change across time, and could therefore be treated as time-varying covariates. The current presentation will discuss approaches to modelling time-varying covariates using longitudinal data from studies affiliated with the IALSA network. The results from models examining the relationship between health indicators and cognitive functioning will be presented to illustrate growth modeling with time-varying covariates. After attending this presentation, participants will have a better understanding of the questions that can be answered with longitudinal models that include time-varying covariates. We hope this presentation will also inform participants about the importance of examining time-varying covariates in their own longitudinal data.

### MISSING DATA DUE TO DEATH: A DISCUSSION OF LIMITATIONS, CHALLENGES AND ADVANTAGES OF EXISTING APPROACHES

G. Muniz Terrera<sup>1</sup>, S.M. Hofer<sup>2</sup>, A.M. Piccinin<sup>2</sup>, *1. University College London, London, United Kingdom, 2. University of Victoria, Dept. of Psychology, Victoria, British Columbia, Canada*

Attrition and dropout in longitudinal studies is a given. In ageing studies, death also plays a considerable role reducing the number of individuals included in the follow up samples even further and introducing biases in estimates of change. Several methods have been proposed in the literature to account for missing data due to death in longitudinal ageing studies. Methods include, amongst others, the use of indicators of whether individuals die during the study's follow up time, indicators of survival up to each follow up occasion, modelling scores as a function of time to death, and jointly modelling the longitudinal process and the



risk of death. In this talk, we will present each approach and discuss their advantages and limitations. To illustrate their application and compare inferences resulting from each modelling approach, we will present results from fitting the different models to data from studies affiliated to the IALSA network.

## SESSION 1945 (SYMPOSIUM)

### VA GRECC SYMPOSIUM: THE ROLE OF EDUCATION IN IMPLEMENTATION SCIENCE

**Chair:** B. Kramer, *VA Greater Los Angeles Healthcare System, Los Angeles, California, David Geffen School of Medicine at UCLA, Los Angeles, California*

**Co-Chair:** J.L. Howe, *James J. Peters VA Medical Center, Bronx, New York*

**Discussant:** M.K. Goldstein, *VA Palo Alto Health Care System, Palo Alto, California*

Educators in geriatrics and gerontology are being challenged to move beyond traditional teaching and learning models for increasing knowledge and skills and to explore the role of education in the transformational field of implementation science. If education is necessary — but not necessarily sufficient — to implement best practices, how are we positioning continuing education and professional development to connect with healthcare professionals, researchers and quality managers in optimizing patient outcomes? What are the practical, evaluation, and theoretical implications for educators? Are new models developing in connecting educational and organizational research in testing or adopting new clinical processes of care? If “one size doesn’t fit all,” just how many sizes are there? This symposium explores VA GRECC education and training initiatives that have been integrated into health services research, clinical demonstrations or implementation of best practices in the areas of dementia/ delirium, polypharmacy, palliative care and primary care.

### USING THE PARIHS FRAMEWORK TO PLAN EDUCATION INTERVENTIONS

S.A. Trudeau<sup>1,2,4</sup>, K.J. Horvath<sup>1,3,4</sup>, L. Radwin<sup>5</sup>, E.S. McConnell<sup>6,7</sup>,  
1. *Edith Nourse Rogers Memorial VAMC, Bedford, Massachusetts,*  
2. *Tufts University, Department of Occupational Therapy, Medford, Massachusetts,*  
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The PARIHS (Promoting Action on Research implementation in Health Services) conceptual framework posits that Successful Implementation is a function of the nature and quality of the Evidence, characteristics of the Context, and Facilitation strategies. It is best employed as a two-stage process where the elements of Evidence and Context, and the respective sub-elements, are assessed in order to design the most appropriate Facilitation (education) strategies. Thus, the education goal in implementation research often focuses more on organizational processes and culture, and learner values than topical content. Our data is derived from the developmental formative evaluation conducted to initiate the implementation study of an evidence-based Home Safety Toolkit for persons with dementia of the Alzheimer’s type. Stakeholder interviews and the Organizational Readiness to Change Assessment tool are used to construct an evaluation schema that identifies the types of educational interventions that will best facilitate implementation this new intervention into clinical practice.

### COMBINING QUALITY IMPROVEMENT AND GERIATRICS TRAINING: THE NURSING HOME POLYPHARMACY OUTCOMES PROJECT

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We examined the sustained effects of repeating an educational quality improvement (QI) project on medication safety and cost-effectiveness. In October 2007 and August 2008, facility leadership and geriatrics faculty identified all patients receiving  $\geq 9$  medications (polypharmacy cohort) in a 170-bed teaching nursing home and taught Geriatric Medicine fellows (n=12 in 2007, 11 in 2008) to: 1) systematically collect medication data; 2) generate medication recommendations (stop, taper, or continue) based on expert criteria (Beers Criteria) or drug-drug interaction programs; 3) discuss recommendations with patients’ attending physicians; and 4) implement approved recommendations. Over the two projects, the polypharmacy cohorts demonstrated decreased potentially inappropriate medications (odds ratio (OR) 0.78, 95% confidence interval (95%CI) 0.69-0.88,  $p < 0.001$ ), contraindicated medications (OR=0.63, 95%CI=0.47-0.85,  $p = 0.002$ ) and medication costs (OR=0.97, 95%CI=0.96-0.99,  $p < 0.001$ ). Our findings suggest that programs planning educational QI projects for trainees may benefit from a multi-year approach to maximize both clinical and educational benefits.

### FORMATIVE EVALUATION OF A MULTI-COMPONENT, EDUCATION-BASED INTERVENTION TO IMPROVE PROCESSES OF END-OF-LIFE CARE

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A multi-component palliative care education-based intervention was implemented in six VA Medical Centers to promote update of best practices for end-of-life care. The intervention included on-site staff training plus supporting written materials, installation of an electronic order set, and follow-up consultation. Training included large group didactic presentations, small group clinical demonstrations, and one-on-one consultations. The intervention strategy was targeted broadly to hundreds of hospital providers, including physician, nursing, and ancillary staff. The purpose was to train staff in identifying actively-dying patients and implementing best practices of home-based hospice care. A formative evaluation was conducted using semi-structured telephone interviews with key informants from each site. Qualitative data analysis revealed processes that facilitated or impeded uptake of the intervention and perspectives on preferred training strategies. Results can be used to optimize future implementation of education-based interventions to improve adoption of best practices for end-of-life care within acute care settings.

## A MULTI-SITE CLINICAL AND EDUCATIONAL DEMONSTRATION PROGRAM TO SERVE RURAL VETERANS (GRECC-CONNECT)

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GRECC-Connect was established to provide geriatric consultation to rural VA community-based clinics through telehealth modalities with a goal to improve healthcare for rural older Veterans. Seven Geriatric Research, Education and Clinical Centers (GRECCs), which are centers of excellence in geriatric care, serve as the resources for geriatric consultation for clinics located in the Northeast, Northwest, Midwest and Southwest. Based on their variable resources and expertise, each of these GRECCs and clinics has evolved a unique combination of programs to accommodate local needs. Approaches to educate and assist rural providers in providing geriatric care included educational approaches using a case-based conference format and team huddles through teleconferencing, and clinical approaches using video telehealth and chart consultation. The multi-site collaborative provided opportunities for rapid update of successful educational strategies, but the variability in approaches is a challenge for measuring the impact of the education in improving processes of care and patient outcomes.

## MULTIMODAL TRAINING TO ENHANCE THE CARE OF VETERANS WITH DELIRIUM

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Delirium is a prevalent condition associated with profound clinical outcomes including, increased institutionalization and lengths of stay, medication use, falls, restraints, and mortality. (Witlox, 2010). Implementation of non-pharmacological evidenced based interventions into clinical practice such as enhanced communication, mobility, nutrition and meaningful activities continues to lag despite traditional educational programming. (Ely, 2001; Inouye, 2003; Foreman, 2001) Barriers to this implementation appear to be multifactorial and include attitudes, knowledge and skills. (Ely, 2004). To address these gaps a multimodal educational program was developed that included the use of video's, case studies, simulation training and bedside mentoring by a delirium resource team. Following bedside consultation and mentoring by a delirium resource team including nurses and physicians using pocket cards, patient outcomes demonstrated improvements in mortality rates, nursing home placement, readmission rates, and emergency room visits. Training programs using case studies were well attended and were highly rated for relevance and effectiveness.

## SESSION 1950 (PAPER)

### ACUTE CARE II

#### HOSPITAL PROVIDERS' PERCEPTION OF TRANSITIONS TO SKILLED NURSING FACILITIES: PROCESSES AND BARRIERS

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Hospital discharge to a Skilled Nursing Facility (SNF) is one of the strongest predictors for experiencing a 30-day rehospitalization. In order to design effective hospital-SNF transitional care interventions to reduce these rehospitalizations, common processes and barriers to high quality transitions within the sending (hospital) end of these transitions must be better understood. This qualitative study utilized Grounded Dimensional Analysis, a variant of grounded theory methodology. Hospital staff including nurses, case managers, discharge planners, physicians and health unit coordinators (N=53) employed at 3 hospitals in Wisconsin participated in focus groups with in-depth interviews. Data were analyzed using open, axial and selective coding. Hospital staff identified several factors that contribute to unsafe/ineffective hospital-to-SNF transitions. Factors specific to the inter-hospital setting included inconsistent layers of communication within and across provider teams, a limited sense of accountability from hospital staff regarding post-discharge care or outcomes and lack of awareness of the SNF environment. Salient intra-setting barriers included difficulty identifying the appropriate frontline provider. Conditions that improved transitions included discharging nurse knowledge of patient (i.e. consistent assignment) and having an established relationship between hospital and SNF. Overall, hospital staff conceptualized transitions as a discharge process and expressed limited awareness of the concept of bridging care transition from one setting to another. Lack of hospital staff awareness of basic principles of transitional care and SNF setting likely contribute to poor hospital-to-SNF transitions and may increase re-hospitalization risk for older adults who frequently utilize SNF services.

#### EFFECT OF HOSPITALIZATION ON PHARMACOTHERAPEUTIC MANAGEMENT OF ATRIAL FIBRILLATION FOR NURSING HOME RESIDENTS

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Objective: Stroke prevention is a cornerstone of pharmacotherapeutic management of individuals with atrial fibrillation (AF). Older nursing home (NH) residents are at high risk for stroke and hospitalizations based on their age and poorer health status. This study describes the effect of hospitalization on quality of stroke prevention in NH residents with AF. Methods: Using a retrospective cohort design with Medicare administrative claims linked to the Minimum Data Set and Online Survey Certification and Reporting data, older ( $\geq 65$  years), long-stay NH residents with AF were identified. Individuals were followed for all months with NH residence and Medicare coverage following the first observed AF diagnosis between 1/1/2007-12/31/2009. The effect of a hospitalization on use of warfarin and receipt of international normalized ratio (INR) monitoring in the following month was determined using hierarchical generalized linear mixed models. Results: The cohort (n=16,174) was predominantly female (76%), white (88%), and aged  $\geq 85$  (54%). Individuals were followed for a median of 12 months (range 1-36). The average monthly prevalence of warfarin use was 37.4%, and

84.3% of those receiving warfarin had INR monitoring in the month. In adjusted analyses, a hospitalization increased the odds of using warfarin in the following month by 28% (99% CI 1.11-1.46) but had no effect on subsequent INR monitoring (OR 0.98, 99% CI 0.87-1.09). Conclusion: A hospitalization may increase awareness of the need for stroke prevention in older NH residents with AF. Future interventions should aim to improve awareness earlier in order to avoid unnecessary hospitalizations.

#### **MEDICATION DISCREPANCIES BETWEEN HOSPITAL AND COMMUNITY PHARMACIES POST-DISCHARGE FOR OLDER ADULT PATIENTS**

K.A. Kennealy<sup>1,2</sup>, A. Kind<sup>1,2</sup>, B. Chewing<sup>2</sup>, T.J. Roberts<sup>1,2</sup>, R. Roiland<sup>1,2</sup>, A.L. Gilmore-Bykovskyi<sup>2</sup>, D.H. Kreling<sup>2</sup>, *J. William S. Middleton Memorial VA Hospital, Madison, Wisconsin, 2. University of Wisconsin- Madison, Madison, Wisconsin*

Background: Medication discrepancies that occur at time of hospital discharge are well documented sources of patient safety issues that threaten the health and lives of older adults. However, little is known about the patterns and sources of these discrepancies at community pharmacies. Objective: The purpose of this study was to 1) determine when hospitalized patients fill their prescriptions post-discharge, and 2) examine whether medications prescribed at hospital discharge reconciled with those on file at patients' community pharmacies. Methods: Patients 65 years and over (n=50) hospitalized for pneumonia, myocardial infarction, or heart failure and discharged back into community care were recruited from a Midwest hospital's transitional care program from February to December 2013. Patient medication records were retrieved from the hospital health system and community pharmacy. Medication discrepancies were identified and categorized as omission, addition, discrepant dose, frequency mismatch, or duplication. Results: Most patients (74%) visited their community pharmacy before having a follow-up provider visit. Of the 461 prescription medications examined, 30.2% were discrepant. The most frequent type of discrepancy was omissions (18.0%). Cardiovascular (24.9%), hormones (14.3%), and central nervous systems agents (12.6%) comprised over half of all medication discrepancies. Conclusions: This study suggests that medication discrepancies are prevalent between the hospital discharge medication list and the medications on file at patients' community pharmacies post-discharge. Since many patients visit their community pharmacies relatively soon after discharge, community pharmacies should be included in care coordination procedures upon discharge. Future research is needed to better understand the causes of these medication discrepancies.

#### **EVALUATING THE RAPID EMERGENCE OF GERIATRIC EMERGENCY DEPARTMENTS (GEDS)**

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Older adults (>65 years) made over 20.4 million out of 136 million emergency department (ED) visits in 2009. These older ED patients are heterogeneous presenting with numerous co-morbid conditions, medication complexity, decreased functional reserve, and atypical symptoms. The first Geriatric Emergency Department (GED) opened in 2008 and now GEDs exist in over 50 hospitals nationwide. This research examined the structure and process of care provided by these Geriatric Emergency Departments. Data collection used a mixed-methods approach including telephone surveys, content analysis of GED websites, and in-depth ethnographic observation of three GEDs. Descriptive statistics and a grounded theory approach were used for analysis. Results suggest nationwide GEDs are highly heterogeneous in terms of design, physical environment, staffing, policies, and procedures. No single GED standard has yet emerged. GEDs are clustered geographically, in the East

Coast and Midwest, with over 50% associated with a single healthcare system. In terms of the physical environment, remodeling or building dedicated GED space appears to be a key discriminator. Over 90% of GEDs report training nursing staff in geriatric care with less training/education of ED physicians. The majority of GEDs report limited hours of operation (e.g., 9-5pm) rather than 24 hour care. Common challenges involved GED admission criteria, after hours care, and follow up care. GEDs remain a healthcare delivery model with an unknown trajectory. Standards and guidelines are needed to provide direction to those considering its implementation. Systematic measurement of GED outcomes and efficacy are called for.

#### **INJURY DEATHS AMONG ADULTS AGED 65 AND OVER: UNITED STATES, 2000-2011**

E. Kramarow, L. Chen, H. Hedegaard, M. Warner, *National Center for Health Statistics, Hyattsville, Maryland*

Injury deaths are a large burden on society, and many of these deaths are preventable. Injury deaths are classified by intent (e.g., unintentional, suicide, homicide) and by mechanism (e.g., motor vehicle traffic, firearm, fall, suffocation). Unintentional injuries are the ninth leading cause of death among adults aged 65 and older in the United States, resulting in about 40,000 deaths per year. This research describes the magnitude of injury deaths among adults aged 65 and over in the United States using mortality data from the National Vital Statistics System. Trends in unintentional injury deaths are shown for 2000-2011, and detailed descriptions of unintentional injury deaths by age, sex, race/ethnicity and urbanization in 2010-2011 are presented. We highlight the five leading causes of unintentional injury death among the U.S. population aged 65 and over: falls, motor vehicle traffic accidents, suffocation, poisoning, and fire or flame. Analyses show that slightly more than half of all unintentional injury deaths among adults aged 65 and older were due to falls, and the rate of fall injury deaths has been increasing. Death rates from motor vehicle traffic accidents among older adults were 1.7 times higher in non-metropolitan areas than in metropolitan areas. The rate of death due to fire or flame for older non-Hispanic blacks was more than twice as high as the rates among non-Hispanic whites and Hispanics. Possible explanations for these patterns and trends are discussed.

#### **SESSION 1955 (SYMPOSIUM)**

##### **USING INNOVATIVE RESEARCH METHODOLOGIES FOR UNDERSTANDING THE CONTEXT OF AGING AND DISABILITY**

**Chair:** N. Ruggiano, *School of Social Work, Florida International University, Miami, Florida*

**Discussant:** P. McCallion, *University at Albany - SUNY, Albany, New York*

Over the next several decades, the population of older adults with disabilities and chronic illnesses is expected to increase significantly. Despite policy and service responses aimed at meeting the health and social needs of this population, there are still significant barriers to promoting independent living, successful aging, person-centeredness, self-management, and self-determination among older adults with chronic conditions. One specific barrier includes the vast, growing diversity of this population. Older adults with chronic conditions include: individuals with a variety of conditions; individuals who experienced their disability during later life and individuals whose onset of disability occurred at an earlier age; and individuals from varying cultural backgrounds with different understandings of disability and implications from chronic conditions. Responding to demographic trends, scholarship focused on aging and disability has increased over time, and has become increasingly complex. Scholars in this area are examining the context of aging and disability by examining diverse samples, applying novel theoretical perspectives, developing new measures, and using cutting edge methodologies. Such research is critical to informing

health and supportive services for this population. This session highlights several innovative methodological approaches currently being used to understand the context of aging and disability. The individual presentations will represent qualitative and quantitative approaches to inquiry by both senior and beginning investigators. Participants will initiate a dialogue about how research methodology can promote the health and social well-being of older people with disabilities, with a specific focus on the implications of current research on the health and social service systems.

#### **USING ERIKSON'S THEORY TO UNDERSTAND HEALTH SELF-MANAGEMENT: FINDINGS FROM TWO FIELD STUDIES**

N. Ruggiano<sup>1</sup>, T. Perry<sup>2</sup>, N. Shtompel<sup>1</sup>, L.A. Hassevoort<sup>2</sup>, 1. *School of Social Work, Florida International University, Miami, Florida*, 2. *Wayne State University, Detroit, Michigan*

According to Erik Erikson's theory on human development, psychosocial crises are often revisited later in life. This is especially true for adults experiencing disabilities and chronic illnesses who are self-managing their physical and mental health later in life. This research integrated data from two qualitative studies on health self-management to examine how self-managing physical and mental health changes later in life relates to Erikson's epigenetic principle of human development. It was found that older adults (1) reasserted autonomy by initiating creative problem solving; and 2) applied skills gained from productive activities earlier in life to new health-related problems that arise later in life. The paper will discuss policy and practice implications of these findings. It will also discuss the process and value of integrating multiple qualitative data sets and using Eriksonian theory as a methodological approach to studying chronic conditions later in life.

#### **CONTENT ANALYSIS: SEARCHING FOR LONG-TERM SERVICES & SUPPORTS FOR PERSONS AGING WITH DISABILITY IN SCIENTIFIC LITERATURE AND AT GSA ANNUAL MEETINGS**

M. Putnam, *School of Social Work, Simmons College, Boston, Massachusetts*

Although there is an emerging body of knowledge about long-term services and supports (LTSS) for persons aging with long-term disability acquired in early or mid-life, it is difficult to locate. The size and scope of the literature is unknown. This presentation provides two examples of how content analysis (CA) methods were applied as part of a broad scoping review to identify existing LTSS research. CA methods were used to review 9 years of program abstracts (2004-2013) from the Gerontology Society of America annual meetings to identify the amount and themes of annual presentations related to this topic. CA was also employed in a literature review of LTSS that used diagnostic conditions to identify subgroups of the aging with disability population to assess the scope of research available in this area of study. Findings for each CA are reported. Utility of the CA method for this work is discussed.

#### **MEASUREMENT DEVELOPMENT, EVALUATION AND RESEARCH FOR MINORITY ELDERS**

K.T. Chan<sup>1</sup>, T. Tran<sup>2</sup>, 1. *University at Albany SUNY, Albany, New York*, 2. *Boston College, Chestnut Hill, Massachusetts*

With alarming rates of growth in minority aging, gerontological researchers are increasingly aware of the need for meaningful, appropriate, and practical research instruments for their populations. To ensure the quality of data collection and validity of outcomes, gerontologists conducting cross-cultural work must have both reliable and valid research measurements. Using scales that lack comparable psychometric properties can lead to biased results. Measurement equivalence is a fundamental issue in ensuring the fidelity of research and evaluation in our diverse society. This workshop aims to provide an overview of issues and techniques of cross-cultural measurement research, and

provide a step-by-step approach to developing, adopting, or adapting instruments for minority aging populations. Special attention will be placed on examining the measurement of disability and psychological distress. This workshop will include an overview of reliability and confirmatory factor analysis, along with measurement invariance tests and test of Tau equivalence using Lisrel, MPlus, and Stata.

#### **SOCIAL SUPPORT IN OLDER HEMODIALYSIS PATIENTS: ASSOCIATIONS WITH SELF-MANAGEMENT AND A CONFIRMATORY FACTOR ANALYSIS OF THE SIX ITEM LUBBEN SOCIAL NETWORK SCALE**

T.R. Washington<sup>1</sup>, S. Zimmerman<sup>2</sup>, 1. *University of Georgia, Athens, Georgia*, 2. *University of North Carolina, Chapel Hill, North Carolina*

Older hemodialysis (HD) patients are at risk for social isolation, yet factors associated with social support are understudied, and measures of social isolation have yet to be validated with this population. The purpose of the current study was to 1) examine the relationship of social support to self-management behaviors; and 2) examine the factor structure of the Lubben Social Network Scale - 6 (LSNS-6) using data provided by 107 community-dwelling HD patients aged 50 and older. Advance directive status ( $p = 0.01$ ), cognitive symptom management ( $p = 0.02$ ), communication with physicians ( $p = 0.03$ ), and weekly exercise time ( $p = 0.02$ ) were associated with social support. The LSNS-6 demonstrated good fit as reflected in the CFI (0.977) and TLI (0.941) scores. HD patients reporting low social support practice fewer self-management behaviors, and the LSNS - 6 is valid for use of rapid assessment of social isolation in older HD patients.

#### **SESSION 1960 (SYMPOSIUM)**

##### **TRAINING ON PERSON-CENTERED PLANNING AND PARTICIPANT-DIRECTION**

**Chair:** K.J. Mahoney, *Graduate School of Social Work, Boston College, Chestnut Hill, Massachusetts, National Resource Center for Participant-Directed Services, Chestnut Hill, Massachusetts*

**Discussant:** L. Gerhard, *US Administration on Aging, Washington, District of Columbia*

Person-centered planning and participant or self-direction are basic elements in the Affordable Care Act, but a recent survey shows that staff in Area Agencies on Aging have little preparation and desire more training. The New York Community Trust (NYCT) has funded the Council of Social Work Education together with the National Resource Center for Participant-Directed Services to work with nine Social Work Programs to develop modules for infusing these approaches into clinical and macro social work courses. Each social work program is partnered with a community-agency (typically an Aging and Disability Resource Center) to provide grounding for the curriculum and field experiences for the students. The first paper will present research on training needs from a survey of Area Agency on Aging directors and staff holding social work positions. The second paper will review research and experience in curriculum infusion and preliminary findings from the NYCT project in preparing social work students with PC/PD competencies. The third paper will discuss the advantages of working with agencies in curriculum building as a form of participatory action research. Finally, Lori Gerhard from the Administration on Community Living will discuss future needs for such training and how it relates to planning at the federal level.

##### **WORKFORCE COMPETENCIES IN THE AGING NETWORK: A SURVEY OF AAA DIRECTORS AND STAFF**

M. Sciegaj, *Penn State University, University Park, Pennsylvania*

This paper describes a national survey of Area Agency on Aging (AAA) administrators and of staff who hold information and assistance service positions. This 18-month study sought to determine the extent

competency-based workforce initiatives and needs within the Aging Network in the areas of gerontology, diversity, person-centered practices, and participant-directed services. The survey collected information on the extent of competency based performance in the network, perceived training needs related to competency based performance expectations, and the extent of influence of educational background and professional training on the presence of workforce competencies in the above areas. Paper discusses implications of findings on training for both the current and future workforce in aging and disability services.

### **PREPARING SOCIAL WORK STUDENTS FOR PERSON CENTERED AND PARTICIPANT DIRECTED OCCUPATIONS**

N.R. Hooyman, *University of Washington, Seattle, Washington*

To address the need for workforce development in PC/PD, this paper will present findings from a national project funded by the New York Community Trust to prepare social work students with PC/PD competencies to work effectively within the Aging and Disability Network as well as community-based long-term services and supports funded by the ACA. The project partners nine schools of social work with nine aging and disability network agencies for the purposes of articulating and infusing PC/PD competencies into social work curriculum. Effective strategies to infuse such competencies into required curriculum will be discussed, and examples of teaching resources (e.g., lectures, case studies, modules) and measures of student competency attainment presented.

### **BUILDING THE COMMUNITY-BASED PARTNERSHIP**

C. Morano, *Silberman School of Social Work at Hunter College, New York, New York*

As a part of the Partners Project, Hunter College and the Visiting Nurse Association of New York City have collaborated in the formulation of a competency-based curriculum for social work students. The goal of the curriculum is to train social work students in the areas of person-centered practices and participant-directed services so that they will be able to work effectively within the Aging and Disability Network (and avoid the need for on-the job training). As such, this partnership reflects the basic tenets of participatory action research—the collection and use of information so that it benefits the people it directly affects. This presentation describes the process of engaging our community based partner in a collaborative process, effective strategies to infuse such competencies into required curriculum, and measures of student competency attainment will be presented

## **SESSION 1965 (SYMPOSIUM)**

### **INTERDISCIPLINARY TEAMWORK TRAINING AND PRACTICE IN GERIATRICS: CHALLENGES AND OPPORTUNITIES FOR THE FUTURE**

**Chair:** P.G. Clark, *Program in Gerontology, Univ Rhode Island, Kingston, Rhode Island*

**Discussant:** R. Kaiser, *Veterans Affairs Medical Center, Washington, District of Columbia*

Interdisciplinary teamwork (IDT) is an essential component of providing quality care to older adults with complex and chronic health care needs. Health care professionals need to be trained in the essentials of interprofessional education (IPE) to be adequately prepared for clinical practice. The Partnership for Health in Aging (PHA), a coalition of over 30 health professional organizations supported by the American Geriatrics Society, has recently published a “Position Statement on Interdisciplinary Team Training in Geriatrics,” and the task is now to implement its recommendations. Although past history of IDT efforts indicates that this goal is fraught with substantial challenges, the current context offers new opportunities. This symposium presents a comprehensive discussion of what strategies might be most effective in mov-

ing the IDT agenda in geriatrics forward. The first paper summarizes the background and important insights from the recent utilization of the curriculum, the Geriatric Interdisciplinary Team Training (GITT) Kit, which was developed as a national model for IDT education. The second paper summarizes the lessons learned from the successful continuation of a GITT and other similar programs at a university medical center. The third paper describes current and future initiatives within the Veterans Administration (VA) health care system in support of IDT utilization and training. Finally, the last paper develops a force-field analytical framework assessing the positive and negative forces and factors underlying the development and continuation of IPE. Implications for developing, implementing, and sustaining interdisciplinary geriatric teamwork education and practice to meet future health care needs will be developed.

### **THE EVOLUTION AND DISSEMINATION OF GERIATRIC INTERDISCIPLINARY TEAM TRAINING (GITT)**

T. Cortes, S.A. Greenberg, Y. Bazile, *New York University, New York, New York*

Responding to the need for national models for interdisciplinary team (IDT) training in geriatrics, in the mid 1990s the Hartford Foundation invested in the development of IDT demonstration projects. NYU was funded to develop a Resource Center to serve as a clearinghouse for disseminating curriculum and training materials, and the GITT kit was born. It is comprised of an Implementation Manual, a Curriculum Guide, DVDs/CDs portraying team conferences, and a Preceptor Guide. The Hartford Institute for Geriatric Nursing (HIGN) at NYU has sampled those who have ordered the kit to determine if and how they are using this resource. This paper reports on a qualitative analysis describing how organizations have used the kit to enhance the knowledge and value of interprofessional practice in geriatric care, as well as to develop and continue IDT programs. Results are interpreted in the context of the challenges of developing and sustaining IDT.

### **INITIATING AND SUSTAINING IDT IN DIVERSE SETTINGS: SOME STRATEGIES FOR SUCCESS**

S. Lapidus, *Rush University Medical Center, Chicago, Illinois*

Requiring participation in interprofessional learning and practice experiences has increasingly emerged as a fundamental part of didactic and clinical training for students entering health professions at a growing number of academic institutions. Rush University Medical Center has capitalized on its entry into interprofessional education that began nearly two decades ago to expand its commitment to diverse and innovative interprofessional initiatives. From its successful development and continuation as one of the original Geriatric Interdisciplinary Team Training (GITT) sites funded by the Hartford Foundation in the mid-1990s, this paper will describe how Rush University has used its GITT Program to launch at least six other interprofessional education and team-based clinical care projects, as well as online programs. The factors leading to the successful launch of these initiatives will be presented, as well as strategies for overcoming barriers and challenges to implementing interprofessional programs at large academic medical institutions.

### **IDT IN THE VA: CURRENT PLANS AND FUTURE PROSPECTS**

K. Shay<sup>1</sup>, R. Tsukuda<sup>2</sup>, C. Hojlo<sup>3</sup>, S. Shreve<sup>4</sup>, T. Edes<sup>3</sup>, N. Quest<sup>3</sup>, R.M. Allman<sup>3</sup>, *1. Department of Veterans Affairs, Ann Arbor, Michigan, 2. Department of Veterans Affairs, Portland, Oregon, 3. Department of Veterans Affairs, Washington, District of Columbia, 4. Department of Veterans Affairs, Lebanon, Pennsylvania*

The Interdisciplinary Team Training in Geriatrics Program in the Department of Veterans Affairs (VA) was offered at 12 sites and provided education and consultation throughout the VA. The VA's 2010 introduction of the patient-centered medical home was accompanied

by renewed emphasis on teams in primary care. A 2012 system-wide survey of VA-delivered programs in geriatrics and extended care found widespread self-identification of programs (including Community Living Center, In-Patient Geriatric Evaluation and Management, Palliative Care, Home-Based Primary Care, Adult Day Health Care, and Geriatric Primary Care) as “interdisciplinary teams,” although the source and recency of formal team training varied widely. VA’s system of Geriatric Research, Education, and Clinical Centers was the most commonly-cited source of prior training, but accounted for less than a quarter. As VA focuses increasingly on “veteran-centric” care and services, there will continue to be demand for interdisciplinary team training, although the form it will take remains uncertain.

### **PROMOTING INTERPROFESSIONAL TEAMWORK EDUCATION IN GERIATRICS: THE DEVIL IS IN THE DETAILS**

P.G. Clark, *Program in Gerontology, Univ Rhode Island, Kingston, Rhode Island*

Though the need for effective interprofessional collaboration for older adults with complex chronic conditions is increasingly recognized as essential for high quality care, the preparation for teamwork of future health care professionals is often limited or non-existent. Understanding the reasons for this situation demands an assessment of the factors and forces promoting and opposing a change in the educational status quo. This paper presents a force-field analysis of the development and continuation of interprofessional education (IPE) for teamwork in geriatric settings. These factors include (1) structural barriers, e.g., separate departments or schools for different professions, (2) cultural factors, e.g., loyalties to one’s own professional identity or perspective, (3) power differentials, e.g., status and resource inequities, and (4) logistical challenges, e.g., scheduling. Strategies utilizing external pressures, such as accreditation, to move IPE forward will be considered, and recommendations for both the development and the continuation of teamwork education will be explored.

## **SESSION 1970 (SYMPOSIUM)**

### **ENGAGEMENT OF THE FAMILY IN PALLIATIVE CARE**

**Chair:** C.S. Berkman, *Fordham University Graduate School of Social Service, New York, New York*

**Co-Chair:** K.B. Hirschman, *University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania*

Engaging families in the planning and care of older adults with palliative needs is critical to positive outcomes for both the older adult and the family’s well-being. The purpose of this symposium is to describe and examine engagement of family in various aspects of palliative care including caring for patients, advance care planning, preference discussions, and loss. First, Buck, Harness and Wion will discuss their systematic review of older caregiver’s engagement in heart failure symptom management and the inconsistencies in relation to types of symptom management and gaps in knowledge. Second, Reinhardt, Boerner and Downes will present findings from their study in which they found that more frequent discussions with family members of nursing home residents about end-of-life treatment goals and preferences about life-sustaining treatments were associated with greater satisfaction with care. Third, Shulz & Boerner will discuss their findings that engaging in advance care planning was associated with greater preparedness for death, which in turn predicted lower levels of post-death depression among caregivers of long-term care residents. Fourth, Berkman, Ko, and Roh will discuss the discordance between adult children and their community-dwelling older adult parents on preferences for end-of-life treatment and decision making. Finally, Morrissey will present her findings of the influence of the loss of family or community on the experience of pain, discomfort or distress among older adults in nursing and hospital facilities.

### **OLDER ADULT HEART FAILURE CAREGIVERS AS CO-PROVIDERS OF CARE: A SYSTEMATIC REVIEW OF CAREGIVERS ENGAGEMENT IN SYMPTOM MANAGEMENT**

H.G. Buck<sup>1</sup>, K. Harkness<sup>2</sup>, R. Wion<sup>1</sup>, *1. Penn State, University Park, Pennsylvania, 2. McMaster University, Hamilton, Ontario, Canada*

Symptom management is a major component of palliative care. The purpose was to conduct a systematic review of older caregiver’s (CGs) engagement in heart failure (HF) symptom management. PRISMA criteria were used with terms heart failure and caregiv\* in MEDLINE®, EMBASE, CINAHL®, the Cochrane Library and ClinicalTrials.gov databases for studies published between 1948-2012. Inclusion criteria: informal CGs of adult HF patients published in English. Studies were abstracted/confirmed by two members. 40 papers met criteria. 1318 patients and 1625 caregivers in 8 different countries were involved. More is known about CG’s role in symptom management related to: following a plan of care (n=14 studies), health surveillance (n=14), treatment implementation (n=12), maintaining a healthy lifestyle (n=7), than in symptom recognition (n=1), symptom evaluation (n=2), or treatment evaluation (n=2). There are significant gaps in what is known about CG’s engagement as co-providers in HF symptom management while equally old and potentially frail.

### **PLANNING MATTERS: IMPORTANCE OF DISCUSSING END-OF-LIFE TREATMENT PREFERENCES FOR SATISFACTION WITH CARE**

J. Reinhardt<sup>1</sup>, K. Boerner<sup>1</sup>, D. Downes<sup>2</sup>, *1. Research Institute on Aging, Jewish Home Lifecare, New York, New York, 2. Jewish Home Lifecare, New York, New York*

Conversations about end-of-life healthcare choices regarding treatment goals, preferences about life-sustaining treatments, and advance care planning are important, especially in nursing homes, where progressive decline in end-stage disease, including dementia, is compounded by co-morbidities and acute events (e.g., pneumonia). Participants were 90 family members of nursing home residents with advanced dementia. Semi-structured interviews were conducted at baseline and 6 months later. The effects of specific health care discussions with clinical staff (e.g., around comfort care, resuscitation, use of artificial hydration) on family members’ care satisfaction were examined with multiple regression analyses. Results showed that having more frequent discussions about preferences (e.g., hydration) had significant, positive associations with both concurrent care satisfaction and increased satisfaction over time. The importance of having these discussions is discussed.

### **A PROSPECTIVE STUDY OF PREPAREDNESS FOR DEATH AND ADJUSTMENT TO BEREAVEMENT**

R. Schulz<sup>1</sup>, K. Boerner<sup>2</sup>, *1. U. of Pittsburgh, Pittsburgh, Pennsylvania, 2. Jewish Home Lifecare, New York, New York*

Data from a two-group randomized controlled trial testing the efficacy of a six month psychosocial intervention for 217 informal caregivers whose recipients resided in a long-term care facility were used to examine the role preparedness for death (“If your loved one were to die soon, how prepared would you be for their death?”) as a predictor of post-bereavement depression (CES-D) and complicated grief. 89 care recipients died during the 18 month follow-up. In multivariate models controlling for baseline sociodemographics, group assignment, and care recipient functional status, we found that preparedness for death was associated with lower levels of post-death depression. Similar models testing predictors of complicated grief showed a significant association between preparedness and complicated grief, which became non-significant when controlling for baseline depression. Factors associated with being prepared for a loved one’s death included lower baseline CES-D scores and engaging in advance care planning.

## **DISCORDANCE IN PREFERENCES FOR COMMUNICATION AND ADVANCE CARE PLANNING FOR END OF LIFE AMONG KOREAN AMERICAN OLDER ADULTS AND THEIR CHILDREN**

C.S. Berkman<sup>1</sup>, E. Ko<sup>2</sup>, S. Roh<sup>3</sup>, 1. *Graduate School of Social Service, Fordham University, New York, New York*, 2. *San Diego State University School of Social Work, San Diego, California*, 3. *University of South Dakota Department of Social Work, Sioux Falls, South Dakota*

Adult children are often involved in decision-making with and for parents regarding end of life treatment. Relatively little is known about the extent to which children know and/or agree with the parent's preferences for end-of-life treatment. This pilot study included 38 Korean American older adults and one of their adult children. Responses for older adults and their child were discordant on whether the older adult: would want medication to prolong life if there were bad side effects; would want medication to relieve bad pain even if they shortened life; would want treatment to stay alive even if the older adult were comatose with no hope of waking up; and the older adult wanted to know about a diagnosis of incurable cancer. Older adults were more likely than the children to delegate decision-making to the family. The implications of this discordance is discussed.

## **INCREASING EFFECTIVENESS OF PALLIATIVE CARE AS A SOCIAL PARADIGM: THE INFLUENCE OF FAMILY CAREGIVING RELATIONSHIPS AND PRESENCE ON OLDER ADULTS' PAIN AND DISTRESS**

M.E. Morrissey, *Fordham University Graduate School of Business Administration, New York, NY, New York*

Essential to palliative care is providing patient- and family-centered social support and counseling, and facilitating conversations about goals of care. In a qualitative study of pain, suffering and decision making among older adult patients in nursing and hospital facilities (n=20) using phenomenological data analysis, patients' descriptions of their own experience in unstructured in-depth interviews revealed that loss of family or highly-integrated community influenced their experience of pain, discomfort or distress in 100% of cases. Variation in types of pain and forms of suffering, including types of distress, reported by patients ranged from unbearable pain from complex wounds, serious injuries, and advanced disease processes to disabling conditions such as being restricted to bed and not being able to walk, and forms of dependency and near total helplessness. The implications of the study findings for the design of "total palliative environments" will be discussed.

## **WORLD ELDER ABUSE AWARENESS DAY (WEAAD): A CALL FOR EVALUATION**

E. Podnieks, *Ryerson University, Toronto, Ontario, Canada*

With the growth of the worldwide elder population, and the ongoing strain of economic challenges, it is clear that World Day must serve as a spring board for continuous activities to enlist public support in the fight against elder abuse. In 2011, the United Nations officially designated June 15th as WEAAD. Much has been accomplished as the 10th anniversary of WEAAD approaches in 2015: governments, corporations, organizations and other funders have committed generous funding to promote World Day activities. It is now critical to evaluate the strengths and weakness of programs: what worked, what didn't work, what people thought about the programs, what was actually accomplished. The objectives of this session are to report on evaluation methods from regions of Africa, Asia, Europe, Latin America, North America and Oceania. Participants will also define the elements of a global evaluation framework to be launched at the First World Summit on Elder Abuse to be held June 15th, 2015.

## **SESSION 1975 (SYMPOSIUM)**

### **THE "VILLAGE" MODEL: STRENGTHENING CONNECTIONS WITH PEERS, PROGRAMS, AND PLACE**

**Chair:** A.E. Scharlach, *Social Welfare, University of California, Berkeley, California*

**Discussant:** J. Pynoos, *University of Southern California, Los Angeles, California*

In a climate of declining public and family support, increased attention is being given to underutilized human and social resources that have the potential to foster positive health and social outcomes for older adults. One initiative that has received a great deal of attention is the "Village" model - grassroots community-based membership associations that claim to promote aging in place by fostering stronger supportive connections between older adults and their peers, younger community members, and local service providers. This symposium presents the first outcome data regarding the potential effectiveness of the Village model in achieving these aims. The first paper identifies the core characteristics of the Village model, describes its proliferation, and examines potential pathways through which Villages may impact members' health and well-being. The second paper presents findings regarding the effects of Village membership on social engagement, social support, and perceived ability to age in place, based on retrospective and prospective studies with a total of 420 Village members in California. The third paper examines the effects of Village membership on physical and psychological well-being, service access, and health services utilization, drawing upon a 12-month longitudinal study of California Village members. The fourth paper examines the impact of "Village Connections," a volunteer-based care coordination program implemented by Capitol Hill Village in Washington, DC. Finally, implications of these findings for future efforts to develop community-based interventions for enhancing supportive connections will be discussed, along with recommendations for future research.

### **THE VILLAGE MODEL: CONNECTING ELDERS, CONNECTING COMMUNITIES**

C. Baldwin, 1. *Capital Impact Partners, Arlington, Virginia*, 2. *Village to Village Network. LLC, Arlington, Virginia*

The Village model is emerging across the US and internationally providing an intersection of community development with services and programs to provide a comprehensive mechanism for older adults to age in the community setting of their choice. Villages are person-centered, community-based membership organizations that empower older adults to remain active and engaged in their communities. Built upon cooperative principles, Villages facilitate the opportunity for members to develop, own and operate an organization that facilitates their independence and choice. The Village to Village Network, a nationally based peer to peer network, was launched to support the replication and scaling of the Village model. This peer to peer network was developed in response to the need to support capacity building of Village founders at the local level and to identify key intersections through research of the social impact of the Village model to inform publically supported aging services.

### **THE IMPACT OF VILLAGE MEMBERSHIP ON SOCIAL ENGAGEMENT AND AGING IN PLACE**

C. Graham, *UC Berkeley School of Social Welfare, Berkeley, California*

In a study of 282 members from 5 Villages, 80% agreed that they knew more people as a result of Village membership, and 59% felt more socially connected, a factor known to promote aging in place. Multivariate analysis showed higher social impact scores were associated with more frequent use of Village transportation services, volunteering for the Village, use of companionship services, and more frequent participation in Village social activities. Longitudinal data capturing 138

members at intake and 12-months post enrollment showed significant increases in feelings of belonging to a community ( $p < .001$ ); frequency of talking to friends or neighbors ( $p < .05$ ); and a significant decrease in the number of members who were considering moving to alternative housing ( $p < .001$ ). Villages represent a promising new model that may ameliorate social losses as people age and increase confidence aging in place, but questions remain about their ability to serve seniors as they age over time.

#### **THE IMPACT OF VILLAGE MEMBERSHIP ON HEALTH AND SERVICE ACCESS**

A.E. Scharlach, C. Graham, *Social Welfare, University of California, Berkeley, California*

This paper presents the first empirical evidence regarding the potential effect of Village membership on older adults' physical and psychological well-being, service access, and health services utilization, drawing upon data from a longitudinal study of 138 California Village members during their first 12 months of Village membership. Significant increases were observed in the ability to get help when needed ( $p = .003$ ), as well as reductions in unmet needs ( $p = .03$ ), home safety problems ( $p = .01$ ), and falls ( $p < .001$ ). While there were no other statistically significant changes in health or functioning, the study found increases in the use of health care services, including 911 calls ( $p = .005$ ), hospitalizations ( $p = .000$ ), and ER visits ( $p = .000$ ). These findings help to clarify the potential health and well-being impacts of Village membership, and the mechanisms through which those outcomes might be achieved. In doing so, the findings may have important implications for developing effective community-based aging services interventions.

#### **LEVERAGING COMMUNITY CAPACITY TO PROVIDE VOLUNTEER-BASED CARE COORDINATION**

J. Maggioncalda, *Capitol Hill Village, Washington, District of Columbia*

Many communities are struggling with the logistics of supporting older adults with chronic conditions and functional limitations as they age-in-place. For these individuals, staying healthy at home not only requires that they know what resources exist, but also have the capacity to successfully engage with these resources and coordinate the care between multiple agencies in order to ensure that all of their needs are met. In the spring of 2013, Capitol Hill Village launched Village Connections, a volunteer-based care coordination program that pairs older adults who are at risk of institutionalization with a trained volunteer. Maximizing the impact of a single staff person or professional, the Village Connections program ensures that those who have the most difficulty accessing resources are not left out of the support system. Village Connections provides a promising programmatic model for communities seeking to create a system of support for frail older adults by leveraging the strengths of the community and the power of neighbors helping neighbors.

### **SESSION 1980 (PAPER)**

#### **LONG TERM SERVICES AND SUPPORTS: HOME-BASED CARE**

##### **LONG-TERM CARE: WHERE HAVE YOU GONE, WHERE ARE YOU GOING?**

R. Applebaum, S. Mehdizadeh, I.M. Nelson, J. Straker, *Miami University, Oxford, Ohio*

From its name to the type and setting of care provided, the world of long-term services and supports has changed dramatically in the last two decades. Using 20 years of longitudinal data from the state of Ohio this presentation describes how the long-term services system is different from the one that existed in the early 1990's. Data come from ten biennial surveys of all Ohio nursing homes and residential

care facilities and comprehensive resident and home care participant data on user characteristics and utilization rates. Findings show large changes in where services are provided and who receives services. For example, Ohio, as has most other states, has changed the ratio of its older population using Medicaid long-term care, going from 91% nursing home in 1993, to 55% nursing home in 2011. At the same time the sheer number of admissions to Ohio nursing homes increased from 70,000 to more than 220,000 painting a picture of today's nursing home as a short-term care provider. These massive changes indicate an industry in transition. What will this mean for the future of the home care and nursing home industries? What will tomorrow's system of long-term services and supports look like? Building on these two decades of findings the presentation will tackle the question of where long-term care has gone, and where it is going.

#### **COMMUNITY TRANSITION FROM NURSING HOMES: WHAT DELAYS THE PROCESS?**

J. Robison<sup>1</sup>, N. Shugrue<sup>1</sup>, M.A. Porter<sup>1</sup>, A. Kleppinger<sup>1</sup>, M. Lynch<sup>1</sup>, D. Lambert<sup>2</sup>, *1. University of Connecticut Health Center, Farmington, Connecticut, 2. Connecticut Department of Social Services, Hartford, Connecticut*

Since 2009, Connecticut has transitioned over 2000 people from nursing homes and other institutions to home and community-based settings through its Money Follows the Person Rebalancing Demonstration (MFP). The time from program referral to community transition varies widely, from 1 day to almost 3 years, with a mean of 142 days and a median of 76 days for transitions in 2012 and 2013. The program's goal is to transition everyone within 180 days, but 25% of transitions take longer than 180 days and 10% take longer than 1 year. Examining transitions in 2012 and 2013, the CT MFP Evaluation team developed a predictive model using linear regression models to identify the most salient factors influencing time to transition. A longer stay in the facility, younger age, male gender, having diabetes, a lack of engagement in the process, issues with spouses or other family members, and a need for housing modifications all contribute significantly to a longer time to transition. An interactive, web tool based on these model results is now an integral part of the CT MFP transition planning process, allowing care managers to predict a targeted discharge date and build an action plan around that date. Early identification of factors that likely slow the transition process allows the transition team to design interventions and process improvements that impact those factors and ideally will lead to shorter transition times and best practices. The interactive tool will be demonstrated at this paper presentation and policy implications will be discussed.

#### **MEASURING LONG TERM CARE PREFERENCES**

J. Guo<sup>1</sup>, R. Konetzka<sup>2</sup>, E. Magett<sup>2</sup>, W. Dale<sup>2</sup>, *1. American Institutes for Research, Washington, District of Columbia, 2. University of Chicago, Chicago, Illinois*

Current policies reorienting long-term care (LTC) delivery from institutional care to home- and community-based services are being made in the absence of crucial evidence on the quality of life (QOL) associated with these options. Prior studies indicate that the shift to home care is generally not cost-saving but may be cost-effective; thus, a rigorous assessment of social preference and QOL is sorely needed in order to evaluate policies incenting home care investment. This study extended the traditional Time Trade-off (TTO) method to elicit QOLs associated with the receipt of different modes of LTC services, conditional on health states defined by varying levels of functional and cognitive impairment. User's LTC preferences are quantified as differential QOL between different LTC options. Among 81 eligible participants who were age 55 or above, we find that although preferences for home care over institutional care are statistically significant under most conditions, the elicited LTC preferences depend significantly on levels of disability. Home care preference is quantified as 0.30 QOL when people



only need help with one daily living activity and could be translated to a gain of \$15,000-\$30,000 per year. However, the preference for home care is weaker or nonexistent once the need for help became greater. Thus, people do not consistently prefer home care over institutional LTC as previously assumed. In order to provide cost-effective care, the target population should be identified for different LTC options. The extension of TTO methods to questions of policy provides a promising avenue for more rigorous policy decision-making.

#### **THE SOCIAL EXCLUSION OF LGBT SENIORS IN HOME AND COMMUNITY CARE SERVICES**

J. Watkins, *University of Toronto, Toronto, Ontario, Canada*

In this paper I present a qualitative analysis of the personal experiences of a politically and socially marginalised population in order to examine the current provision of home and community care services, and the extent to which these services reflect, reinforce or ignore the social exclusion of lesbian, gay, bisexual and transgender (LGBT) seniors in Toronto, Canada. In-depth, semi-structured interviews were conducted a total of 30 key participants who fell into two categories: 1) LGBT seniors (age 60+) who had personal experiences receiving home and community care (H&CC) services, 2) front line care managers who represent H&CC service agencies. Interviews with LGBT seniors focused on personal experiences with the health care system, with H&CC services, and perceptions of social inclusion/exclusion. Interviews with H&CC providers examined the potential impact on the health care system of providing culturally appropriate H&CC to LGBT seniors (e.g. HHR, training, funding) as well as suggestions and recommendations at the organization and state level. Results indicate that LGBT seniors' experiences of social exclusion condition their responses to H&CC care and include both avoidance of services and patterns of self-advocacy. At the organization level there is a clear lack of awareness about the needs of LGBT seniors, and a near total absence of organizational mandates that include LGBT "friendly" care. I discuss the implications of these gaps for individuals, organizations and governments.

#### **A COMPARISON OF FEELINGS OF USEFULNESS AND DEPRESSIVE SYMPTOMS AMONG RESIDENTS LIVING IN A CCRC VS. CONGREGATE SENIOR HOUSING**

N. Klinedinst, B. Resnick, *University of Maryland Baltimore, Baltimore, Maryland*

Residents in long-term care facilities are at high risk for not feeling useful due to a philosophy of care where daily tasks are completed 'for' instead of 'with' residents. In community dwelling older adults, low feelings of usefulness are often associated with depressive symptoms. The purpose of this descriptive study is to compare feelings of usefulness and depressive symptoms among two samples of older adults in different residences: 29 residents in subsidized congregate senior housing (SH) and 147 independent living residents in a continuing care retirement community (CCRC). All participants completed a one-time survey. One-way ANOVA was used to compare groups. SH participants were 74.48±8.52 years old and 66% female and 72% African American. CCRC participants were 86.39±6.25 years old and 74% female and 98% Caucasian. Three percent (n=2) of SH residents and 32% (n=41) of CCRC reported feeling useful either never or rarely. Nine percent (n=14) of CCRC residents 4% (n=1) of SH residents had high rates of depressive symptoms (PHQ-2 ≥3). Residents of SH are significantly younger (F=77.21, df=1, p<.001) and feel more useful (F=41.19, df=1, p<.001) than CCRC residents. There were no significant differences in rates of depressive symptoms (F=.24, df=1, p=.62). While age, race, and wealth may be important confounders, the philosophy of care in which daily tasks such as housekeeping and meal preparation are performed for residents in a CCRC setting may contribute to low feelings of usefulness for these residents.

## **SESSION 1985 (SYMPOSIUM)**

### **FROM CELLS TO SOCIETY: NIA AT 40 – PAST, PRESENT, AND FUTURE**

**Chair:** M. Bernard, *National Institute on Aging, Bethesda, Maryland*

The National Institute on Aging at the National Institutes of Health was established in 1974 with a mission to support and conduct research on aging processes, age-related diseases, and special problems and needs of the aged. Shortly thereafter, the Institute was designated by Congress as the lead research agency in Alzheimer's disease. During this symposium, NIA's scientific leadership and grantees will reflect on major accomplishments to improve the health of older individuals over the past 40 years and look to the future of the NIA and aging research. This two part symposium will begin by describing progress in research in aging biology, neuroscience, behavioral and social research, and geriatrics and clinical gerontology through NIA extramural support. The second part of the symposium will provide highlights from NIA's Intramural Research Program, followed by a discussion of new directions in aging research from the viewpoint of the Institute director. Among the speakers will be Steve Austad, Eileen Crimmins, Neil Buckholtz, Luigi Ferrucci, and Richard Hodes. The symposium will conclude with a panel discussion including the NIA director, scientific director, and division directors. At the completion of the symposium, participants will be able to 1) discuss major accomplishments in aging biology, neuroscience, behavioral and social research, geriatrics and clinical gerontology; 2) discuss projected future aging research developments; 3) answer questions posed to NIA senior leadership regarding plans for future research and grant funding.

### **NEUROSCIENCE AT NIA**

M. Bernard, N. Buckholtz, *National Institute on Aging, Bethesda, Maryland*

The Division of Neuroscience (DN) supports a broad spectrum of research and training aimed at obtaining a better understanding of age-related normal and pathological changes in the structure and function of the nervous system and how such changes affect behavior. The mission of DN is to expand knowledge on the aging nervous system to allow improvement in the quality of life of older individuals. This includes basic and clinical studies of the nervous system, clinical trials of therapies, and epidemiologic research to identify risk factors and to establish prevalence and incidence estimates of pathologic conditions. A major focus within DN is on Alzheimer's disease (AD). DN supports research on the etiology, treatment, and diagnosis of cognitive decline, mild cognitive impairment (MCI), and AD as well as treatment and prevention clinical trials. An emerging focus is how the processes of aging and age-related cognitive decline intersect with the development of AD.

### **INTRAMURAL RESEARCH AT NIA**

M. Bernard, L. Ferrucci, *National Institute on Aging, Bethesda, Maryland*

The Intramural Research Program of the National Institute of Aging is located in Baltimore, in part because it evolved around the Baltimore Longitudinal Study on Aging. Many different aspects of aging are addressed with a translational perspective that spans from studies of single molecules, animal models, observational and intervention studies in humans. The global aim is understanding normal aging in different physiological system and tissues, and discover genetic and environmental factors affects trajectories of aging and transitions from normal aging to diseases. The NIA/IRP contributed substantial knowledge on changes in physiology that occur with aging across physiological systems. Recently, there has been emphasis on pathophysiology, early diagnosis and potential new treatment of age-related diseases particularly burdensome to older persons, such as diabetes and Alzheimer. Intervention that potentially slow-down or lessen the development of

phenotypical manifestation of aging, such as caloric restriction are also studies.

#### **NIA FACING THE FUTURE**

M. Bernard, R. Hodes, *National Institute on Aging, Bethesda, Maryland*

The National Institute on Aging at the National Institutes of Health has led aging and Alzheimer's disease research for 40 years. As the Institute considers the next 40 years, there are a number of ongoing projects that may signal what that future may be. Richard Hodes, NIA Director since 1995, will review the latest findings from funded research and discuss anticipated initiatives over the next several years. This discussion will be followed by the opportunity to query Dr. Hodes and the NIA research leadership regarding their visions for the future.

#### **FORTY YEARS IN THE BEHAVIORAL AND SOCIAL SCIENCES AT NIA**

M. Bernard<sup>1</sup>, E. Crimmins<sup>2</sup>, 1. *National Institute on Aging, Bethesda, Maryland*, 2. *University of Southern California, Los Angeles, California*

Forty years ago, NIA research focused on age differences in activity and social integration. Under Matilda White Riley, there was a focus on the integration of the process of aging with the age stratification and cohort changes in society. Over the subsequent three decades the promise of cells to society has been achieved. A general social science model of health change over the life cycle has developed which includes inputs from sociology, psychology, economics, biology and public health. Health outcomes have broadened to include mental health and well-being and cognitive as well as physical health. Studies of differences in health across countries, within the U.S., and changes over time have clarified the major input of behavior to health and the importance of understanding how to incentivize behavior that promotes healthy aging.

#### **GERIATRICS AND CLINICAL GERONTOLOGY**

M. Bernard<sup>1</sup>, K. High<sup>2</sup>, 1. *National Institute on Aging, Bethesda, Maryland*, 2. *Wake Forest University School of Medicine, Winston Salem, North Carolina*

The NIA's Division of Geriatrics and Clinical Gerontology (DGCG) supports inquiry on health and disease in the aged and research on aging over the human lifespan. These goals are accomplished through three major research areas: Geriatrics, Clinical Gerontology, and Clinical Trials. In addition to supporting paradigm-shifting research by individual investigators, the Division has fostered an important focus on health span and maintaining independence through its Claude D. Pepper Older Americans Independence Centers, invested in critical longitudinal cohorts that are widely shared among the investigative community, and led important public-private collaborations that have broken new ground in research training and career development through the Paul B. Beeson Scholars and GEMSTAR awards. These accomplishments and the future focus of Divisional activities including a burgeoning partnership with the CMS-sponsored Patient Center Outcomes Research Initiative will be reviewed.

#### **SESSION 1990 (SYMPOSIUM)**

##### **RISK FACTORS FOR SUSCEPTIBILITY TO DYSFUNCTION IN THE ELDERLY**

**Chair:** C.A. Peterson, *University of Kentucky, Lexington, Kentucky*

Aging is associated with increased variability in response to exercise, nutritional supplements and drug treatment, likely influenced by an individual's genetic makeup, as well as by environmental stimuli. This session will highlight new information related to individual variability in the elderly. Jingzhong Ding, Wake Forest University, will present his work on "Transcriptomics of aging and related diseases";

Sarah Hilmer, University of Sydney, will discuss "Altered susceptibility to drug hepatotoxicity in ageing"; and Janko Nikolich, University of Arizona & Ben Zaniello, University of Washington will present new results on "Lifelong CMV infection, aging and protective immunity: basic mechanisms and clinical implications".

##### **LIFELONG CMV INFECTION, AGING AND PROTECTIVE IMMUNITY: BASIC MECHANISMS AND CLINICAL IMPLICATIONS**

B. Zaniello<sup>1</sup>, J. Nikolich-Zugich<sup>2</sup>, 1. *University of Washington, Seattle, Washington*, 2. *University of Arizona, Tucson, Arizona*

The loss of immune responsiveness to antigens in the elderly is a key obstacle to healthy aging but its cause is poorly understood. Epidemiologic research suggests that cytomegalovirus (CMV, a  $\beta$ -herpesvirus) seropositivity in the elderly is associated with greater mortality and morbidity and laboratory data indicate one possible mechanism may be chronic CMV reactivation and its impact on the immune system. We will discuss what is known about this mechanism via existing animal models and clinical studies. Topics will include CMV-mediated immune system changes (the high percentage of CMV-specific T-cells vs. naive T-cells, i.e. "memory inflation"), CMV-induced inflammation, and the influence of the virus on vaccine and infection response.

##### **AGING-RELATED TRANSCRIPTOMIC CHANGES AND DISEASE IMPLICATIONS: THE ROLE OF MITOCHONDRIAL FUNCTION**

J. Ding<sup>1</sup>, L.M. Reynolds<sup>3</sup>, J.R. Taylor<sup>1</sup>, K. Lohman<sup>3</sup>, S.B. Kritchevsky<sup>1</sup>, D.M. Herrington<sup>1</sup>, I. Hoeschele<sup>2</sup>, Y. Liu<sup>3</sup>, 1. *Gerontology, Wake Forest School of Medicine, Winston-Salem, North Carolina*, 2. *Virginia Tech Carilion School of Medicine, Roanoke, North Carolina*, 3. *Public Health Sciences, Wake Forest School of Medicine, Winston-Salem, North Carolina*

Aging-related transcriptomic changes may have important clinical implications in aging-related diseases. A number of genome-wide transcriptional analyses of various tissues including the brain and skeletal muscle across human, rat and mouse have demonstrated that mitochondrial genes are down-regulated with increasing age. Our transcriptomic data in purified human monocytes from 1,264 community-based men and women aged 55-94 years support the notion that under-expression of mitochondrial genes is a cellular feature of aging, rather than merely reflecting changes in the composition of the cell population. We further show that transcriptional profiles of mitochondrial genes, especially related to oxidative phosphorylation, are positively associated cognitive function at a genome-wide significance level (false discovery rate < 0.05). These findings are consistent with transgenic studies in mice that suggest a potential causal role of mitochondrial dysfunction in aging-related pathologies. Evaluation of transcriptional changes in disease-relevant human cells holds great promise to unravel molecular mechanisms underlying aging-related diseases. Objectives: After attending this activity, participants will be able to explain aging-related transcriptional changes and discuss the role of mitochondrial dysfunction in cognitive decline.

##### **ALTERED SUSCEPTIBILITY TO DRUG HEPATOTOXICITY IN AGEING**

S. Hilmer, *Royal North Shore Hospital, Kolling Institute of Medical Research, University of Sydney, St Leonards, New South Wales, Australia*

Drug hepatotoxicity is the commonest cause of acute liver failure. It increases with age in pharmacovigilance studies for reasons that are unknown. We investigated the age-related risk of hepatotoxicity after treatment with acute toxic doses of acetaminophen/vehicle, or isoniazid/vehicle, and characterised potential pharmacokinetic and pharmacodynamic mechanisms in young adult and old male Fischer 344 rats. Old age was not associated with an increased risk of hepatotoxicity with

either drug on histology, and young animals had higher serum concentrations of transaminases (markers of hepatotoxicity). We found differences with age in pharmacokinetics (transfer across the liver sinusoidal endothelium and hepatic enzyme function) and pharmacodynamics (inflammatory and cell death pathways). Calorie restriction prevented acetaminophen hepatotoxicity in all age groups. These findings have implications for potential therapeutics to prevent and treat drug hepatotoxicity, as well as for understanding the response to toxins and other stressors in old age.

## **SESSION 1995 (SYMPOSIUM)**

### **A COMPREHENSIVE CONTINUUM TRAINING MODEL TO BUILD CAPACITY IN GERIATRICS**

**Chair:** J.L. Howe, *Bronx GRECC at James J. Peters VAMC, New York, New York, Brookdale Department of Geriatrics and Palliative Medicine, Mount Sinai School of Medicine & JJ Peters VAMC, Bronx, New York*

The Geriatric Education Rural-urban Alliance (GERA) is a partnership of six programs funded by the VHA Office of Rural Health that provide a teaching-learning continuum from healthcare trainees to seasoned healthcare providers. This approach enhances VA's opportunity to retain and attract well-trained providers. Training for licensed healthcare professionals is based on the philosophy of competency-based continuous professional development and includes distance, experiential, team-based, and intensive face-to-face learning; focused specialist consultation to primary care providers; and facilitated practice change. GERA healthcare trainees are mentored by licensed providers and have rural clinical rotations, exposure to telehealth modalities, weekly seminars, reflective activities, documented self-paced web-based learning, and weekly seminars. While each component has distinct outcomes at learner and team levels, the overall evaluation is replication in other healthcare settings.

### **ACTION LEARNING FOR THE CARE OF RURAL OLDER VETERANS WITH COMPLEXITY AND COGNITIVE IMPAIRMENT**

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The VA Ann Arbor Healthcare System (VAAHS) Geriatric Research, Education and Clinical Center is leading the Action Learning for the Care of Rural Older Veterans with Complexity and Cognitive Impairment, to train and support rural VA providers/teams. The project tailors and disseminates to rural sites content regarding complexity and cognitive impairment in older adults (prioritization of healthcare conditions/interventions, dementia, caregiver burden). It emphasizes use of accessible tools, algorithms, and templates (screening tools, medication reconciliation tools). An innovative component is action learning for rural providers/teams. This learning is nested in a model of collaborative care between rural providers and the VAAHS outpatient geriatric multidisciplinary team, with ongoing consultation and collaboration using e-consults, phone consults, televised visits, etc. Rather than adding to rural providers' burden in caring for complex older Veterans, this model leverages and disseminates multidisciplinary expertise and support from VAAHS to facilitate and assist with time-intensive care at rural sites.

### **PARTNERING WITH RURAL COMMUNITIES TO PROVIDE EDUCATION ABOUT VETERAN RESOURCES**

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A disproportionate percentage of veterans are both rural and older. However, rural community resource providers often are unaware of

benefits that may assist these veterans; and, VA providers may be similarly unaware of community specific resources. We present a portfolio of coordinated initiatives, funded by the VA Office of Rural Health, and implemented with support from the Salt Lake City GRECC, that educate VA and community providers about complementary resources that address the needs of older rural veterans. We include updates about: a program designed to train options counselors at Aging and Disability Resource Centers and to connect them to VA community based outpatient clinics, a pilot to electronically communicate with contract home health providers, and a program to develop rural community partnerships that include the VA. These programs exemplify how education and communication between the VA and communities can improve the coordination of resource provision to older rural veterans.

### **TAILORING EDUCATIONAL SUPPORT TO THE NEEDS OF VETERAN PATIENTS**

J.M. Butler<sup>1,2</sup>, R. Rupper<sup>1,2</sup>, M. Supiano<sup>1,2</sup>, *1. Division of Geriatrics, University of Utah, Salt Lake City, UT, Utah, 2. Salt Lake VA GRECC, Salt Lake City, Utah*

The Salt Lake City VHA Geriatrics Research Education and Clinical Center (GRECC) in partnership with the Salt Lake VHA Center of Excellence (COE) in Musculoskeletal (MSK) Health is leading a Rural Provider and Staff Training Initiative (RPSTI) funded by the VHA Office of Rural Health (ORH). This program, Patient-Centered Education for Rural CBOC Providers, supports providers and staff in rural areas caring for geriatric Veteran patients within Community Based Outpatient Clinics (CBOCs). The cornerstone of the Salt Lake City RPSTI is educational content that is tailored to areas of clinical need, identified by ongoing review of the clinical characteristics of CBOC providers' patient panels and receive personalized recommendation for educational support in polypharmacy/medication management, dementia diagnosis and management, multimorbidities, end of life care (advance directives), and musculoskeletal examination. Our program also provides educational training using multiple modalities including webinars, decision support tools, and expert consultations.

### **VA GRECC SYMPOSIUM: GERIATRICS EDUCATION FOR VA HEALTH CARE PROVIDERS IN RURAL AREAS**

J.M. Butler<sup>1,2</sup>, R.M. Allman<sup>3</sup>, *1. University of Utah, Salt Lake City, UT, Utah, 2. VA Salt Lake City, Salt Lake City, Utah, 3. Veteran's Health Affairs, Washington DC, District of Columbia*

The Veteran's Health Administration (VHA) network of Geriatric Research Education and Clinical Centers (GRECCs) were conceived to care for the aging veteran population. A central component of the GRECC mission is education for health care providers to assist them in caring for aging patients. Most Veterans in rural areas of the United States are over 65. Many providers in rural areas are primary care providers who have limited training in Geriatrics and Gerontology and limited access to specialty care clinicians. Thus, there is a critical need for education for rural providers caring for Veterans. In response to this need, several VHA GRECCs have generated innovative programs to provide education for many levels of providers caring for Veterans in rural areas. These programs include multiple learning modalities from hands on training experiences, to distance learning seminars, to educational interventions tailored to demonstrated clinical needs. In this symposium, we will present the educational efforts coordinated by multiple GRECCs across the country. Educational innovations will be stressed. Implications for future interventions and needed research support will also be addressed.

## SESSION 2000 (SYMPOSIUM)

### THE HOMEBOUND ELDERLY AND HOME-CENTERED PRIMARY CARE: MEASUREMENT, QUALITY AND OUTCOMES

**Chair:** K. Ornstein, *geriatrics, mount sinai, New York, New York*

**Discussant:** P.H. Feldman, *Visiting Nurse Service of New York, New York, New York*

The homebound elderly are a highly vulnerable population with significant functional impairment, multiple chronic illnesses, and complex care needs. Through our current era of healthcare reform, programs are increasingly being developed to better address the healthcare needs of the homebound elderly. In order to effectively meet the complex care needs of this uniquely underserved population, the homebound population needs to be well-characterized and quantified. Furthermore, we need to understand how we can improve outcomes for this population and to define what constitutes quality of care for this population. The four papers in this symposium define and describe the homebound elderly population and their environment and explore ways in which home-centered care may address their primary and palliative care needs. Two papers aim to examine what it means to be homebound using a nationally representative sample. The first presentation uses data from the National Health and Aging Trends study (NHATS) to determine a range of national prevalence estimates of the homebound living in the community. Using these definitions of homebound, the next presenter uses data from the NHATS study to examine environmental and social correlates of inability to leave the home. With data from a prospective cohort study, the third presentation provides evidence on the role of home-centered care in reducing hospital admissions for the homebound. The final presentation will describe the development of quality indicators for home-centered primary care. Our discussant, Penny Feldman, will give perspective on long-term care policy implication of research findings.

### DETERMINING THE PREVALENCE OF THE HOMEBOUND ELDERLY IN THE U.S

K. Ornstein<sup>1</sup>, B. Leff<sup>2</sup>, L. Roberts<sup>2</sup>, K. Covinsky<sup>3</sup>, A. Federman<sup>1</sup>, C. Ritchie<sup>3</sup>, S. Szanton<sup>2</sup>, *1. geriatrics, mount sinai, New York, New York, 2. Johns Hopkins, Baltimore, Maryland, 3. UCSF, San Francisco, California*

As the complex care needs of the growing population of elderly homebound are increasingly being recognized, new programs are being developed to support them. Yet there are currently no population estimates of the prevalence of homebound in the U.S. Using the National Health and Aging Trends Study (NHATS), we developed several definitions of homebound status and applied analytic weights to determine national prevalence estimates of the community-dwelling elderly over age 65 (n=7609). Homebound prevalence estimates ranged widely. Using our most conservative definition, “individuals who never left the house in the last month”, 1.12% of the population is homebound. 2.56% “never went out or had a lot of difficulty doing so.” 17.88% of the elderly population could be considered homebound based on inability to go out independently or difficulty going out alone. A better understanding of the epidemiology of being homebound is critical to providing high quality care for this underserved population.

### HOME BUT STILL ENGAGED: FUNCTIONAL AND SOCIAL CORRELATES OF BEING HOMEBOUND

S. Szanton<sup>1</sup>, L. Roberts<sup>1</sup>, B. Leff<sup>1</sup>, A. Federman<sup>3</sup>, K. Covinsky<sup>2</sup>, C. Ritchie<sup>2</sup>, C.L. Seplaki<sup>4</sup>, K. Ornstein<sup>3</sup>, *1. Johns Hopkins University, Baltimore, Maryland, 2. University of California San Francisco, San Francisco, California, 3. Mount Sinai Medical School, New York, New York, 4. University of Rochester, Rochester, New York*

Lack of national data identifying the homebound and the resultant knowledge gap of homebound population’s characteristics has created

challenges in designing relevant services. Using the most stringent definition of homebound in the NHATS dataset, those who never left their home in the last month, we examined correlates of being homebound. Those who are homebound are much more likely than their counterparts in the overall sample to: report difficulty with self care (e.g. 80% vs. 14% for bathing), report more depressive symptoms (B=1.88, p<0.001) and to have fallen recently (OR=2.25, p<0.05). Although homebound persons never left home in the past month, 6% provide care for others, 37% say it is important to them to visit family and friends, and 40% endorse going to religious services as important. This underserved population has unmet care needs yet still seeks to be involved in family and community life. These findings provide potential intervention targets.

### HOSPITAL ADMISSIONS BY HOMEBOUND ADULTS IN PHYSICIAN OR NURSE HOME VISIT PROGRAMS IN NEW YORK CITY

A. Federman<sup>1</sup>, A. Wajnberg<sup>1</sup>, D. Russell<sup>2</sup>, J. Ross<sup>3</sup>, *1. Medicine, Icahn School of Medicine at Mount Sinai, New York, New York, 2. Visiting Nurse Service of New York, New York, New York, 3. Yale University School of Medicine, New Haven, Connecticut*

We compared the effects of physician (MD) and nurse (RN) home-visit programs on hospitalizations among homebound older adults. The study included English and Spanish speakers ≥65 years meeting Medicare criteria for homebound and newly enrolled in a MD home visit program (n=103) or a RN directed long-term home visit program (n=77). Hospitalizations were assessed monthly by patient or proxy self-report. We estimated the incidence rate ratio in multivariable models with matching by propensity for MD program participation. Overall, 41% had ≥1 admission within 3 months of program enrollment. Total hospitalizations were 51 (mean person-days of observation, 318, sd 121) and 49 (person-days 265, sd 134) for the MD and RN programs, respectively. Hospitalization rate for MD program patients was lower (adjusted IRR 0.65, 95% confidence interval 0.41-0.71). MD home visits may reduce hospitalizations among homebound elders compared to RN home care alone. Randomized trials are needed to confirm these findings.

### DEVELOPMENT OF HOME-CENTERED PRIMARY CARE QUALITY INDICATORS

B. Leff<sup>1</sup>, C. Ritchie<sup>2</sup>, *1. Johns Hopkins University School of Medicine, Baltimore, Maryland, 2. University of California San Francisco, San Francisco, California*

Home-centered medical practices face a practice environment in which there are no valid, reliable, recognized or appropriate measures for their patients. Most of these practices, at least in part because of the inappropriateness of current measures, don’t engage in quality improvement efforts or performance reporting. They lack methods to benchmark the quality of care they provide against other practices, and are encouraged to use measures for quality reporting and performance bonus payments that are not suitable for their patients. This may drive inappropriate health service use and put patients at risk of adverse events. This lack of appropriate quality measures is especially critical in the context of policy and payment. In this symposium, we will describe the work of the Home-centered Primary/Palliative Care Network to develop quality indicators for these practices, as well as efforts to develop a national practice-based registry to facilitate real-time practice-based quality improvement efforts.

### AGING WELL AS A MATTER OF TRUST

**Chair:** L. D'Ambrosio, *AgeLab, MIT, Cambridge, Massachusetts*

**Co-Chair:** F. Oswald, *Goethe University, Frankfurt, Germany*

**Discussant:** A. Mahmood, *Simon Fraser University, Vancouver, British Columbia, Canada*

The concept of aging well has largely been focused on what individuals can do to maintain their physical and cognitive health, what kinds of technology should be developed, or what changes in the environment could make it easier for people to live in their physical space. When trust has been considered, it has often been in the context of interpersonal trust, social capital and trust in technology. Yet trust is a multifaceted concept, encompassing the environment, physical, social and institutional systems, and technology, in addition to interpersonal trust. The focus of this symposium is to explore how trust, in social, physical and institutional environments, might be relevant to aging well. First, Annette Franke will provide a brief overview of the concept of trust. Chaiwooo Lee will examine how different concepts of trust affect older adults' willingness to adopt and use technologies. Birgit Kramer traces the role of trust for well-being around technology use in dementia care among caregivers at home. Adopting a biographical qualitative approach, Nadine Konopik presents the appearance of trust-related topics in self reports on health literacy processes. Using survey data, Dana Ellis will report on the ways in which different concepts of trust contribute to older adults' well-being. Finally, Atiya Mahmood will serve as the session's discussant.

### THE ROLE OF TRUST IN THE CONCEPT OF HEALTH LITERACY IN LATER LIFE

N. Konopik, I. Himmelsbach, F. Oswald, *Goethe-University, Frankfurt am Main, Germany*

The aim of this study is threefold: (1) Using a person-environment interaction perspective to better understand how and why older people practice health promotion within the context of ageing in place. (2) Exploring how the experience of one's own health and health literacy develops over the life-span as well as how these perspectives are integrated into biographical narratives. (3) Identifying topics of trust across different domains of health literacy. Data are drawn from biographical in-depth interviews with 12 older women and men who participated in a survey on health literacy of older adults (using the European Health Literacy Survey Questionnaire HLS-EU-S-Q) with 463 community-dwelling elders from three urban districts (Frankfurt, Germany). Findings show that trust matters in autobiographical narratives with respect to health literacy processes of "access", "understand", "appraise", "apply", and the role of the neighborhood. In sum, the findings shall help to optimize existing health literacy programs and services.

### A QUESTION OF TRUST: AN INTRODUCTION TO CORE CONCEPTS

A.A. Franke, *Network Aging Research, Heidelberg University, Heidelberg, Germany*

Trust is an important, versatile but also somewhat vague concept in ageing well. Related to other concepts as reliability, confidence and integrity it represents a core element of belief and understanding in the environment and relationships between people, or between people and social institutions. These multiple dimensions of trust lead over to an increased awareness in various disciplines as sociology, psychology, and economics. In academic literature trust is declared as a process and an outcome, mental state and attitude, which predict acceptance of measures or technological appliances (Castelfranchi & Falcone 2010; Luhmann, 1979; Misztal 1996; Rotter 1971). Recently, the use of the term trust reflects an increasing interest in the adaption of older individuals in the context of modern societies (globalization, reflexivity, technological developments). This abstract as an introduction for the

proposed symposium highlights core concepts and approaches towards trust in social, physical and institutional environments.

### IMPLEMENTING NEW TECHNOLOGIES IN DEMENTIA CARE - THE ROLE OF TRUST

B. Kramer, *Network Aging Research, Heidelberg University, Heidelberg, Germany*

New technologies in dementia care can contribute to well-being in two ways: reducing caregiver burden and helping people with dementia to stay longer in their familiar environment. Here we provide results concerning trust from an interview-study with 105 caregivers that examined technology acceptance in dementia care at home in Germany. We found the topic of trust in different facets during the interviews: First, there needs to be trust in the technology itself. Also important is the trust in people who suggest the use of technologies, and in those who install and maintain the technology. Crucial is the trust in oneself - caregivers need to feel capable of using the technology. Last but not least is trust in the environment - it's important that the use of technologies in care is socially acceptable. These findings underscore the importance of trust from different dimensions when introducing and implementing new technologies in dementia care.

### THE ROLE OF TRUST IN OLDER ADULTS' ADOPTION AND USE OF TECHNOLOGY

C. Lee, *Massachusetts Institute of Technology, Cambridge, Massachusetts*

Older adults' adoption and use of technology is a multidimensional topic that is affected by a range of technical, individual and social characteristics. As older adults engage in making decisions around accepting and using new technologies, various factors can act to facilitate or hinder adoption. An important characteristic of such adoption factors is that they ultimately rely on the how they are perceived and understood by older adults. Furthermore, the perceptions and attitudes toward the new technologies are again influenced by the degree to which they trust the related information and organizations as well as the technologies themselves. This presentation will explore and describe how various concepts of trust influence older adults' perceptions, attitudes and behaviors around adoption and use of new technologies. The results of a survey on technology adoption and use, conducted with over 600 adults in the United States, will be discussed with quantitative and qualitative data.

### THE EFFECT OF DIFFERENT ASPECTS OF TRUST ON HEALTH, WEALTH, AND NAVIGATING OLD AGE

D. Ellis, J. Coughlin, L. D'Ambrosio, *AgeLab, MIT, Cambridge, Massachusetts*

While medicine, technology, education and public health have yielded a longevity bonus, this has come at some cost. In part, aging in the modern world brings with it more complex questions and high-risk issues than ever before, as family members may live at a distance and people have retirement as a new phase of life to plan for. Older adults thus face a myriad of choices and options. Trust has been one way to cut through complexity of these numerous choices to decide on the right product, service, store, advisor, or physician. A combination of technological advancements and recent events, however, has contributed to declining levels of reported trust in others and in institutions. This paper explores which facets of trust have declined and which have strengthened, and the implications of this trust on older adults' well-being, wealth management, and navigation of old age.

## SESSION 2010 (SYMPOSIUM)

### UNDERSTANDING THE ROLE AND CLINICAL UTILITY OF READINESS TO CHANGE IN WELL-BEING OUTCOMES FOR INDIVIDUALS WITH DEMENTIA AND THEIR FAMILY CAREGIVERS

**Chair:** K. Judge, *Psychology, Cleveland State University, Cleveland, Ohio*

**Co-Chair:** E. Shelton, *Psychology, Cleveland State University, Cleveland, Ohio*

**Discussant:** K. Judge, *Psychology, Cleveland State University, Cleveland, Ohio*

Guided by the Transtheoretical Model of Stages of Change, the proposed symposium examines the role and clinical utility of the construct Readiness to Change (RTC) as applied to a sample of individuals with dementia (IWDs) and their caregivers. RTC is comprised of five distinct stages (Precontemplation, Contemplation, Preparation, Action, and Maintenance) that reflect an individual's readiness to engage in behavioral, cognitive, and attitudinal changes. Few studies have applied this framework to understand how IWDs and their caregivers may vary in their respective levels of readiness to address dementia-related care issues. Furthermore, RTC may provide useful information for understanding the illness experience of each care partner and facilitate intervention development. The first paper examines how RTC as measured by Precontemplation and Action were significant in predicting caregiver's level of anxiety and quality of life, respectively. Discussion highlights how RTC can be used to facilitate effective interventions for dementia caregivers. The second paper found RTC to significantly moderate both IWD's and caregiver's depression based on the level of distressed they experienced due to IWD's memory loss. Discussion focuses on understanding the underlying mechanisms along with how to develop dyadic interventions. The third paper examines how caregivers who completed a dyadic intervention protocol scored on RTC. Using case study methodology, this paper highlights how RTC can be used to tailor caregiver interventions. The discussant will explore how this line of research fits within the current field and outline next steps needed to further understand the research and clinical utility of RTC.

### THE IMPACT OF READINESS TO CHANGE AS A KEY PREDICTOR OF PSYCHOSOCIAL OUTCOMES IN DEMENTIA CAREGIVING

M.N. Scruggs<sup>1</sup>, K. Judge<sup>1</sup>, S. Yarry<sup>2</sup>, *1. Psychology, Cleveland State University, Cleveland, Ohio, 2. VA Healthcare System, New York, New York*

Understanding the unique challenges and dynamics of providing care for individuals with dementia has become increasingly important. The current study investigated the impact of caregiver's readiness to change in addition to age, gender, race, and difficulty and distress of IADLs on the psychosocial outcomes of anxiety, depression, and quality of life. Separate regression analyses (n=118) were conducted for readiness to change stages of Precontemplation and Action. Results found caregivers with higher amounts of distress caused by IADLs and lower amounts of Precontemplation had greater anxiety, while caregivers with higher Action scores experienced greater quality of life. Greater difficulty and distress caused by IADLs also were significant indicators of lower quality of life. These findings highlight the importance of including readiness to change. Discussion will focus on how to use this information when working with caregivers in an attempt to improve quality of life and reduce anxiety in caregivers.

### READINESS TO CHANGE: CLINICAL APPLICATIONS FOR PSYCHOSOCIAL INTERVENTIONS WITH DEMENTIA CAREGIVERS

S. Yarry<sup>1</sup>, K. Judge<sup>2</sup>, *1. VA New York Harbor Health Care System, Brooklyn, New York, 2. Cleveland State University, Cleveland, Ohio*

Readiness to change (Prochaska & DiClemente, 1983) may be a meaningful component of dementia caregivers' participation in psychosocial interventions (Yarry, Judge, & McCallum, 2009). Strength-based interventions (Judge, Yarry, & Orsulic-Jeras, 2009) are well-suited to tailor skills to fit caregivers' unique needs, including stage of readiness to change. In a sample of 58 caregivers enrolled in a psychoeducational intervention (Judge, 2007), no caregivers were classified into the Precontemplation stage and the majority of participants indicated a willingness to change caregiving behaviors to varying degrees (Contemplation: n = 7, Preparation, n = 15, Action: n = 20, and Maintenance: n = 16). Guidelines for tailoring intervention protocols to fit participants' unique care needs based on readiness to change will be discussed. The benefit of a strength-based approach incorporating readiness to change in designing psychosocial interventions will be illustrated using a case study methodology.

### MEMORY IMPAIRMENT AND THE MODERATING EFFECT OF READINESS TO CHANGE

E. Shelton<sup>1</sup>, K. Judge<sup>1</sup>, S. Yarry<sup>2</sup>, *1. Cleveland State University, Cleveland, Ohio, 2. VA Palo Alto Health Care System, Palo Alto, California*

The Transtheoretical Model (TTM) of behavior change outlines a five-stage categorization of an individual's readiness to alter a behavior. This model has been used as a basis for understanding the behavioral change process and for tailoring interventions (e.g., smoking cessation and weight management). Little research exists, however, applying the TTM to behaviors among individuals with dementia (IWDs) and their caregivers (CGs). The present research examined the moderating effect of readiness to change on psychosocial outcomes. Findings indicate that readiness to change is an especially strong moderator of the relationship between memory related distress and depression among both the CG and the IWD. The moderation effect was such that high levels of memory related distress and high readiness to change in IWDs was predictive of high levels of depression in both IWDs and their family CG. The possible mechanisms underlying this relationship and the use of targeted intervention strategies are discussed.

## SESSION 2015 (SYMPOSIUM)

### LIFE SATISFACTION AND ITS PREDICTORS IN VERY OLD AGE: FINDINGS FROM THE SECOND HEIDELBERG CENTENARIAN STUDY

**Chair:** D.S. Jopp, *Psychology, Fordham University, Bronx, New York*

Despite the fact that more and more individuals reach very old age, research on what contributes to well-being at this advanced age is still limited. Increasing the understanding on predictors of well-being was a central research goal of the population-based Second Heidelberg Centenarian Study (N = 113). Findings indicate that despite suffering from limitations and loss in all central life domains, over 80% of the centenarians reported being satisfied with their life. Only a few health (e.g., subjective health, vision), social (e.g., loneliness) and environmental aspects (e.g., living with others) were significantly correlated to life satisfaction. By contrast, all assessed psychological strengths (i.e., self-efficacy, optimistic outlook, meaning in life and will to live) had significant correlations to life satisfaction. Regression analysis showed that being optimistic was the strongest independent predictor, followed by living with others and self-efficacy, highlighting the role of psychological strengths for well-being in very old age.

## **INTERGENERATIONAL AMBIVALENCE: CARE CHALLENGES FACING PORTUGUESE CENTENARIANS**

O. Ribeiro<sup>1,2,3</sup>, L. Teixeira<sup>1</sup>, L. Araújo<sup>1</sup>, N. Duarte<sup>1</sup>, D. Brandão<sup>1</sup>, I. Martin<sup>1,3</sup>, C. Paúl<sup>1</sup>, *1. ICBAS - Institute of Biomedical Sciences Abel Salazar, UNIFAI, Porto, Portugal, 2. ISSSP, Porto, Portugal, 3. University of Aveiro, Aveiro, Portugal*

Intergenerational ambivalence in later life is not a new theme in gerontology but it has rarely been studied within the context of centenarians' family ties, which are often characterized by internalized social norms of filial responsibilities. This paper presents findings from the Oporto Centenarian Study and considers informal caregivers who provided continuous care to a centenarian living in the same household. A total of 60 dyads were assessed on the overall caregiving experience with direct and indirect measures of intergenerational ambivalence and of psychological well-being. Caregivers were then clustered in three distinct groups: "extremely burdened", "mostly satisfied with the role" and "ambivalent". Main findings revealed that the demands of care tend to be surpassed by the existence of an overall rewarding experience, and that both ambivalence and satisfaction with the role were related to higher levels of well-being of the caregiver and the centenarian.

## **PHYSICAL, SENSORY, AND COGNITIVE FUNCTIONING AMONG CENTENARIANS: A COMPARISON BETWEEN THE TOKYO AND GEORGIA CENTENARIAN STUDIES**

P. Martin<sup>1</sup>, Y. Gondo<sup>2</sup>, Y. Arai<sup>3</sup>, Y. Ishioka<sup>4</sup>, L. Poon<sup>5</sup>, N. Hirose<sup>3</sup>, *1. Iowa State University, Ames, Iowa, 2. Osaka University, Osaka, Japan, 3. Keio University, Tokyo, Japan, 4. Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan, 5. University of Georgia, Athens, Georgia*

Centenarians are seen as survivorship champions but their level of functioning is often compromised. The purpose of this study was to compare centenarians in the United States with centenarians in Japan on cognitive, sensory, and physical functioning. The sample of U. S. centenarians was recruited from the Georgia Centenarian Study and included 287 centenarians. The sample of Japanese centenarians was recruited from the Tokyo Centenarian Study and included 304 centenarians. Cognitive functioning was assessed with a mental status questionnaire, sensory impairment by general assessments of vision and hearing, and physical function was by activities of daily living. The results suggest that centenarians from the Georgia study showed higher levels of functioning when compared to the Tokyo sample. A structural equation model yielded stronger associations between cognitive and sensory impairment with physical function for the Tokyo sample. Different care patterns in each country may explain the results.

## **SENSORY IMPAIRMENTS IN CENTENARIANS: PREVALENCE AND LINKS TO WELL-BEING**

V. Cimarolli<sup>1</sup>, D.S. Jopp<sup>2</sup>, K. Boerner<sup>1,3</sup>, *1. Jewish Home Lifecare, New York, New York, 2. Fordham University, Bronx, New York, 3. Icahn School of Medicine at Mt. Sinai, New York, New York*

The purpose of this study was to document the prevalence of self-reported vision, hearing, and dual sensory impairment and to explore how these impairments are linked with well-being. In-person interviews with a sample of centenarians (N=119) included self-ratings of quality of vision and hearing ability and an assessment of depressive symptoms. Based on self-report ratings, 17% of participants could be classified as having a visual impairment only, 18% as having a hearing impairment only, and 38% with both a visual and hearing impairment (dual sensory impairment). A One-way ANOVA showed that dual sensory impaired centenarians had significantly higher depression levels when compared to those without impairments and those with a hearing impairment only. This study indicates that sensory impairments - especially dual sensory impairment - are prevalent in the oldest-old and that having a dual sensory impairment is related to less optimal well-being.

## **PREDICTORS OF SUBJECTIVE WELL-BEING AMONG JAPANESE CENTENARIANS**

T. Nakagawa<sup>1</sup>, Y. Gondo<sup>1</sup>, Y. Masui<sup>2</sup>, H. Inagaki<sup>2</sup>, Y. Arai<sup>3</sup>, N. Hirose<sup>3</sup>, *1. Osaka University, Suita, Osaka, Japan, 2. Tokyo Metropolitan Institute of Gerontology, Itabashi, Tokyo, Japan, 3. Keio University, Minato, Tokyo, Japan*

Adverse situations such as decline of physical function are inevitable in very old age. However, a few studies indicate that subjective well-being remains relatively stable even in the oldest-old. By using the data of Tokyo Centenarians Study, the current study investigated predictors of subjective well-being in extremely old age. We targeted 59 centenarians who answered self-reports and were cognitively intact. Multiple regression analyses were conducted to examine the role of demographic, social, health, and psychological resources. Results indicated that only low neuroticism predicted high morale. Additional analyses suggested that predictors could differ among subfactors of morale. For attitude toward own aging, living with someone was related with higher morale. For dissatisfaction, heart disease linked to lower morale. We note that the present study contained methodological limitations; selective mortality and selection bias. Participants who answered self-reports were more independent than those who didn't. Longitudinal study and selectivity analyses should be conducted.

## **WELL-BEING AND HEALTH IN CENTENARIANS: FINDINGS FROM GERMANY, JAPAN, PORTUGAL, AND THE USA**

D.S. Jopp<sup>1</sup>, C. Paul<sup>2</sup>, *1. Psychology, Fordham University, Bronx, New York, 2. UnIFai, ICBAS, Universidade do Porto, Oporto, Portugal*

Increase in the number of very old individuals, including centenarians, in developed countries is a worldwide trend. Ensuring quality of life at this advanced age therefore has become a global, 21st century challenges. Given that countries are characterized by different cultures (e.g., views on aging or attitudes towards formal care), investigating which person factors as well as aspects of the immediate social and wider environmental setting contribute to quality of life is an important research question in order to find out similarities as well as differences in the predictive value of these factors. This symposium presents findings on well-being and health from five centenarian studies. Specifically, Martin and colleagues investigate physical and sensory health, and cognition in the Georgia Centenarian Study and the Tokyo Centenarian Study. Cimarolli and Jopp report prevalence of sensory impairment and their links to depression in the Fordham Centenarian Study. Ribeiro and colleagues examine the role of intergenerational relationship quality for the well-being of centenarians and their advanced age children caregivers within the Oporto Centenarian Study. Nakagawa and colleagues investigate the role of demographic, social, health, and psychological resources on well-being within the Tokyo Centenarian Study. Finally, Jopp and colleagues present findings on predictors of life-satisfaction using data from the Second Heidelberg Centenarian Study. In sum, findings from centenarian studies from around the world highlight the importance of person (e.g., health, psychological strengths), social (e.g., relationship quality) and wider environmental aspects (e.g., living with others) for ensuring quality of life in very old age.

## SESSION 2020 (SYMPOSIUM)

### THE CONTEXTS OF RAISING GRANDCHILDREN: BODIES, FAMILIES, SCHOOLS, POLICIES AND COUNTRIES

**Chair:** L. Yancura, *University of Hawaii at Manoa, Honolulu, Hawaii*

**Co-Chair:** M.L. Dolbin-MacNab, *Virginia Tech, Blacksburg, Virginia*

**Discussant:** E. Fuller-Thomson, *University of Toronto, Toronto, Ontario, Canada*

As evidenced by the theme of this year's GSA conference, From Cells to Societies, successful aging is influenced by many interconnected contexts, ranging from the intrapersonal to the broader sociopolitical. The presentations in this symposium will examine the variety of contexts in which grandparents raising grandchildren are embedded, with a focus on the experiences and well-being of custodial grandparents. The first presentation, by Ryder, will focus on the physical health of grandmothers with chronic health conditions. These women reported neglecting their own health in order to focus on grandchildren's needs. The second presentation, by Lee, will use qualitative data from both grandparents raising grandchildren and school staff to examine role conflict and expectations associated with grandparents' experiences in school settings. This study found heterogeneity in cultural expectations for grandchildren's learning among grandparents and staff. In the third presentation, Lent and Butts will describe successful advocacy efforts for policies that support grandfamilies on local, state, and federal levels in the United States. The final presentation, by Dolbin-MacNab and Yancura, will focus on grandfamilies in global contexts, examining how cultural and sociopolitical contexts around the world influence grandparents' reasons for caregiving as well as the needs and experiences of their families. This examination will be supported with detailed case studies of grandfamilies in South Africa and China. Taken together, the presentations in this symposium highlight the multiple contexts in which grandparents are raising grandchildren are embedded and how the interconnections among these various contexts profoundly impact grandparents and grandchildren alike.

### GLOBAL PERSPECTIVES ON GRANDPARENTS RAISING GRANDCHILDREN: INFLUENCES OF SOCIOPOLITICAL CONTEXTS

M.L. Dolbin-MacNab<sup>1</sup>, L. Yancura<sup>2</sup>, *1. Human Development, Virginia Tech, Blacksburg, Virginia, 2. University of Hawai'i at Manoa, Honolulu, Hawaii*

Globally, grandparents are often primarily responsible for providing care to children who cannot be cared for by their parents. While grandparents raising grandchildren is common in both industrialized and developing nations, it is most common in Asia, Sub-Saharan Africa, and South America. In this presentation, we will discuss grandparents raising grandchildren from a global perspective, with an emphasis on examining how cultural and sociopolitical contexts influence grandparents' reasons for caregiving as well as their needs and experiences. We will also address social policy initiatives and intervention programs available to assist grandparent caregivers and their grandchildren. To aid our presentation, we will offer in-depth discussions of grandparents raising grandchildren in South Africa and China, among other countries. These in-depth discussions, which will illustrate the importance of viewing custodial grandparents contextually, will also serve as basis for providing suggestions related to future directions for research, practice, and policy.

### GRAND ADVOCACY: USING RESEARCH TO SUPPORT BETTER POLICIES FOR GRANDFAMILIES

J.P. Lent, *Generations United, Washington, District of Columbia*

Research and awareness are growing about the importance of keeping children with grandparents or other relatives when they cannot safely remain with their birth parents. Strategic advocates have used this increased evidence base along with powerful anecdotes to back successful efforts to secure federal and state policies to better support these families, known as grandfamilies. This presentation will demonstrate how resulting supportive policies have led to more effective practices and increased services for grandfamilies through Area Agencies on Aging, legal aid programs, academic institutions, child welfare agencies, and nonprofit organizations. It will highlight outstanding policy barriers and challenges to effective implementation of relevant legislation. The presenter will discuss strategies to approach these barriers including relevant legislation, new collaborations among aging and children's advocacy organizations, grassroots engagement and efforts to build the advocacy capacity of organizations serving grandfamilies.

### CULTURAL UNDERSTANDING OF THE EXPERIENCES OF GRANDPARENTS RAISING GRANDCHILDREN IN SCHOOL CONTEXT

Y. Lee, *Social Work, Binghamton University, Binghamton, New York*

**Purpose:** Twenty three grandparents and five school employees were interviewed for the purpose of exploring and better understanding the shared experience of grandparents raising grandchildren. **Design and Methods:** A total of twenty three grandparents raising grandchildren (12 White, 10 African American, and 1 Hispanic) and five school faculty/ staff (4 White and 1 African) participated in individual interviews. From the sample of 28, data analysis was conducted in three steps: (1) open coding, (2) axial coding, and (3) selective coding. **Results:** The following major themes emerged from the interviews: (1) finding purpose in life from raising grandchildren, (2) lack of communication with teachers/staff and understanding from school about the intergenerational caregiving situation, and (3) heterogeneity between White grandparents and grandparents of color in their perception of raising grandchildren and associated needs in relation to the school system. **Implications:** Intergenerational families will benefit from culturally competent teaching and practice.

## SESSION 2025 (SYMPOSIUM)

### LOST IN TIME METRICS: THE TIME DIMENSION IN CURRENT LIFE-SPAN AND GERONTOLOGY THINKING AND RESEARCH

**Chair:** H. Wahl, *Heidelberg University, Heidelberg, Germany*

**Discussant:** J. Baars, *University for Humanistic Studies, Haarlem, Netherlands*

Discussions related to time dimensions and time metrics lie at the heart of life-span and aging research. Birren's (1959) statement that "Chronological age is one of the most useful single items of information about an individual, if not the most useful" still resonates across the different disciplines within gerontology, ranging from biology to psychology and the humanities. Despite this focus on chronological aging, different time metrics have informed gerontology. For example, subjective time metrics and personal views on aging may be of greater importance for aging individuals than declining biological functioning. Furthermore, perceived personal life time (future time) or calendar time until death are driving forces of development in later life. Overall, an impressive body of conceptual, methodological, and empirical research has accumulated that supports the importance of all of these and other time. But how can we gain a coherent and organized view of the role of time in human development and aging? Should we let these time metrics simply stand next to each other without an organizing conceptual model? Or frame the issue only as an empirical one and test the



explanatory power of different time metrics against each other? This symposium discusses possible ways of not getting lost in time metrics. We will address calendar age (Settersten), future time perspective (Carstensen), distance to death (Smith), and subjective interpretations of aging (Wahl & Diehl), as well as methodological issues (Ram). The discussion provides an overall view from a social science and life course perspective (Baars).

### **GERONTOLOGY'S UNEASY RELATIONSHIP WITH CHRONOLOGICAL AGE**

R.A. Settersten, *Human Development & Family Sciences, Oregon State University, Corvallis, Oregon*

Gerontology has an uneasy relationship with chronological age. On one hand, chronological age is viewed as inherently tied to aging as a property of people and social systems. It is automatically included in models. As a continuous variable, it is assumed to reflect maturation or be a proxy for a variety of statuses. Age-based standards of "normal" aging are available for many health indicators. As a categorical variable, it is assumed that members of an age group share a set of experiences that are distinct from adjacent groups. On the other hand, gerontologists have difficulty distinguishing between age and aging, and between aging and age-related disease. They are quick to point to heterogeneity and the fallibility of chronological age as an index, and they perpetuate the message that successful aging is about transcending age. Thought experiments and illustrations are used to critically examine the uses of chronological age in research.

### **TAKING TIME SERIOUSLY IN LIFE-SPAN DEVELOPMENT**

L.L. Carstensen, *Psychology, Stanford University, Stanford, California*

Age is a powerful predictor of a range of important outcomes, including disease and death, but offers little in the way of explanation. There remains a great deal to be learned about experience-based changes related to age. It appears also that many phenomena, long presumed to be rooted in chronological age and related experience, reflect perceived time horizons independent of age or experience. Socioemotional selectivity theory is grounded in the uniquely human ability to appreciate their own mortality and, at both conscious and subconscious levels, estimate time remaining in life. A good deal of evidence testing related hypotheses shows that when time horizons are experimentally manipulated or vary in response to naturally occurring phenomena, preferences, goals and cognitive resources also vary systematically. Eliminating age in predictions about long-term outcomes will advance the science of aging.

### **DISTANCE-TO-DEATH: CONCEPTS OF TIME IN END-OF-LIFE TRAJECTORIES OF AGING AND DYING**

J. Smith, *University of Michigan, Ann Arbor, Michigan*

Advances in statistical techniques in the last 20 years have enabled researchers to model and compare age-related and death-related functional change. Findings highlight the heterogeneity, asynchrony, and plasticity of change over time. The speed of processes of aging and dying may be slow, delayed, or accelerated as a function of a multitude of interacting bio-psycho-social factors and interventions. In addition, substantial differences are observed in the shape of trajectories of aging and dying. The time is ripe for theoretical advances to complement and guide future study design and analyses. Conceptually, attention should be given to the life course timing, context, and cause of death and to the role of selective mortality on study sampling and participation.

### **SUBJECTIVE AGE AS A WAY OF CLOCKING LIFE**

H. Wahl<sup>1</sup>, M.K. Diehl<sup>2</sup>, *1. Heidelberg University, Heidelberg, Germany, 2. Colorado State University, Fort Collins, Colorado*

Human individuals have the unique capability to interpret and construct their own development and aging. Given the traditionally strong biological and functional view on aging, research supporting how relevant subjective views on aging and subjective awareness processes are for major developmental outcomes have been critical in gerontology at large. What is chronological age really telling us, if adults consistently and even in late life report feeling younger? Furthermore, a body of data points to the predictive role of felt age and perceptions of aging for health, well-being, and mortality. In the light of a volume of the Annual Review of Gerontology and Geriatrics on subjective aging that we currently prepare, this presentation highlights conceptually and empirically the role of subjective time dimensions for the understanding of aging. We will also use our work on the construct of awareness of age-related change to underscore the relevance of subjective aging time metrics.

### **LONGITUDINAL METHODS IN THE STUDY OF HUMAN AGING: IT'S TIME TO SPEED UP THE PROCESS**

N. Ram<sup>1</sup>, B. Reeves<sup>2</sup>, *1. Pennsylvania State University, University Park, Pennsylvania, 2. Stanford University, Stanford, California*

Advances in data mining and dynamic time-series modeling are providing for tailored information search, document retrieval, and item recommendation in a wide variety of industries and business sectors. Novel dynamic algorithms that use historical behavior reports are facilitating provision of time-sensitive recommendations to individual consumers. Computer-based games that connect avatars' behaviors in the virtual-world with individuals' behaviors in the real-world are shaping perceptions, thoughts, feelings, and actions in work, leisure and home contexts. Notions of TIME are changing. We argue that chronological age, and all the other "time" variables at the core of current best practices in longitudinal analysis, will become increasingly irrelevant in the study of aging. Data collection and analysis will soon proceed in real-time, with theoretical models playing less and less of a role as focus shifts toward provision of individualized service and shaping of context-specific behavior through an increasingly large pool of quickly updated empirical evidence.

## **SESSION 2030 (SYMPOSIUM)**

### **DYADIC MODELS OF HEALTH IN LATE LIFE MARRIAGE**

**Chair:** J. Monin, *Yale School of Public Health, New Haven, Connecticut*

**Discussant:** D. Almeida, *The Pennsylvania State University, University Park, Pennsylvania*

It is important to take into account the social context, especially marriage, when examining the physical and psychological health of older adults. Spouses' feelings, behaviors, and thoughts are often interdependent and transactional, especially in late life. In this symposium we will discuss four papers that examine spousal interrelations in terms of coping, health behaviors, and cognition that have implications for individual-level and couple-level physical and psychological health. The first two presentations will discuss the benefits of dyadic coping as older spouses are faced with health-related stress. Specifically, the first presentation will describe a time-sampling study of older couples showing how communal coping and spouse dissimilarity in specific health symptoms, such as aches, low energy, and digestion problems, relate to changes in each spouses' positive affect over time. The second presentation will discuss the association between spousal involvement in medical decisions and older adults' self-perceived health, showing that involvement is differentially related to health when considering effects of relational quality and injury. The second two talks will discuss antecedents and consequences of spouse similarity in physical activity. Specifically, the third presentation will discuss findings concerning the

congruence between husbands and wives on social cognitive variables (self-efficacy, goals, barriers, plans, and outcome expectancies) and how it is related to individual-level and couple-level physical activity. The final presentation will describe findings from a large, longitudinal study of older married couples showing that greater physical activity in husbands and wives seems to be protective specifically for husband's psychological health in terms of less depressive symptoms.

#### **SPOUSAL DISSIMILARITIES IN PHYSICAL SYMPTOMS AND COMMUNAL COPING ARE ASSOCIATED WITH POSITIVE AFFECT IN OLD AGE: EVIDENCE FROM A TIME-SAMPLING STUDY WITH COUPLES**

C.A. Hoppmann<sup>1</sup>, H.M. Schade<sup>2</sup>, D. Gerstorff<sup>2</sup>, *1. Psychology, Univ. of British Columbia, Vancouver, British Columbia, Canada, 2. Humboldt University, Berlin, Germany*

Spousal similarities in levels and long-term longitudinal changes in health and well-being are well documented. Yet, such spousal similarities do not preclude the possibility that there are also considerable differences within a given couple. In fact, spousal dissimilarities in health might be a precondition that the help of the spouse is invoked in coping with health problems. Using up to 27 simultaneous, daily-life assessments from 49 older adult couples (M age = 72 years; M relationship duration = 42 years), this study shows that aches, eating or digestion problems, and low energy were associated with concurrent decreases in positive affect. Interestingly, within-couple dissimilarity in eating and digestion problems was associated with increased positive affect but only in couples reporting high communal coping. In contrast, within-couple similarity in low energy was related to increased positive affect. Overall, findings suggest that the functions of spousal dissimilarities are domain-specific.

#### **SPOUSAL INVOLVEMENT IN MEDICAL DECISIONS: IMPLICATIONS FOR PERCEIVED HEALTH OF OLDER ADULTS**

L.R. Bangerter<sup>1</sup>, A.R. Heid<sup>2</sup>, S.H. Zarit<sup>1</sup>, K. Fingerma<sup>3</sup>, *1. Penn State University, State College, Pennsylvania, 2. The Polisher Research Institute, The Madlyn and Leonard Abramson Center for Jewish Life, North Wales, Pennsylvania, 3. The University of Texas at Austin, Austin, Texas*

Dyadic coping theory purports the benefits of couples jointly responding to stressors. In late life, a time of increased health problems, involving a spouse in medical decision-making may be particularly beneficial. Using a sample of 90 married adults aged 65 to 95, we use multiple regression to examine the association of spousal relationship quality, the presence of a recent injury, and involvement of spouses in medical decision making on older adults' perceived physical health. Results indicate that the association between relational quality and perceived physical health is moderated by both the presence of a recent injury and spousal involvement in medical decision making ( $B = -1.14, p = .002$ ). Findings support the differential effects of strong marital bonds and spousal joint medical decision making on older adults' perceived health.

#### **THE ASSOCIATION OF SPOUSAL CONGRUENCE ON SOCIAL COGNITIVE VARIABLES WITH INDIVIDUAL-LEVEL AND COUPLE-LEVEL PHYSICAL ACTIVITY**

B.J. Ayotte<sup>1</sup>, J. Margrett<sup>2</sup>, *1. Psychology, University of Massachusetts Dartmouth, North Dartmouth, Massachusetts, 2. Iowa State University, Ames, Iowa*

Individual and spousal characteristics are important predictors of physical activity among middle-aged and older adults. This study examined how congruence between spouses on several characteristics (enjoyment, self-efficacy, outcome expectancies, goals, plans, and barriers) were related to couple-level and individual-level physical activity. Age, length of marriage, and marital satisfaction were also included in the models. Couples were coded as congruent (+/- 1SD of overall

couple-level mean) or incongruent. Results indicated that couples who were congruent on planning, goal setting, and self-efficacy reported higher levels of couple-level physical activity compared to incongruent couples. Individual-level analyses indicated that congruence in self-efficacy was related to increased physical activity in both partners, while congruence in enjoyment was related to increased physical activity for husbands. Finally, congruence in barriers was related to less physical activity for both partners. These results may have implications for dyadic physical activity interventions that focus on both husbands and wives.

#### **SPOUSAL ASSOCIATIONS BETWEEN PHYSICAL ACTIVITY AND DEPRESSIVE SYMPTOMS: LONGITUDINAL FINDINGS FROM THE CARDIOVASCULAR HEALTH STUDY**

J. Monin<sup>1</sup>, B. Levy<sup>1</sup>, R. Schulz<sup>2</sup>, S. Stahl<sup>2</sup>, B. Chen<sup>1</sup>, T.R. Fried<sup>3</sup>, T. Kershaw<sup>1</sup>, *1. Yale School of Public Health, New Haven, Connecticut, 2. University of Pittsburgh, Pittsburgh, Pennsylvania, 3. Yale School of Medicine, New Haven, Connecticut*

This study examined in the context of late-life marriage whether each spouse's leisure-time physical activity would predict their own and their partner's depressive symptoms using the Actor Partner Interdependence Model. Gender differences were also examined. Each spouse within 1,260 married couples (at baseline) in the Cardiovascular Health Study completed self-report measures of leisure-time physical activity, depressive symptoms, socio-demographics, social support, and disability at baseline (1989–1990), wave 3 (1992–1993), and wave 7 (1996–1997). Results revealed that husbands' physical activity predicted their own decreased depressive symptoms. There was also a marginally significant effect such that wives' physical activity predicted less depressive symptoms for husbands. Finally, husbands' physical activity predicted wives' physical activity, and husbands' depressive symptoms predicted wives' depressive symptoms but not vice versa. Findings suggest that one's own and one's partner's physical activity may be more important for husbands' mental health than wives' mental health.

### **SESSION 2035 (SYMPOSIUM)**

#### **METHODOLOGICAL CHALLENGES IN BEHAVIORAL INTERVENTION RESEARCH: CONNECTING INTERNATIONAL EXPERIENCES**

**Chair:** S. Metzelthin, *CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands*

**Co-Chair:** G. Zijlstra, *CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands*

**Discussant:** L.N. Gitlin, *Johns Hopkins University, Baltimore, Maryland*

A series of public health problems in older adults, such as chronic diseases, disability or psychosocial difficulties, are not responsive to pharmacological or medical interventions. Particularly for these problems behavioral interventions are needed to promote a healthy lifestyle, to reduce symptoms or facilitate coping with them. However, behavioral interventions research is complex and time-consuming. Developing and testing of behavioral interventions involve an incremental and iterative process to build a robust body of evidence that initially supports feasibility and safety of the intervention, then efficacy and effectiveness has to be proven, and subsequently translation, implementation, and sustainability in the real-world context has to be promoted. This symposium discusses several challenges in the progress of behavioral intervention research based on four research projects from the US and the Netherlands that focus on the improvement of community-based care in frail older people. The first presentation will be about the development and pilot testing of a multidimensional home-based care coordination intervention. The second presentation will focus on the evaluation of the treatment fidelity of a bio-behavioral-environmental intervention. Next,

the economic evaluation of an interdisciplinary primary care approach will be addressed. The focus of the fourth presentation will be on the implementation of multicomponent fall-related program. Our discussant Laura Gitlin will reflect on the different phases in behavioral intervention research and will facilitate a discussion on-site.

#### **REFLECTIONS ON DEVELOPMENT OF A NOVEL, MULTIFACETED DEMENTIA CARE COORDINATION PROGRAM: MIND AT HOME**

Q. Samus, B.S. Black, D.M. Johnston, P. Rabins, C. Lyketsos, *Johns Hopkins University School of Medicine, Baltimore, Maryland*

The Maximizing Independence at Home (MIND at Home) program is a promising new community-based approach to systematically identify and address the multidimensional medical and supportive care needs of elders and families affected by Alzheimer's disease and other cognitive disorders through dementia care coordination implemented by an interdisciplinary team (e.g. non-clinical community workers, nurse, physician). Findings from a recent 18-month randomized controlled pilot trial of 303 elders in the Baltimore region showed MIND significantly delayed time to transition from home and improved patient and caregiver outcomes compared to a usual care group. To illustrate several key considerations and challenges in development of complex interventions, an overview of MIND's conceptualization and pilot testing will be provided, paying particular attention to theoretical underpinnings, intervention protocol and delivery model development, community-academic integration, and hybrid and adaptive trial design considerations to maximize utility and value of the development/pilot testing phase.

#### **FIDELITY CHALLENGES AND OPPORTUNITIES IN A BIO-BEHAVIORAL-ENVIRONMENTAL INTERVENTION: CAPABLE STUDY**

S. Szanton, L.N. Gitlin, *Johns Hopkins University, Baltimore, Maryland*

Behavioral interventions with older adults often have multiple components that present varied treatment fidelity challenges. We present fidelity components, challenges, and opportunities implementing CAPABLE (Community Aging in Place, Advancing Better Living for Elders) a bio-behavioral environmental trial (planned N=300) to reduce disability in low-income older adults. CAPABLE consists of up to 10 home visits across 4 months from a nurse, an occupational therapist, and \$1200 of handyman services. Fidelity strategies include interventionist training, recorded visits, a secure share site to enhance charting communication, clinical case conferences with interventionist feedback, cost and mileage tracking and shadow visits. Challenges include necessary tailoring to individual participants, complexity of the intervention, multiple interventionists, participants' refusals to be recorded and sheer amount of fidelity data. A major intervention opportunity is using fidelity checks to strengthen the intervention itself, such as comparing the participants' level of engagement and individual goals across the disciplines to enhance engagement.

#### **HOW MUCH DOES IT COST? CHALLENGES IN ECONOMIC EVALUATIONS OF BEHAVIORAL INTERVENTIONS**

S. Metzelthin<sup>1</sup>, E. van Rossum<sup>2,1</sup>, M.R. Hendriks<sup>4,3</sup>, L. de Witte<sup>2,1</sup>, G.I. Kempen<sup>1</sup>, *1. CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands, 2. Zuyd University of Applied Sciences, Heerlen, Netherlands, 3. VU University Medical Centre, Amsterdam, Netherlands, 4. Maastricht University NUTRIM School for Nutrition, Toxicology and Metabolism, Maastricht, Netherlands*

There is increasing interest in cost-effective interventions for community-dwelling frail older people. However, economic evaluations in this field are scarce likely due to challenges in measuring healthcare utilization. Embedded in a cluster randomized trial among 12 general

practitioner practices an economic evaluation was performed from a societal perspective with a time horizon of 24 months. Therefore a combination of different methods was used to overcome the challenges of data collection. Over 24 months frail older people in the intervention group, receiving an interdisciplinary primary care approach (n=193) used more primary care services than people in the control group receiving usual care (n=153). However against our expectations there was no decline in more expensive institutionalized care. Furthermore there were no significant effects ( $p \geq 0.05$ ) on disability and quality of life. Total costs over 24 months tended to be higher in the intervention group than in the control group (€26,503 versus €20,550,  $p=0.08$ ).

#### **IMPLEMENTATION OF A MULTICOMPONENT FALL-RELATED PROGRAM INTO PRACTICE**

G. Zijlstra<sup>1</sup>, J. van Haastregt<sup>1</sup>, M.F. Du Moulin<sup>2</sup>, M.C. de Jonge<sup>3</sup>, A. van der Poel<sup>3</sup>, G.I. Kempen<sup>1</sup>, *1. Maastricht University, Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht, Netherlands, 2. Zuyd University of Applied Sciences, Heerlen, Netherlands, 3. Trimbos Institute, Program Mental Health, Utrecht, Netherlands*

"A Matter of Balance" (AMB) is a multicomponent cognitive behavioral program that showed to reduce psychosocial and behavioral adverse aspects related to falls, i.e. concerns about falls and related activity restriction in daily life. In the Netherlands the Dutch version of AMB (AMB-NL) was nationwide implemented in homecare organizations according to an implementation strategy including 4 phases, i.e. pre-condition, pre-implementation, implementation, and maintenance, and evaluated in a pre-test post-test study. After the pre-condition and pre-implementation phase, which included challenges with recruitment strategies of participants and training of 53 facilitators for the program, AMB-NL was implemented in 16 of the 64 homecare organizations (25%) in a two-year period. The program ran 19 times reaching 178 participants that significantly ( $p < 0.05$ ) benefited regarding concerns about falls and related activity avoidance. Despite the systematic implementation strategy not all targeted homecare organizations were reached and further actions for implementation and maintenance of AMB-NL are recommended.

### **SESSION 2040 (PAPER)**

#### **DEMOGRAPHY OF AGING II**

##### **CROSS NATIONAL COMPARISONS OF EARLY LIFE CONDITIONS AND OLDER ADULT HYPERTENSION, DIABETES, HEART DISEASE AND OBESITY IN LOW AND MIDDLE INCOME COUNTRIES**

M. McEniry, J. McDermott, *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*

Mounting evidence suggests that poor early life conditions can have long term consequences on older adult health such as heart disease, diabetes, obesity and hypertension. These consequences are particularly relevant for low and middle income countries where life expectancy during the 20th century (1930s-1960s) dramatically improved as a result of reductions in infant and child mortality from public health interventions and medical technology but largely in the absence of improvements in standard of living. A larger pool of survivors of poor early life conditions born in these settings may now be exposed to higher risk of chronic conditions and other risk factors increasing their mortality risk. Using data from the recently compiled RELATE (Research on Early Life and Aging Trends and Effects) cross national data on over 147,000 older adults (50 years and older) in 20 low, middle and high income countries from Africa, Asia, Latin America, Europe and the US, the paper examines the association between early life conditions (parental SES, height, rural residence, caloric intake) and adult health (mortality, measured hypertension, obesity, heart disease and diabetes based on

biomarkers where available), controlling for adult SES, lifestyle and health (smoking, functionality), and utilization of health services. Being born in a rural area and in a country with poor caloric intake increased the risk of diabetes, heart disease, obesity and hypertension. The results suggest the importance of early life nutritional and infectious disease environment and a critical period in utero, early infancy or childhood with consequences for older adult mortality.

#### **REGIONAL VARIATION IN SELF-RATED HEALTH AND LIFE SATISFACTION: A LIFE COURSE PERSPECTIVE**

A. Bardo<sup>1</sup>, J.K. Chahal<sup>1</sup>, J. Brown<sup>1</sup>, S.M. Lynch<sup>2</sup>, 1. *Miami University, Oxford, Ohio*, 2. *Duke University, Durham, North Carolina*

A vast quality-of-life literature has documented how individuals come to conclusions about their perceived health and happiness. Gerontological research has found that such conclusions are sensitive to age and cohort effects. For example, subjective measures of health (e.g., self-rated health [SRH]) generally have a negative association with age, whereas subjective well-being (e.g., life satisfaction) tends to have a positive relationship with age, while the Great Depression has been found to have a life-long negative impact on such evaluations for its formative cohorts. Life satisfaction and SRH are both influenced by similar personal characteristics (e.g., age, race, sex, SES) and an individual's physical and social environment, which varies geographically. However, these two subjective quality-of-life measures are rarely examined in conjunction, and little is understood about the relationship between the two. The present study utilizes a life course perspective to examine the role of geography in shaping life satisfaction and SRH outcomes. Previous research that has examined the role of social and cultural resources in shaping such outcomes has typically engaged these issues within relatively small geographic units (e.g., neighborhoods, counties), and age/cohort effects have generally been neglected. We utilize multiple waves of repeated cross-sectional data (BRFSS 2005-2010) to explore the role of age and cohort in shaping the relationship between life satisfaction and SRH among the 9 US Census regions. Findings indicate that the life satisfaction/SRH relationship varies by region, and is particularly weaker in the South; this relationship decreases with, and is strongest for the baby boomer cohorts.

#### **REGION OF SOCIALIZATION VS. REGION OF CURRENT RESIDENCE AND MID-TO-LATE ADULTHOOD HEALTH OUTCOMES IN THE US**

S.M. Lynch, J. Brown, *Sociology, Princeton University, Princeton, New Jersey*

Region of residence is usually included in demographic models of health outcomes only as a control variable. However, region represents a rich combination of structural and cultural factors that may influence health. The Health and Retirement Study (HRS) asks respondents not only where they live at the time of interview, but also where they were born and where they lived during adolescence. The HRS also measures numerous health outcomes. This breadth of measurement on both region and health provides considerable leverage with which to disentangle the effects of early childhood socialization and current structural constraints and opportunities on different dimensions of adult health. In this paper, we use data across 8 waves of the HRS to investigate the relative effects of early life region and current region on a number of health outcomes, including self-rated health, cardiovascular disease, cancer, obesity, diabetes, depressive symptoms, mortality, and healthy life expectancy measures based on these outcomes. Next, we incorporate time-specific, region level measures in an effort to explain the region effects. We present results of analyses based on the complete sample and based on the subset of approximately 30% who move between adolescence and later adulthood.

#### **THE ROLE OF JOB HISTORIES AND WORK CHARACTERISTICS IN DIFFERENTIATING TRAJECTORIES OF PHYSICAL AND MENTAL HEALTH IN LATER LIFE**

M. Engelman, *Sociology, University of Wisconsin-Madison, Madison, Wisconsin*

While survival to and health in older ages have been linked to measures of socioeconomic position throughout the life course, the mechanisms that predispose individuals to particular patterns of health declines and functional impairments are not well understood. This study aims to characterize heterogeneous trajectories of physical and mental health among older Americans and, particularly, to examine the role of employment histories and job characteristics in differentiating these trajectories over time. Using the nationally representative Health and Retirement Study, I examine the work and health trajectories of American men and women between 1992-2010. Job histories are assigned cumulative psychosocial and physical exposure scores using a work exposure matrix. To account for the heterogeneous trajectories of impairment, I use a latent class framework to examine change over time in four dimensions of physical and mental health, including disability (difficulty performing primary or instrumental activities of daily living), physical functioning, depressive symptoms, and cognitive impairment. I first estimate distinct trajectories within each health outcome, considering the onset, progression, and overall level of health problems as people age. Next, I incorporate time-varying covariates to show how changes over time in employment and retirement status, health conditions, and social support interact to define these health trajectory classes. Finally, I analyze the association of these trajectories with race/ethnicity, education, income, occupational categories (at baseline and for the longest-reported occupation), and cumulative job characteristics exposure scores to better understand the mid-life factors that predict differential patterns of physical and mental health declines in the post-retirement years.

#### **LONG-TERM BMI PATTERNS, EXERCISE, HEALTH, AND MORTALITY IN OLDER ADULTS**

A. Zajacova, *University of Wyoming, Laramie, Wyoming*

**Background.** The relationship between body mass index (BMI) and health develops over the life course. There is increasing interest in modeling long-term changes in BMI and identifying distinct BMI trajectory types in the population rather than linking one-time BMI to outcomes. **Objective.** The aim is to identify clusters of long-term BMI curves using a novel nonparametric functional-data approach, and to determine how these BMI clusters predict mortality among older adults beyond differences in baseline health and physical activity. **Methods.** Data are from the Health and Retirement Study (N=9,893), a nationally-representative panel survey of older adults. BMI, collected in up to 10 waves between 1992 and 2010, is analyzed using hierarchical clustering of functions estimated via the PACE algorithm, a powerful, cutting-edge nonparametric approach for longitudinal data. Proportional-hazard models estimate all-cause mortality as a function of the BMI clusters, physical activity, and baseline health. **Results.** Three BMI trajectory clusters emerged for each gender: normal stable, overweight gaining, and overweight losing. Mortality was highest in the overweight losing cluster; the overweight gaining cluster had similar (women) or significantly lower (men) mortality risks compared to the normal stable group, even when baseline health and exercise levels across the clusters were taken into account. **Conclusions.** BMI trajectories among older adults cluster into distinct types, with systematically different exercise levels, health, and mortality risks. The findings highlight the importance of understanding long-term changes in BMI rather than one-time BMI level, in order to solve the mortality paradox and understand processes relevant to obesity and health.

**HEALTH OUTCOMES AND LONG-TERM CARE****PAIN AMONG NEW LONG-TERM SERVICES AND SUPPORT RECIPIENTS OVER TIME**

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Among older adults receiving long term services and supports (LTSS) in their homes (HCBS), assisted living facilities (ALF) or nursing homes (NH), the report of having pain can vary considerably. In this NIA/NINR supported (R01AG025524) prospective, longitudinal study we examined the self report of experiencing pain among 470 English and Spanish speaking older adults who, at the time of enrollment, were new recipients of LTSS. We found in multivariable GEE modeling that the odds of older adults in ALFs reporting having pain was 46% less than those receiving HCBS ( $p=0.006$ ) and only 17% less than older adults in NHs ( $p=0.33$ ). The odds of older adults in NHs reporting pain was 35% less than those receiving HCBS ( $p=0.03$ ). LTSS recipients reporting pain in the prior 3 months were 69% more likely to enroll in hospice than those not reporting pain in the prior 3 months ( $p=0.04$ ). Reporting pain was higher with lower self reported mental and physical health ratings ( $OR=0.97$ ;  $OR=0.92$ ;  $p<0.001$ , both). LTSS recipients reporting pain was associated with higher negative affect–quality of life ( $OR=1.28$ ;  $p=0.008$ ) and less cognitive impairment ( $OR=1.03$ ;  $p=0.03$ ). Reporting pain was higher for LTSS recipients with fewer years of education ( $OR=0.95$ ;  $p=0.02$ ). LTSS recipients with fewer years of education had a higher proportion with pain ( $OR=0.95$ ;  $p=0.02$ ) and it increased over time where as LTSS recipients with more years of education had a steady lower proportion of having pain over time ( $p=0.01$ ). Future directions for research and the implications of these findings will be discussed.

**STAR-VA: AN INTERDISCIPLINARY, BEHAVIORAL INTERVENTION FOR CHALLENGING BEHAVIORS IN DEMENTIA**

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STAR-VA is an interdisciplinary, behavioral intervention that promotes effective management of challenging behaviors in residents with dementia in Department of Veterans Affairs (VA) Community Living Centers (CLC). This approach entails collaboration between a CLC psychologist or psychiatrist and CLC nurse leader working with care staff to: (1) identify and change activators and problematic consequences of challenging behaviors; (2) increase personally-relevant and meaningful pleasant events; and (3) have realistic expectations of and effective communication with individuals with dementia. In 2013, the STAR-VA expanded implementation initiative entailed completed training of teams in 17 CLCs over six-months, enrolling 71 Veteran participants. Target behaviors clustered into six categories: agitation, resistance to care, vocalization, aggression, wandering, and other. Average intervention duration was 35.8 days ( $SD = 16.1$ ). The mean rated frequency and severity of target behaviors, each rated on a 1-5 point scale, decreased 45%, from 3.4 ( $SD = 0.8$ ) to 1.8 ( $SD = 1.2$ ), effect size ( $d$ ) = 1.2, and 64%, from 3.1 ( $SD = 0.8$ ) to 1.1 ( $SD = 1.1$ ),  $d = 1.6$ , respectively. Depressive symptoms on the CSDD decreased 46%, from mean of 12.6 ( $SD = 5.6$ ) to 6.8 ( $SD = 3.9$ ),  $d = 1.3$ . Anxiety symptoms on the RAID decreased 51%, from mean of 13.5 ( $SD = 7.8$ ) to 6.6 ( $SD = 5.0$ ),  $d = 1.0$ . Agitation symptoms on the CMAI-SF decreased 28%,

from mean of 28.7 ( $SD = 6.7$ ) to 20.8 ( $SD = 4.9$ ),  $d = 1.0$ . Successes and challenges for real-world implementation of this systemic intervention are discussed.

**LONGITUDINAL EXAMINATION OF PRESSURE ULCER RATES IN VETERANS HEALTH ADMINISTRATION NURSING HOMES**

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Pressure ulcers result in significant health and economic consequences. Yet nursing home studies consistently demonstrate lapses in pressure ulcer care, and pressure ulcer rates remain unacceptably high. Identifying sites with significantly improving and declining rates is a first step in developing effective interventions. The Veterans Health Administration (VHA) houses the U.S.'s largest integrated nursing home system. A retrospective longitudinal examination of 109 VHA nursing homes' pressure ulcer rates was conducted using Minimum Data Set (MDS) data from FY 08-11. Pressure ulcer development was defined as a stage 2 or larger pressure ulcer on an MDS assessment with no pressure ulcer on the previous assessment. A risk adjustment model was developed using 105,274 MDS observations to predict the likelihood of pressure ulcer (c statistic = 0.72). A Bayesian hierarchical model, which adjusted for differences in the reliability of pressure ulcer rates from facilities of different sizes, was used to calculate smoothed risk-adjusted (sra) rates of pressure ulcers for each facility. Over the 4 year period, median sra pressure ulcer rates were fairly consistent at approximately 4%, though the range in sra rates declined from 14.8% to 10.1%. Some facilities had significantly improved sra rates (e.g., declined steadily from 5.5% to 3.9%) and some had significantly worsening sra rates (e.g., increased steadily from 5.1% to 7.9%). This study represents the most recent longitudinal investigation of VHA nursing home pressure ulcer rates. The significant variation found suggests room for quality improvement efforts. Further investigation of differences could aid in intervention development.

**POLYPHARMACY AND PERSON CENTERED CARE IN THE SKILLED NURSING FACILITY: INTERVENTION PLANNING AND EXECUTION**

J. Rabig, *NASH, Niskayuna, New York*

The session will describe the program process and outcomes of a comprehensive interdisciplinary medication review initiative implemented in four skilled nursing facilities. The program was one component of a larger person centered holistic wellness initiative associated with the implementation of the small house model of skilled nursing care. The goals of the medication review program included a comprehensive review of medication regimes targeting polypharmacy, especially unnecessary medications, medication redundancy, untoward therapeutic outcomes, medications not consistent with advance directives, pill burden, medication crushing practices and medication pass frequency. The challenges of the program included facilitating the necessary physician, nurse and family and resident paradigm shifts regarding medications, the maintenance of achieved results, managing the time consuming nature of the review process and identifying and tracking outcomes that related to quality of life and quality of care.

## HISPANIC CARE-GIVING AND SUPPORTS

**THE MOST PREFERRED AND MOST LIKELY CHILDREN CAREGIVERS IN MEXICAN AMERICAN FAMILIES**

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This study examines which children are the most preferred and which children are the most likely caregivers for older adults in Mexican American families. The sample derived from a convenient sample of Mexican American elders with at least one living child in a city in West Texas. Our working sample included 329 parent-child dyads of 82 elder parents. We used fixed effects logistic regression to examine children's likelihoods of being named the most preferred caregivers and being named the most likely caregivers. Although daughters were more likely to be named the most likely caregivers, they were not more preferred by parents. This might be related to the culture in Mexican American families where patrilineal tradition is relatively strong. In addition, emotional closeness with parents is the shared predictor for children being named as the most preferred and most likely caregivers. Moreover, parents' nomination of the most preferred and most likely caregivers seems to be marginally affected by financial help from parents. Finally, children who lived closer were more likely to be named as the most likely caregivers, but not necessarily the most preferred caregivers. We discussed our findings within the contexts of Mexican American families.

**LATINA DEMENTIA CAREGIVERS: THE ROLE OF SOCIAL CAPITAL, GENDER, AND ETHNICITY IN CONCEPTIONS OF WELLBEING**

E. Apesoa-Varano, *Betty Irene Moore School of Nursing, UC Davis, Sacramento, California*

Up to 70 percent of individuals suffering from dementia in the U.S. are cared for at home and approximately 9.8 million family members take on this responsibility. Dementia caregivers are at risk for poor quality of life and declining mental and physical health. Latina caregivers report higher levels of burden and depression compared to other ethnic groups. The purpose of this qualitative study was to examine how social capital and ethnicity shape dementia Latina caregivers' experiences over time. A purposive sample of 15 Latina dementia caregivers was recruited in the Sacramento region. Caregivers completed three in-depth interviews, along with structured questionnaires to assess physical and mental health. Data from in-depth qualitative interviews were analyzed thematically from a social constructivist approach. We found that Latina caregivers' experiences are influenced by changes in available social capital. Perceptions of wellbeing were closely tied to the availability and use of that social capital. Social capital use patterns were, in turn, shaped by caregivers' views of the role of women in the home and the family in the context of Latino dominant values. For example, caregivers describing a lack of social resources (e.g. characterized by conflicts dispelling the ideal of familismo) were more apt to express less traditional feminine views of women as caregivers and report a higher sense of wellbeing. This information is significant for advancing our understanding of caregiver burden and rewards beyond the dyad in order to build socio-culturally tailored models to support dementia Latina caregivers in the clinical and community settings.

**FAMILY SUPPORT AND HEALTH OUTCOMES FOR OLDER MEXICAN RETURN MIGRANTS**

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While a large literature focuses on health and behaviors of Mexican immigrants in the United States, our knowledge about later-life resettlement in Mexico remains fragmentary. This is an important gap given the potential impact of circular migration on support systems. This study examines differences in family time and financial support and their relationship with health for aging return migrants. Migrants experience disrupted family ties; therefore we test the supposition that return migrants receive less family support in old age than non-migrants, and these differences increase with age when health problems peak. Data come from the 2001-2012 waves of the Mexican Health and Aging Study and the sample consists of 13,363 individuals of whom 1,585 were U.S. migrants. Generalized estimating equations are used to test whether family support is predictive of health status over time. Preliminary findings suggest that, unlike financial support, time support received from family differs between return migrants and non-migrants. Controlling for age and sex, older return migrants who suffer from ADL limitations in 2003 and/or 2012, but had no such limitation in 2001 are 21-24 percentage points less likely to receive time support from family, and a similar pattern is observed for support with chronic conditions. Return migrants who receive family time support in 2001 experience significantly slower functional declines by 2012. The information from this study can contribute to improved integration and coordination of publicly supported policies for aging vulnerable populations including home assistance, partial day care, and nursing services with family support capacity.

**BEHIND HISPANIC FAMILY CAREGIVING FOR ELDERLY: TRADITIONAL FILIAL VALUES OR DYADIC MUTUALITY**

H.S. Kao, *School of Nursing, The University of Texas at El Paso, El Paso, Texas*

Filial values have long been considered the motive for elderly care. Do the values still hold true while younger Hispanic generation is rapidly acculturated? Besides the traditional 'family above individual', do Hispanics give to their families to receive some favors back should they subsequently in need? Such mutuality explains the family dynamics behind elderly care has been theorized. Mutuality is the accrued impact of supports provided by elders to their family, which is, in turn, evaluated for care given to them by the family. This study is to theoretically and empirically analyze filial values and mutuality in Mexican American (MA) families. Methodology. A correlational design with a convenience sample of 193 MA adult caregivers of elders was used to test the association between filial values (by the Expectations of Family Loyalty Scale of Children toward Elderly Relatives; EFLOCTER) and mutuality (by Mutuality Scale; MS). Results. Theoretically, a link between mutuality based on Social Exchange Theory and filial values derived from Investment Thesis was argued. Empirically, while acculturation was marginally significant ( $r = .21, p < .05$ ), MS scores were even strongly correlated ( $r = .45, p < .001$ ) to EFLOCTER. Discussion. Whether the mutuality binds the filial values or the filial values strengthen the mutuality between the dyad remains a chicken-and-egg question. Yet, Social Exchange Theory suggests a return on investment made earlier by elders is also indicated by filial Investment Thesis in preparing for a rainy day. Hence, mutuality and filial values have common theoretical and empirical ground.

## SUPPORT TRANSFERS TO OLDER ADULTS IN LATIN AMERICA: A NETWORK PERSPECTIVE

E. Storelli, *Boston College, Alexandria, Virginia*

This research examines social support transfers and networks among older adults (aged 60+) in five countries in Latin America: Argentina, Brazil, Chile, Mexico and Uruguay. Latin American countries are aging rapidly and, compared to Western Europe and North America, have had a relatively short amount of time to accommodate to their aging population. While families have traditionally served as the primary support network of older adults in the region, current demographic, social and economic changes have cast doubt on the future viability of these informal supports. Relatively little is known about support to older adults throughout the region. This paper presents findings on how network structure is associated with the receipt and provision of financial and instrumental support among older adults in Latin America. Data are from the Survey on Health, Well-Being, and Aging in Latin America and the Caribbean (SABE), which includes information on over 7,000 older adults living in urban centers throughout the region. Multi-level analyses also use data on over 50,000 members of older adults' household and family networks. Study findings confirm the importance of network structure for the receipt and provision of support among older adults in Latin America, highlighting regionally unique patterns. They also suggest a dynamic perspective of support provision throughout region, where network members jointly navigate motivating factors to provide support to older adults in need. Findings provide an important step in understanding elder support in Latin America, and offer a strong foundation for future assessments.

## SESSION 2055 (PAPER)

### CAREGIVING FOR GRANDCHILDREN

#### PERCEIVED ANGER TOWARD CUSTODIAL GRANDCHILDREN'S BIRTH PARENTS: SPILLOVER AND CROSSEVER EFFECTS ON THE MENTAL HEALTH OF CUSTODIAL GRANDPARENT DYADS

N. Toyokawa, G.C. Smith, K.E. Cichy, *Kent State University, Kent, Ohio*

Custodial grandparents' (CGP) commonly feel anger toward adult offspring whose irresponsible behaviors (e.g., drug abuse; incarceration) have caused them to assume full-time care of a grandchild. Yet, little is known regarding the impact of such anger on CGPs' mental health, including how it may impact relationship dynamics within married CGP dyads. Specifically, we tested a path analysis model with 193 CGP marital dyads where CGPs' anger was hypothesized to spill over to their depressive symptoms via their perceptions of burden and changes in marital relationship because of their unexpected caregiving responsibilities. Each spouse's sense of burden and perceived changes in their marital relationship was also hypothesized to cross over mutually within dyads. We found (CFI = 1.00) that the spillover of custodial grandmothers' (CGMs) anger to their own depressive symptoms was mediated by their sense of caregiving burden and perceived changes in their marital relationships ( $\beta = 2.95, p = .003$ ). The spillover effect of custodial grandfathers' (CGFs) anger on their depressive symptoms was also significant, but mediated only by their sense of burden ( $\beta = 2.46, p = .014$ ). The crossover effect of CGFs' anger on CGMs' sense of burden ( $\beta = 2.50, p = .013$ ) and CGMs' perception of negative changes in the marital relationships on CGFs' higher depressive symptoms ( $\beta = 2.30, p = .022$ ) were significant. We concluded that CGPs' anger toward birth parents has spillover effects on their own, as well as a crossover effect on their spouses', psychological and relationship distress. [Funded by R01-MH-66851]

## WEB-BASED RESOURCEFULNESS TRAINING FOR GRANDMOTHER CAREGIVERS

C. Musil, J.A. Zauszniewski, J. Russek, P. Thongterm, *Case Western Reserve University, Cleveland, Ohio*

Resourcefulness is a repertoire of cognitive-behavioral skills for coping with adversity that involves the ability to perform daily responsibilities independently (personal resourcefulness) and to seek help from others (social resourcefulness) when needed. Resourcefulness is believed to bolster one's capacity to manage stress. Resourcefulness training (Zauszniewski) has been provided in face to face situations, which limits access. We developed and tested a web-based delivery of resourcefulness training using an online resourcefulness training video and online journaling rather than the previously used face-to-face training and pencil and paper journaling. Resourcefulness training was provided in a 30-minute online video with examples and resourcefulness skills applications tailored to grandmother caregivers for grandchildren. The pilot sample of grandmother caregivers ( $n=12$ ) ranged in age from 39 to 77 ( $M=57.3$ ) years and was recruited online and through a grandmother support group and community library notices. Subjects completed the baseline questionnaire that included measures of intra-family strains, self-rated and general health, family functioning, depressive symptoms, social support and demographics. Eleven grandmothers completed the 6-week follow-up of the same measures. Measures showed comparable reliabilities to pencil and paper administrations. We examined acceptability, feasibility and fidelity, and compared data on those who completed journaling with those who did not. Content of the journals was also examined. Results from this pilot support proof of concept and are encouraging for larger scale applications. Implications for online resourcefulness training and other interventions with grandmothers raising grandchildren and others are discussed.

#### INSIGHTS INTO THE SACRIFICES AND REWARDS OF LAKOTA GRANDPARENTS RAISING GRANDCHILDREN ON THE RESERVATION

M. Dennis, *University of Kansas, Lawrence, Kansas*

This presentation aims to reveal the unique experiences of American Indian elder caregivers of children living on the reservation. American Indian grandparents have a long history of providing physical, emotional and cultural care and instruction to their grandchildren. To date, there has been little research on American Indian grandparents and their experiences of caring for their grandchildren. Through in-depth qualitative interviews with 25 Lakota elders living on the Pine Ridge Indian Reservation, this study explored the experiences health and well-being across the lifespan. In these narratives, all of the Lakota elders reported raising grandchildren at some point in their lives. The next generation's well-being is always on the mind of the elders as they worry and provide financial and emotional support for their children and grandchildren and the grandchildren in the broader community. The Lakota elders shared the physical, emotional and spiritual strain of raising their grandchildren who were managing their own feelings of abandonment and loss of their parents. The elders were willing to sacrifice their own well-being and physical comfort for the success of their grandchildren, especially those grandchildren who were attending college and working towards positive goals. Investing in the future generations is a cultural value in which many of the elders served their families in hopes the grandchildren will have opportunities for a good life where they can support themselves and their families. The social work implications for working with elders, children and students who may be impacted by having an elder caregiver will be described.

## GRANDPARENTS RAISING ADOLESCENT GRANDCHILDREN: A DYADIC ANALYSIS OF PARENTING INTERACTIONS

M.L. Dolbin-MacNab<sup>1</sup>, K.A. Kopko<sup>2</sup>, R.E. Dunifon<sup>2</sup>, *1. Human Development, Virginia Tech, Blacksburg, Virginia, 2. Cornell University, Ithaca, New York*

For grandparents raising grandchildren, parenting is a defining feature of the caregiving role. In fact, the quality of grandparents' parenting has been linked to their well-being and to their grandchildren's emotional and behavioral problems. For grandparents raising adolescent grandchildren, parenting has been identified as one of their most significant stressors. Nevertheless, research has yet to explore, in any type of in-depth fashion, grandparents' actual parenting behaviors. Research on grandfamilies has also failed to capture the reciprocal nature of parenting – that grandchildren's behavior impacts their grandparents' parenting behavior. Thus, the primary purpose of this study was to examine grandparent and grandchild behavior that arises during interactions related to grandchild discipline, rules, and expectations. A secondary purpose was to examine major parenting issues that confront grandparents raising adolescent grandchildren. To address our research questions, we utilized data from a community sample of 53 grandparent-adolescent grandchild dyads. Dyads engaged in conversations about a topic of disagreement; the transcripts of the interactions were analyzed qualitatively. Findings suggest that major parenting issues include grandchildren's use of technology, peer relationships, responsibilities and privileges, and the generation gap. In responding to these parenting issues, grandparents engaged in a variety of positive, negative, and hostile parenting behaviors. They also shared their wisdom and experiences and invoked the potential future consequences of their grandchildren's behavior. Grandchildren responded to their grandparents' parenting behaviors by taking their grandparents' perspectives, working toward solutions to conflicts, challenging their grandparents, and managing their emotional reactivity and tension. Implications for parenting interventions will be addressed.

## RACE AND ETHNIC DIFFERENCES IN GRANDCHILD CARE AND FINANCIAL TRANSFERS IN MULTIGENERATIONAL FAMILIES: AN INTERSECTIONAL RESOURCE APPROACH

Y. Lee<sup>1,2</sup>, M. Silverstein<sup>1,2</sup>, *1. Syracuse University, Syracuse, New York, 2. The Aging Studies Institute at Syracuse University, Syracuse, New York*

Grandparents often form the first line of defense in support of their adult children, particularly during difficult economic times. Support provided by grandparents to adult children most often takes the form of grandchild care for young children and provision of economic assistance. We examined whether care provided to grandchildren and money transfers to and from younger generations were differently related among older adults based on their race/ethnicity. Resource scarcity and immigrant adaptation theories suggest that time and money are more likely to be interchangeable resources and exchanged reciprocally in minority and less acculturated Hispanic families than in white non-Hispanic families. Data derived from 12,235 grandparents participating in the 2008 Health and Retirement Study, with reports about 25,378 adult children who were parents. Using logistic regression, results revealed that compared to white non-Hispanics, (1) Hispanic grandparents—particularly those preferring Spanish language—who provided financial support to adult children were less likely to provide grandchild care, and (2) African American grandparents who received financial support from adult children were more likely to provide grandchild care. We conclude that grandparents provide resources to their grand-families and receive resources from them in ways that suggest an adaptation to cultural conditions.

## SESSION 2060 (SYMPOSIUM)

### THE IMPACT OF SLEEP ON HEALTH IN AGING: MECHANISMS, NOVEL RISK FACTORS, AND OUTCOMES ACROSS MULTIPLE LEVELS

**Chair:** K.L. Stone, *Research Institute, California Pacific Medical Center, San Francisco, California*

**Discussant:** M.V. Vitiello, *University of Washington, Seattle, Washington*

**Introduction:** Sleep is central to healthy aging, quality of life, and longevity. Recent large-scale epidemiological studies have investigated the genetic, sub-clinical, and behavioral correlates and mechanisms involved in differentiating sleep outcomes and their downstream health effects. **Objective:** In this symposium we present findings from population-based studies which examine specific sleep factors in relation to depression, mortality, and health care utilization. Sleep is highly health relevant and multi-factorial. Our presentations therefore span multiple levels of analyses, coinciding with the theme of the conference “Making Connections: From Cells to Societies.” Attendees will be provided with specific, novel evidence linking specific sleep characteristics to health outcomes. **Presentations:** We begin by presenting an investigation of the relationship between circadian gene polymorphisms and depressive symptoms. Next, we examine whether Circadian Rest-Activity Rhythms are a risk factor for increases in depressive symptoms. Third, using records obtained from Medicare/HMOs we examine whether and how sleep disturbances are related to increased inpatient health care utilization. Finally, we investigate how inflammatory burden, a sub-clinical marker, may mediate associations between objectively measured sleep disturbances and mortality. **Discussion:** These presentations span multiple levels of analysis and highlight the complexity and centrality of sleep in aging. Several unanswered questions which arise from each of our investigations will be discussed.

### CIRCADIAN REST-ACTIVITY RHYTHMS PREDICT FUTURE INCREASES IN DEPRESSIVE SYMPTOMS AMONG COMMUNITY-DWELLING OLDER MEN

S.F. Smagula<sup>1</sup>, S. Ancoli-Israel<sup>2</sup>, T. Blackwell<sup>3</sup>, R. Boudreau<sup>1</sup>, M.L. Paudel<sup>4</sup>, K.L. Stone<sup>3</sup>, J.A. Cauley<sup>1</sup>, *1. Epidemiology, University of Pittsburgh Graduate School of Public Health, Plainsboro, New Jersey, 2. Departments of Psychiatry and Medicine, University of California San Diego, San Diego, California, 3. Research Institute, California Pacific Medical Center, San Francisco, California, 4. Division of Epidemiology & Community Health, University of Minnesota, Minneapolis, Minnesota*

**Objective:** To examine longitudinal associations of circadian rest-activity rhythms (CARs) with depressive symptoms among community-dwelling older men. **Methods:** We examined associations of CARs (measured with actigraphy over a mean of 4.8 days) with depressive symptoms (measured with the Geriatric Depression Scale) among 2997 community-dwelling older men (mean age: 76.3 +/- 5.5) from the MrOS Sleep Study. Symptom change scores were calculated after an average follow-up of 1.2 (+/- 0.32) years and examined as mean change scores: >1 standard deviation (SD) and >2 SD increases. **Results:** Cross-sectional associations between rhythm amplitude (height) and mesor (mean) were independent of chronic diseases, lifestyle, sleep, and self-reported physical activity covariates. Longitudinally, low CAR robustness (being in the lowest quartile of the pseudo-F statistic) was independently associated with having a >2 SD ( $\geq 4$  symptom) increase between visits (AOR=1.73, 95% CI 1.04-2.88,  $p=0.04$ ). **Conclusion:** Low CAR robustness independently contributes to the risk of worsening depression symptomology.



## SLEEP, INFLAMMATION, AND MORTALITY

J.A. Cauley<sup>1</sup>, S.F. Smagula<sup>1</sup>, K.L. Stone<sup>2</sup>, S. Redline<sup>3</sup>, S. Ancoli-Israel<sup>4</sup>, E. Barrett-Connor<sup>5</sup>, N.E. Lane<sup>6</sup>, 1. *Dept of Epidemiology, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *Research Institute, California Pacific Medical Center, San Francisco, California*, 3. *Division of Sleep Medicine, Brigham and Women's Hospital and Beth Israel Deaconess Medical Center, Boston, Massachusetts*, 4. *Departments of Psychiatry and Medicine, University of California San Diego, La Jolla, California and Department of Veterans Affairs San Diego Center of Excellence for Stress and Mental Health (CESAMH), LaJolla, California*, 5. *Division of Epidemiology, Department of Family and Preventive Medicine, University of California, San Diego, San Diego, California*, 6. *Aging Center, Medicine and Rheumatology, University of California at Davis School of Medicine, Sacramento, California*

Inflammation burden may mediate associations between sleep and mortality, however no prior investigations have tested this hypothesis. We assessed whether the associations of objectively measured sleep characteristics and mortality are mediated by inflammatory burden. Participants from the MrOS Sleep Study (n=2531) were an average age of 76.3 (5.5 s.d.) years at baseline and mortality was measured over an average follow-up time of 7.4 (1.9 s.d.) years. Significant indirect effects (through inflammatory burden) explained 22-43% of associations between the following sleep factors and mortality: spending  $\geq 10\%$  total sleep time with blood oxygen desaturation  $< 90\%$ , short sleep duration ( $< 5$  hours), and sleep latency  $\geq 60$  minutes (all  $p < 0.001$ ). Inflammatory burden may therefore biologically mediate associations between the above mentioned sleep characteristics and mortality risk. Associations between severe blood oxygen desaturation and sleep fragmentation persisted after accounting for inflammatory burden, therefore future research is needed to examine the mechanisms linking these factors to death.

## THE IMPACT OF SLEEP/WAKE DISTURBANCES ON INPATIENT HEALTH CARE UTILIZATION IN OLDER WOMEN

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The extent to which poor sleep impacts health care utilization (HCU) in older community-dwelling women is uncertain. We examined 2,103 women (mean (SD) age of 84.2(3.9) years) enrolled in the Study of Osteoporotic Fractures. Sleep disturbances were assessed at the visit 8 exam using wrist actigraphy for a mean (SD) of 4.2(0.7) nights and by self-report (Pittsburgh Sleep Quality Index (PSQI)). Inpatient HCU assessed using Medicare and/or HMO data. Risk of hospitalization and rate-ratio of inpatient days was estimated using Logit-Poisson Hurdle Models. 1,157(55%) women were hospitalized during an average 2.8(0.6) years of follow-up. In age-adjusted models, sleep/wake disturbances were associated with a 20-50% increased rate of inpatient days. Results were attenuated and no longer statistically significant after adjusting for health-related factors and disability. Poor sleep quality (PSQI  $> 5$ ) was not associated with inpatient HCU. Older women with sleep disturbances have greater inpatient HCU, which was largely explained by a greater burden of comorbidities and disability.

## CIRCADIAN GENE POLYMORPHISMS AND DEPRESSIVE SYMPTOMS IN OLDER ADULTS

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Depression is common in older adults and associated with poor outcomes. Circadian dysfunction has been implicated in depression; however, the relationship between circadian genes and depressive symptoms in older adults is unclear. We performed a genetic association study of 529 SNPs representing 30 circadian genes in two population-based cohorts: Osteoporotic Fractures in Men Study (n=1270, 77 $\pm$ 5.6 years) and the Study of Osteoporotic Fractures in women (n=1740, 84 $\pm$ 3.5 years) and a meta-analysis was performed. Depressive symptoms were assessed with the Geriatric Depression Scale. There were associations meeting multiple testing criteria for significance between several PER3 SNPs and one RORA SNP and the development of mild and more severe depressive symptoms. Additional work to be presented will make use of several methodologies to assess genome-wide pleiotropic effects on sleep and depression and to identify genetic variation that mediates the effect of sleep disturbance on depressive symptoms.

## SESSION 2070 (SYMPOSIUM)

### HIP REHAB: A RANDOMIZED TRIAL OF A HOME-BASED EXERCISE PROGRAM AFTER HIP FRACTURE REHABILITATION

**Chair:** N. Latham, *Health and Disability Research Institute, Boston University School of Public Health, Boston, Massachusetts*

**Co-Chair:** A. Jette, *Health and Disability Research Institute, Boston University School of Public Health, Boston, Massachusetts*

**Discussant:** J. Magaziner, *Dept of Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, Maryland*

Most people continue to have significant mobility limitations for at least two years after a hip fracture. Supervised, intensive exercise programs to extend the benefits of traditional hip fracture rehabilitation improve function, but the benefits of less-supervised home-based programs were unclear. The aim of the HIP Rehab randomized controlled trial (n=232) was to investigate whether a 6-month functionally-oriented home exercise program (i.e. HIP Rehab) which required minimal contact with a physical therapist (PT) improved function after traditional hip fracture rehabilitation ended, compared with an attention-control group. Primary outcomes were function at 6-months, as measured by the Short Physical Performance Battery (SPPB) and Activity Measure for Post-Acute Care (AM-PAC) Mobility and Daily Activity. The intervention group showed significant improvement relative to the control group at 6 months (SPPB  $P < 0.001$ ; AM-PAC Mobility  $P = 0.03$ ; AMPAC Daily Activity  $P = 0.026$ ). Significant between group-differences persisted 9 months after randomization for all functional measures. This symposium will explore the findings of this trial and is comprised of five presentations. First, the study background, methods and primary findings will be presented. Second, the impact of the intervention on pre-specified subgroups of patients will be explored and the specific adaptations that the PTs made to the exercise program for different subgroups of patients will be described. Factors that mediated functional change will be explored with psychological factors explored in the third presentation and physical impairments in the fourth. Finally, in the fifth presentation the implications of this research and proposed new research will be discussed.

## DESIGN AND PRIMARY FINDINGS OF THE HIP REHAB TRIAL OF HOME EXERCISE AFTER HIP FRACTURE

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The aim of this randomized controlled trial was to determine the efficacy of a 6-month home exercise program to improve function after formal hip fracture rehabilitation ended. Older adults (n=232) with recent hip fracture were randomized to exercise or attention control. Functionally-oriented exercises were taught in 3-4 home visits by a physical therapist and performed independently over 6 months. Exercise intensity was progressed using therabands, weighted vests and steps of varying height. Physical function was assessed at baseline and 6 months by blinded assessors using the Short Physical Performance Battery (SPPB) and Activity Measure for Post-Acute Care (AMPAC). Loss to follow-up was 15.9%. The exercise group showed significant improvement relative to the control group in at 6 months for all primary endpoints (adjusted analyses (for age, gender and baseline scores): SPPB, P<0.001; AM-PAC Mobility Function P=0.03; AMPAC Daily Activity Function P=0.026). SPPB scores exceeded minimum clinically important differences.

## THE HIP REHAB INTERVENTION: EXPLORING ADHERENCE, PROGRESSIONS AND EXERCISE MODIFICATIONS

B. Harris<sup>1</sup>, C. Goodyear<sup>2</sup>, D.M. Heislein<sup>3</sup>, N. Latham<sup>4</sup>, J.F. Bean<sup>5,6</sup>, P. Ni<sup>4</sup>, A. Jette<sup>4</sup>, 1. *Physical Therapy, MGH Institute of Health Professions, Boston, Massachusetts*, 2. *Spaulding Rehabilitation Network, Boston, Massachusetts*, 3. *College of Health and Rehabilitation Sciences: Sargent College, Boston University, Boston, Massachusetts*, 4. *Health and Disability Research Institute, Boston University School of Public Health, Boston, Massachusetts*, 5. *Department of PM&R, Harvard Medical School, Boston, Massachusetts*, 6. *Spaulding Rehabilitation Hospital, Boston, Massachusetts*

The intervention used in the HIP Rehab trial was a 6-month long home-based functionally-oriented exercise program taught by physical therapists (PTs) over 3-4 home visits. Older people who had completed all usual hip fracture rehabilitation were asked to exercise three times per week in their home, with a DVD for guidance. HIP Rehab included a cognitive-behavioral component; functional exercises using Thera-band; and stepping exercises using steps and weighted vests. While a standardized program, PTs progressed the exercises by increasing the overload or adding more challenging exercises, or omitted/modified difficult exercises. Overall, participants adhered to 70% of prescribed exercise sessions. Most people progressed to higher levels of overload (i.e. 8% used the two most resistant exercise bands in the final week) and more challenging exercises (i.e. 60% attempted the stair and weighted vest exercises). Adherence, progressions and PT modifications will be explored by type of exercise, and by subgroups of patients.

## THE MEDIATION EFFECTS OF SELF-EFFICACY ON FUNCTIONAL OUTCOMES IN THE HIP REHAB TRIAL

F. Chang<sup>1</sup>, N. Latham<sup>1</sup>, P. Ni<sup>1</sup>, J.F. Bean<sup>2,3</sup>, R. Ward<sup>2,3</sup>, A. Jette<sup>1</sup>, 1. *Health and Disability Research Institute, Boston University School of Public Health, Boston, Massachusetts*, 2. *Spaulding Rehabilitation Hospital, Boston, Massachusetts*, 3. *Department of PM&R, Harvard Medical School, Boston, Massachusetts*

This session will examine whether self-efficacy mediated the effect of the HIP Rehab exercise program on activity limitations in older adults after hip fracture. Participants (n=232) with hip fracture were randomly assigned to the intervention (i.e. HIP Rehab, a functionally-oriented, home-based exercise program) or attention control groups. Data were collected at baseline, post-intervention (6 months), and follow-up (9 months). The mediation effect of HIP Rehab on Basic Mobility function through self-efficacy for exercise was not significant at 6 months ( $\beta_{\text{indirect}}=0.06$ ), but was significant at 9 months ( $\beta_{\text{indirect}}=0.21$ ). The mediation effect of the intervention on Daily Activity function through self-efficacy for exercise was not significant at 6 months ( $\beta_{\text{indirect}}=0.12$ ), but was significant at 9 months ( $\beta_{\text{indirect}}=0.49$ ). In subgroup analyses, the mediation effect was only significant in the younger group and in females. Self-efficacy plays a partial mediating role for the effect on longer-term functional outcomes in the HIP Rehab intervention.

## CHANGES IN PHYSICAL IMPAIRMENT VARIABLES IN THE HIP REHAB TRIAL

R. Ward<sup>1,2,3</sup>, F. Chang<sup>2</sup>, N. Latham<sup>2</sup>, P. Ni<sup>2</sup>, A. Jette<sup>2</sup>, J.F. Bean<sup>1,3</sup>, 1. *Physical Medicine and Rehabilitation, Spaulding Hospital, Cambridge, Massachusetts*, 2. *Health and Disability Research Institute, Boston University School of Health, Boston, Massachusetts*, 3. *Department of PM&R, Harvard Medical School, Cambridge, Massachusetts*

This session will focus on the physical impairment variables in the HIP Rehab trial. It will explore how these variables, which include balance; knee extension strength and reaction time, changed in response to the intervention overall and by subgroups of participants (e.g. by age and sex). Participants (n=232) had significant physical impairment at baseline (e.g. mean Berg Balance Score of 40/56 which is consistent with high fall risk). Overall, participants experienced statistically significant improvements in balance at both 6- and 9-months (P<0.001), but much smaller and inconsistent changes in strength and reaction time. This session will also explore whether changes in these impairments mediated the effect of the HIP Rehab exercise program on functional changes in older adults after hip fracture, as measured by the Activity Measure for Post Acute Care (AMPAC) Daily Activity domain at 6-months and 9-months post-randomization.

## HIP REHAB: TRANSLATION AND FUTURE RESEARCH DIRECTIONS

A. Jette<sup>1</sup>, B. Harris<sup>2</sup>, J.F. Bean<sup>3,4</sup>, P. Ni<sup>1</sup>, N. Latham<sup>1</sup>, 1. *Health and Disability Research Institute, Boston University School of Public Health, Boston, Massachusetts*, 2. *MGH Institute of Health Professions, Boston, Massachusetts*, 3. *Spaulding Rehabilitation Hospital, Boston, Massachusetts*, 4. *Department of PM&R, Harvard Medical School, Boston, Massachusetts*

This session will explore implications of the HIP Rehab trial, and discuss future research directions for hip fracture rehabilitation research. The findings of the HIP Rehab study and other research suggest that following traditional hip fracture rehabilitation, people are left with residual functional limitations and disability, and that many have the capacity to improve their function beyond what usual rehabilitation provides if an appropriate program is provided. Next research steps should include exploring the effectiveness of these types of interventions in "less expert" settings, the cost-effectiveness of the interventions, and the comparative effectiveness if delivered by clinicians in lieu of more traditional forms of rehabilitation. Translation of this program to

clinical settings might be most feasible if it is delivered using mobile health (mHealth) or other technology platforms which would allow care providers to efficiently monitor, coach and modify exercises without the need for in-person visits by physical therapists.

## SESSION 2075 (SYMPOSIUM)

### A MULTI-SITE APPROACH: COMMUNITY IMPACT THROUGH EVIDENCE BASED HEALTH PROMOTION AND CHRONIC DISEASE MANAGEMENT

**Chair:** C.J. Beverly, *College of Nursing, University of Arkansas for Medical Sciences, Little Rock, Arkansas*

**Co-Chair:** R.E. McAtee, *College of Nursing, University of Arkansas for Medical Sciences, Little Rock, Arkansas*

**Discussant:** T. Cortes, *New York University, New York, New York*

The population of older adults is growing exponentially requiring increased primary care services across settings that reflect evidence based age specific quality of care, better outcomes, and lower cost. Increasing numbers of older adults are entering old age healthier than in the past but as they age have a higher prevalence of one or more chronic diseases that must be managed. A multi-site system design with a primary care approach to population based health focused on promoting health, managing chronic disease and employing an inter-professional team of Gerontological specialists will be presented. A major benefit of this type design is that it serves as a conduit for disseminating clinical and education programs and is most effective through use of technology. The primary care setting is the hub for the management of chronic diseases, the prevention of avoidable functional loss through chronic disease self-management and the coordination of care as people move in and out of different healthcare settings. Access to effective primary care depends on a high functioning, inter-professional team of Gerontological specialists which utilize evidence-based practice to achieve quality outcomes. This session will address multi-site innovations developed to provide health promotion, Gerontological workforce development and chronic disease self-management for older adults through a multi-site, state wide approach in AR which is being replicated in Oklahoma. Application of telehealth technology will also be discussed. Presentations describe innovative programs that capitalize on a multi-site system that promotes workforce development, describes the process for state replication and enhanced population based education.

### THE OKLAHOMA HEALTHY AGING INITIATIVE: REPLICATION AND TRANSLATION OF THE ARKANSAS AGING INITIATIVE

C. Dowers-Nichols<sup>1</sup>, L. Rubenstein<sup>1</sup>, A. Dentino<sup>1</sup>, C.J. Beverly<sup>2</sup>, T. Teasdale<sup>1</sup>, *1. Department of Geriatric Medicine, University of Oklahoma, Oklahoma City, Oklahoma, 2. University of Arkansas, Little Rock, Arkansas*

The Oklahoma Healthy Aging Initiative (OHAI) at the Donald W. Reynolds Department of Geriatric Medicine at the University of Oklahoma, College of Medicine was designed to establish a senior health network across the state. Modeled after the Arkansas Aging Initiative, OHAI employs a three-prong approach to improve health of older adults: 1. Increase access to interdisciplinary geriatric healthcare 2. Provide excellence in health education to health providers, seniors, and caregivers 3. Enhance health and aging policy OHAI particularly focuses on rural settings which present specific obstacles to improving health. Limited access to care and poor health literacy are only two of the challenges faced. Oklahoma's health landscape is also impacted by the number of American Indian nations and their affiliated health systems. This session will discuss the replication process as well as the current status and progress of OHAI.

### A GERIATRIC TELEHEALTH PROGRAM: CONNECTING THE OKLAHOMA HEALTHY AGING INITIATIVE TO RURAL HOSPITALS

A. Dentino, C. Dowers, B.N. Ngo, C. Shaw, C. Scheideman-Miller, T. Teasdale, L. Rubenstein, *OUHSC, Oklahoma City, Oklahoma*

Objectives: 1 Attendees will become acquainted with one approach (the OHAI) in delivering geriatric services via electronic telemedicine equipment to rural communities across our state 2. Attendees will consider how their respective practices, networks or health care systems might incorporate asynchronous, teleservices to reach sectors of their constituencies not easily physically accessible The Oklahoma Healthy Aging Initiative (OHAI) has developed a Geriatric Telehealth Program (GTP) to provide interprofessional health care in a variety of rural settings (tribal health systems, Federally Qualified Health Centers, and other small primary care settings). The program has received funding from the USDA to establish twelve telesatellite systems, and has applied for additional support from the Donald W. Reynolds Foundation. The GTP is also partnering with the Oklahoma City Veterans Administration Medical Center to link these systems with local health centers serving Veterans. Clinical and educational programs are provided by and disseminated via the GTP. This presentation discusses and focuses on the challenges to rural geriatric care; to the OHAI's response to these challenges via the GTP; and to the many benefits to communities, providers, patients/families and learners by utilizing 21st century technology to bring health care to underserved regions and to lessen health disparities.

### EDUCATING CAREGIVERS FOR THE OLDER ADULT HOME: REPLICATION OF A STATEWIDE PROGRAM

R.E. McAtee, C.J. Beverly, *Donald W. Reynolds Institute on Aging, University of Arkansas for Medical Sciences, Little Rock, Arkansas*

Educating a workforce to care for older adults in the home is the primary goal of the Schmieding Home Caregiver Training program. With over 12 years of experience, the curriculum has been successfully implemented in 9 sites across Arkansas and replicated in 4 states. The need is quickly expanding for quality, formally trained caregivers to care for the rapidly increasing number of older adults who wish to remain in their home as they age. This program provides education and skills training to help caregivers learn how to properly care for these adults. The program has 3 progressive certification levels; In Home Assistant (40 hrs), Home Care Assistant (60 hrs) and Dementia Training (16 hrs) providing increased knowledge and skill competencies at each level. This presentation will review the quantitative and qualitative outcomes and the operational aspects of the replication of this education program across multiple sites and states.

### EVIDENCE-BASED SELF-MANAGEMENT PROGRAMS: THE IMPACT ON THE HEALTH OF COMMUNITIES

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Educating older adults is critical for preventing and managing chronic conditions. Chronic conditions and the untoward events that occur because of them are costing the US healthcare system billions of dollars annually. Arkansas and Oklahoma are taking a unique state-wide approach to attack this growing problem. They have both created Regional Centers on Aging throughout their states that focus on the education of older adults, their families, the health care professionals that care for them, and the students of the healthcare disciplines. Many of the programs offered target self-management concepts such as classes on diabetes self-management and other programs that support the associated behaviors such as healthy cooking and exercise programs. This presentation will review how these evidence-based programs have impacted the health and quality of life of the older adults served and outline how the impact is being tracked.

## PHYSICAL PERFORMANCE

## MOTOR DECLINE AS A PREDICTOR OF DISABILITY IN OLDER ADULTS

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Poor motor performances predict future disability but few studies have investigated the effect of motor decline on future disability. Our objective was to examine the independent relation of baseline walking speed (WS) and change in WS with onset of disability. The analyses included 3,562 (61% women) French community-dwelling older participants (65-85y) from the Dijon centre of the Three-City cohort study with up to five WS and six disability assessments over 11 years of follow-up. We studied the relation between baseline WS, slope of change in WS, and incidence of disability, while taking into account the competing risk of death and dropout, using joint models for longitudinal and time-to-event data; models were adjusted for age, sex, and marital status. During a mean follow-up of 5.3 (SD=4.3) years, 576 (68.6% women) participants developed disability. Mean baseline WS was 154 cm/s and mean WS decline was 1.70 cm/s/y. The relative risk of disability was of 1.84 (95% Confidence Interval (CI)=1.58-2.15) per decrease of one standard deviation in baseline WS (-30 cm/s) and of 2.03 (95% CI=1.35-3.05) per decrease of one standard deviation in the slope of change in WS (-1.32 cm/s/y) when both predictors were included in the same model. Independently of baseline motor performances, decline in WS was associated with disability onset; the strength of the association was similar for baseline WS and slope of change in WS. Our results underline the interest of repeated motor assessments in older adults in order to identify those at higher risk of becoming disabled.

## INTERPRETING NON-SIGNIFICANT FINDINGS: PHYSICAL PERFORMANCE MEASURES IN AN EVIDENCE-BASED PROGRAM

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Reducing Disability in Alzheimer's Disease (RDAD) is an evidenced-based dyadic intervention for individuals with dementia and their caregivers aimed at reducing the psychosocial strain of the caregiver and improving functional ability of the individual with dementia. Overall efficacy results as well as acceptability and feasibility outcomes have been published regarding the RDAD intervention; however, no specific outcome information has been published on the objective physical performance measures (PPM) of walking speed, functional reach, and balance. Data from the Ohio Replication of RDAD (n=326) was utilized to analyze the change in these three physical performance measures from enrollment to 3 months. It was hypothesized that each PPM would show change for participants who completed 3 months of the program. No significant changes were identified in 3 physical performance measures: gait speed (t=.24, p=.81), balance (t=.23, p=.82), and functional reach (t=-.55, p=.58). These results contribute to two main points of discussion. First, further research and consideration is needed as to the possible mismatch between the intervention protocol and these PPM. For example, the intervention protocol may require a sufficient dosage of intervention with respects to fundamental exercise science principles, or there may be poor adherence to principles of specificity of training. Second, use of these PPMs, which have been used successfully in large-scale studies of older adults, may not be appropriate for a

sample of individuals with dementia. Discussion and interpretation of non-findings is important as we seek to improve on intervention design and methodological considerations in intervention research.

## APATHY SEVERITY AS A PREDICTOR OF FUNCTIONAL STATUS AMONG PERSONS WITH ALZHEIMER DISEASE

E.D. Goris<sup>1</sup>, D.L. Schutte<sup>2</sup>, 1. Hope College, Holland, Michigan, 2. Wayne State University, Detroit, Michigan

Apathy, defined as a disorder of motivation with deficits in behavioral, emotional, and cognitive domains, is a prevalent behavioral symptom among persons with Alzheimer Disease (AD). Apathy occurs across the disease trajectory and is associated with serious complications, including physical deconditioning, uncooperativeness with care, and social isolation. This work examines the extent to which severity of apathy influences functional status in persons with AD, after adjusting for AD severity. Sixty-six participants were recruited as part of a larger project to examine apathy, genetics and functional status among persons with AD. Apathy, as measured by the Neuropsychiatric Inventory Apathy subscale (NPI-Apathy), was present among the majority of participants (53.0%, n=35), with a mean age of 85.83 (SD=7.35) years. Participants demonstrated moderately compromised cognition with a mean total Severe Impairment Battery (SIB) score of 50.66 (SD=39.09; range: 0-100). Severity of apathy, controlling for cognition (SIB total score), significantly predicted 50.7% of the variance in function as measured by Functional Assessment Staging Test (FAST) score (F=27.774, p<.0001). Additionally, apathy severity as measured by the NPI-Apathy, controlling for cognition, significantly predicted 26.6% of the variance in function as measured by the Functional Abilities Checklist (FAC) Self Care subscale (F=2.513, p<.0001) and 48.8% of the variance in function as measured by the FAC Cognitive Status subscale (F=25.766, p<.0001). Controlling for cognition, severity of apathy remained a significant predictor of function among persons with AD. Study findings may contribute to a risk profile for identifying individuals most at risk for functional decline based on apathy severity.

## SESSION 2085 (SYMPOSIUM)

## INTEGRATION OF RESEARCH, EDUCATION, AND PRACTICE TO IMPROVE PAIN MANAGEMENT IN OLDER ADULTS

**Chair:** T. Monroe, Nursing/Institute of Imaging Science, Vanderbilt University, Nashville, Tennessee

**Discussant:** W.G. Chen, National Institute on Aging, Bethesda, Maryland

Throughout its history, the Gerontological Society of America has aspired to be a professional organization that links research, education, and practice. Despite this laudable goal, many critics have argued that these three essential components of the equation have had only limited success in achieving real integration. Reasons for this disconnect range from cultural differences between the research, education, and practice communities, differing values and goals, funding limitations, and different reward systems in each sector. Practitioners experience the need for a core belief in the effectiveness of their work, while researchers are driven by a value of disbelief and thus want to evaluate whether a program or practice works. Although interest of practitioners in evidence-based practice in their work with older adults has increased since the 1990s, the work of practitioners, researchers, and educators often lacks integration. The Research, Education, and Practice Committee (REP) of GSA is committed to the identification and dissemination of examples of projects that have successfully linked these components. There are important pockets of success in which research, education, and practice have become integrated in their efforts to improve the health and well-being of older adults, and these examples should be highlighted. This symposium includes presentations by three individuals who have dedicated their careers to the improvement of pain detec-

tion and management in older people with and/or without dementia. Their pain initiatives provide substantive examples that showcase successful integration of research, education, and practice.

### **ONE SCHOLAR'S JOURNEY TO IMPACT QUALITY PAIN CARE FOR OLDER ADULTS**

K.A. Herr, *College of Nursing, University of Iowa, Iowa City, Iowa*

Over the past 25 years, Dr. Herr has developed a program of research and scholarly contributions with the goal of improving pain care in older adults. Fueled by personal circumstances and commitment, the speaker shares career development activities that contributed to growing influence and impact on the science and practice of pain assessment and management in the US and beyond. Early research efforts focused on establishing the problem of pain in older persons and improving pain assessment self-report techniques. Advancing strategies for assessment in nonverbal populations followed, along with improving use of evidence-based practices in different care settings. Building an evidence-base and dissemination of new knowledge are key elements for practice improvements. The speaker illustrates the linking of research, education and practice in increasing impact to improve pain care for older adults.

### **IMPROVING QUALITY OF LIFE FOR OLDER ADULTS: A FOCUS ON RELIEVING PAIN**

A. Horgas, *College of Nursing, University of Florida, Gainesville, Florida*

Dr. Horgas' career has focused on interdisciplinary aging research, focusing on strategies to improve the health and functioning of older adults. Her program of research has focused primarily on pain management in persons with dementia. As a gerontological nurse, she observed suboptimal pain management among nursing home residents. This launched her interest in understanding factors that contribute to poor pain management and to develop strategies to assess pain in vulnerable populations, such as people with dementia. Dr. Horgas will discuss this program of research as well as her complementary research activities that forged an academic career aimed at improving the quality of life for older adults, particularly in the area of pain management.

### **UNEQUAL BURDENS AND UNHEARD VOICES: ONE SCHOLAR'S PURSUIT FOR HEALTH AND PAIN CARE EQUITY**

C.R. Green, *University of Michigan Health System and Medical School, Ann Arbor, Michigan*

Dr. Green developed a health disparities and policy-relevant research program that focuses on the role that race, ethnicity, gender, age, and class play on access, assessment, and quality of care. Her scholarly contributions on clinician and patient variability in pain management decision-making have influenced national policy. Dr. Green worked in the U.S. Congress as a health policy analyst and was instrumental in writing the National Pain Care Policy Act and the IOM report. Her work is fueled by patient care and the power of narrative. Specifically, the unequal burden of pain and previously unheard stories led to her commitment to act locally and on the national level. Dr. Green will share important crossroads in her career, career development activities, and her journey. The speaker will link clinical practice, research, education and policy to improve pain care for all, especially older minority men and women who may be vulnerable and underserved.

## **SESSION 2090 (SYMPOSIUM)**

### **EMPOWERING PERSON-CENTERED CARE: INNOVATIVE SOLUTIONS FOR DEMENTIA CARE DELIVERY**

**Chair:** A. Holzapfel, *The Global CEO Initiative on Alzheimer's Disease, Devon, Pennsylvania*

**Discussant:** J. Beck, *Home Instead Senior Care, Omaha, Nebraska*

**Discussant:** R. Shih, *RAND Corporation, Washington, District of Columbia*

The G8 has pledged to identify a cure or disease-modifying therapy for dementia by 2025. While an ambitious goal that will no doubt have positive implications for future generations, today there are more than 44.4 million people suffering from the disease worldwide. With a staggering 7.7 million new dementia cases reported each year and costs of care already exceeding \$600 billion, the urgency behind accelerating innovations in care delivery for today's dementia victims cannot be overstated. Our symposium will address the critical need for increased attention and resources for dementia long-term services and support (LTSS). Symposium participants will gain new insight into the intersection of dementia and LTSS, key challenges in improving dementia LTSS, associated costs and best practices of informal and formal long-term care, as well as innovations in person-centered care delivery. Specifically, the RAND Corporation will present its cutting-edge research to be released in 2014 that provides a qualitative assessment of perspectives from nearly 30 stakeholders on potential policy solutions. The Global CEO Initiative on Alzheimer's Disease (CEOi) will provide ways to create comprehensive, interdisciplinary care practices that champion the needs, health, safety, and wellness of both the patient and caregiver. The Leaders Engaged on Alzheimer's Disease (LEAD) Coalition will address how changing demographics and advances in dementia science are altering public attitudes and government policy-making. A fourth presentation from HomeInstead will address the need for the development of a longer view of Alzheimer's disease – from pre-symptomatic to end-of-life –, an ecosystem for care delivery and dementia-friendly communities. Submitted by: Drew Holzapfel [dholzapfel@highlanterngroup.com](mailto:dholzapfel@highlanterngroup.com)

### **IDENTIFICATION OF POLICY OPTIONS FOR DEMENTIA LONG-TERM CARE THROUGH STAKEHOLDER ENGAGEMENT**

R.A. Shih, T.W. Concannon, J.L. Liu, E. Friedman, *RAND Corporation, Arlington, Virginia*

Recent national policy and research strategies have focused on dementia or long-term services and supports (LTSS) individually, but none have focused attention on the intersection of LTSS and dementia. In a qualitative study, we engaged stakeholders representing patients, providers, purchasers, payers, policymakers, and principal investigators. Key informant interviews with these stakeholders solicited policy options that address gaps in the LTSS system for persons with dementia and their caregivers. We evaluated the policy options against 14 criteria and summarized the options by expected impact, feasibility, dementia stage, and stakeholder group. Stakeholders identified 45 policy options that may help decision-makers improve the LTSS delivery system, workforce, and financing for persons with dementia and their caregivers. Our evaluation identified 13 policy options that could be undertaken more immediately with the strongest impact. These policy options serve as a foundation upon which stakeholders of many types can prioritize, plan, implement and evaluate policy change.

### **ADVANCES IN DEMENTIA TREATMENT RESHAPING POLICY LANDSCAPE**

I. Kremer, *Leaders Engaged on Alzheimer's Disease (LEAD) Coalition, Herndon, Virginia*

Presenter: Ian Kremer, Esq. Executive Director LEAD Coalition  
Changes in the demographic, economic and social landscape of Alz-

heimer's disease and related disorders (ADRD) are interacting with advances in research to address ADRD detection, diagnosis, prevention, treatment and care. Leaders Engaged on Alzheimer's Disease (LEAD Coalition) will examine how these forces are altering the political environment and government policy-making both domestically and internationally.

#### **INTEGRATING PERSONALIZED, NON-MEDICAL IN-HOME CARE INTO THE CARE CONTINUUM**

J. Beck, *Home Instead Senior Care, Omaha, Nebraska*

The economic and social challenges brought on by the world's rapidly aging population require scalable, sustainable solutions to transform this perceived peril into promise. At the same time, global aging presents opportunities for societies and individuals alike – if approached with solutions that meet the needs of this demographic cohort and their caregivers. As the aging demographic shift creates growing demand for elder care services, development and expansion of flexible and affordable options for increasing the world's capacity to care will be required. Both governments and businesses have a role to play in creating new models of care that anticipate future demographic needs. Alzheimer's provides an opportunity to redefine the care ecosystem and provide solutions for many neurodegenerative diseases and age-related chronic conditions. A key to success will be the adoption of a longer-term view of aging, brain health and care support in the community.

#### **ESTABLISHING INTERNATIONAL NORMS FOR ALZHEIMER'S CARE DELIVERY: A GLOBAL PRIORITY**

G. Vradenburg, *The Global CEO Initiative on Alzheimer's Disease, Washington, District of Columbia*

Most nations have not taken the most basic steps in developing a response to the challenge of Alzheimer's and Dementia. For example, only 13 nations of the 194 members of WHO have a dementia plan. Absent a set of international norms, countries are unable to determine whether and to what extent the steps they are taking are adequate or effective. To truly make strides, experts and diverse stakeholders need to align and develop international norms for nations to assess their readiness and capacity to address the challenge of Dementia in their societies. Such norms should be viewed as an international learning system and not as a 'grade' or as 'punitive' in nature. The Global CEO Initiative on Alzheimer's Disease will discuss its efforts to serve as a convener during 2014 to identify these norms, highlight best practices and work with leading international organizations to respond to the challenge of Alzheimer's.

### **SESSION 2095 (SYMPOSIUM)**

#### **PHYSICIAN EXTENDERS IN NURSING HOMES: CONTEXTUAL FACTORS AND IMPACT**

**Chair:** R. Weech-Maldonado, *Health Services Administration, University of Alabama at Birmingham, Birmingham, Alabama*

**Discussant:** K. Hyer, *University of South Florida, Tampa, Florida*

Nursing homes are increasingly using physician extenders (PE) (physician assistants and nurse practitioners) as a staffing strategy, with the proportion of nursing homes using a PE almost doubling from 2000 (19.8%) to 2010 (37.1%). PEs can increase the provision of primary care, and improve the management of acute illnesses as well as care coordination with physicians and nursing staff. As such, PEs may result in lower hospitalizations and rehospitalizations and improved resident outcomes. Furthermore, Medicare reimburses nursing facilities for PEs at 85% of the physician fee schedule for similar services. Therefore, PEs may be a cost-effective staffing strategy to improve nursing home quality. However, further research is needed to examine the contextual factors associated with use of PEs by nursing homes, and their potential impact on quality and financial performance. The papers in this symposium examine longitudinal data (2000-2010) of a national sample

of nursing homes. Data sources include: LTCFocus, Online Survey, Certification and Reporting (OSCAR), Medicare Cost Reports, and the Area Resource File (ARF). The first presentation explores the resident, organizational, and market characteristics of nursing homes associated with use of PEs. The second presentation examines the relationship between use of PEs and hospitalization and rehospitalization rates of nursing homes. The third presentation analyzes the relationship between use of PEs in nursing homes and RN staffing, costs, and financial performance. This symposium will allow participants to understand the factors behind the growth of PEs in nursing homes, and the potential implications of the use of this staffing strategy.

#### **PHYSICIAN EXTENDERS IN NURSING HOMES: IMPLICATIONS FOR RN NURSE STAFFING, COSTS, AND FINANCIAL PERFORMANCE**

R. Weech-Maldonado<sup>1</sup>, R. Pradhan<sup>2</sup>, S. Gupta<sup>1</sup>, *1. Health Services Administration, University of Alabama at Birmingham, Birmingham, Alabama, 2. University of Arkansas Medical Sciences, Little Rock, Arkansas*

The use of physician extenders in nursing homes has the potential to increase Medicare revenues from billable services. PEs may also reduce nursing home costs as a result of lower medication rates, better resident outcomes, and greater RN efficiency. The combination of higher revenues and lower costs may result in better financial performance. Using longitudinal data (2000-2010), this study examines the relationship between use of PEs and RN staffing, costs, and financial performance. Data sources include: LTCFocus, OSCAR, Medicare Cost Reports, and ARF. The dependent variables are RN staffing intensity (RNs per 1000 resident days), operating costs per inpatient day, operating margin, and total margin. The primary independent binary variable identifies the use of PEs. Control variables consist of: size, for-profit status, chain affiliation, payer mix, occupancy rate, case mix, and competition. Data are analyzed using a panel regression with facility and year fixed effects to control for unobserved factors.

#### **USE OF PHYSICIAN EXTENDERS IN NURSING HOMES: RESIDENT, ORGANIZATIONAL, AND MARKET FACTORS**

S. Gupta<sup>1</sup>, N. Patidar<sup>1</sup>, J. Epane<sup>2</sup>, R. Weech-Maldonado<sup>1</sup>, *1. The University of Alabama at Birmingham, Birmingham, Alabama, 2. University of Nevada Las Vegas, Las Vegas, Nevada*

The study examines the resident, organizational, and market factors that may influence nursing homes' decision to have PEs. Longitudinal data (2000-2010) was derived from LTCFocus (N=16,341). The binary dependent variable represented nursing homes' decision to have PEs. The independent variables included resident, organizational, and market characteristics. A panel logistic regression with facility random effects and state and year fixed effects was used for analysis. Significance was determined by p-values < 0.05. Results show that nursing homes operating in markets with higher competition and higher Medicare managed care penetration are more likely to have PEs. Moreover, larger, multi-facility, for-profit facilities, and those with higher occupancy rate and higher hospital admissions are more likely to have PEs. In contrast, nursing homes in counties with higher proportion of residents whose primary support is Medicaid and greater number of hospital-based facilities, and those with more female residents are less likely to have PEs.

#### **THE IMPACT OF PHYSICIAN EXTENDERS ON NURSING HOME HOSPITALIZATION AND REHOSPITALIZATIONS**

R. Pradhan<sup>1</sup>, S. Gupta<sup>2</sup>, R. Weech-Maldonado<sup>2</sup>, *1. University of Arkansas for Medical Sciences, Little Rock, Arkansas, 2. University of Alabama at Birmingham, Birmingham, Alabama*

The objective of this study was to understand the impact of physician extenders (PE) on nursing home hospitalizations and rehospitalizations. Hospitalizations are defined as number of Medicare hospitalizations per 365 residents in a year while readmissions are proportion of hospital

patients admitted to the nursing home readmitted to a hospital within 30 days. The Long-term Care focus data set was used and the analysis was panel regression with state and year fixed effects, adjusting for clustering at the provider level (2000-2010). The dependent variables were hospitalization and rehospitalization rates with presence of P.E. as the independent variable. Control variables included case-mix index, percent female, nurse staffing, size, payer mix, chain affiliation, profit status, and Herfindahl-Hirschman index. Results suggest that PE lower hospitalizations ( $p < .01$ ) with no significant impact on rehospitalizations. Percent female, size, and chain affiliation were associated with lower rates of both hospitalization and rehospitalization. Managerial and policy implications are discussed.

## SESSION 2100 (SYMPOSIUM)

### AN OVERVIEW OF NATIONAL DATA COLLECTION EFFORTS THAT INCLUDE NURSING HOME RESIDENTS

**Chair:** K. Robinson, *Administration for Community Living, Washington, District of Columbia, Social & Scientific Systems, Inc., Silver Spring, Maryland*

**Co-Chair:** R. Hornyak, *Administration for Community Living, Washington, District of Columbia*

**Discussant:** D. Potter, *Agency for Healthcare Research and Quality, Rockville, Maryland*

In 2012, approximately 1.3 million people age 65 and over lived in nursing homes or skilled nursing facilities. While there are complexities involved in collecting data from people living in nursing homes (e.g., moderate to severe cognitive impairment, short tenure, administrative barriers, etc.), several national data collection efforts have found innovative ways to overcome these issues. The Health and Retirement Study and the National Health and Aging Trends Study are two longitudinal studies that follow respondents into nursing homes and continue to interview them with modified survey instruments. The American Community Survey collects important demographic, economic, and disability data on nursing home residents as part of its goal to represent all U.S. residents. Finally, as the agency that administers health care coverage for 100 million Americans, the Centers for Medicare and Medicaid Services, oversees several administrative databases and surveys that collect information on the institutionalized population. These data collection efforts help to fill a critical data gap, not only by ensuring high quality care, but also by monitoring changes in physical and cognitive functioning, relationships with family members, and overall quality of life as these individuals move from their homes into institutional settings. In this symposium, experts from these data collection efforts will discuss the strengths and challenges involved with collecting data from the institutionalized population, explain the different types of data their studies collect, and demonstrate how to access these data sources to provide researchers, program staff, and policymakers with the most recent data available.

### COVERAGE OF NURSING HOME RESIDENTS IN THE HEALTH AND RETIREMENT STUDY (HRS)

M. Ofstedal, D. Weir, K.M. Langa, *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*

The HRS is a nationally representative longitudinal survey of individuals over age 50 in the United States. The survey, which has been fielded every two years since 1992, was established to provide a national resource for data on the changing health and economic circumstances associated with aging at the individual and population levels. Although baseline interviews are conducted with community dwelling persons only, participants who move to nursing homes after baseline are retained and interviewed. The number of nursing home respondents has exceeded 450 in most waves. Among sample members who are found in nursing homes, interviews are obtained for about 90 percent. A self-interview is obtained for one-quarter to one-third of nursing home

participants, the rest are interviewed by proxy (almost always a family member). Beginning around 2000, the HRS sample has well represented the US nursing home population. Nursing home residents are weighted separately from community dwelling participants.

### NURSING HOME DATA COLLECTION IN THE AMERICAN COMMUNITY SURVEY

J.G. Belton, *American Community Survey Office, Bureau of the Census, Washington DC, Maryland*

In January 2006, the American Community Survey (ACS) was expanded to include the population living in Group Quarters (GQ). GQs are places where people live or stay, in a group living arrangement that is owned or managed by an entity or organization providing housing and/or services for residents. Examples of GQs include such places as nursing facilities/skilled-nursing facilities, college/university student housing, and correctional facilities for adults. The ACS conducts data collection at approximately 4,200 nursing/skilled nursing facilities each year. While the response rate at the GQ level for nursing/skilled-nursing facilities is relatively high, the ACS struggles with obtaining quality data at the resident level for this GQ type. The preferred data collection method is a face-to-face personal interview with sampled residents because it allows for a more complete interview. However, because of the uniqueness circumstances at nursing/skilled-nursing facilities, administrative records are often utilized and the use of administrative records impacts data quality

### FACILITY INTERVIEWS IN THE NATIONAL HEALTH AND AGING TRENDS STUDY

L. Branden, S. Genoversa, *Westat, Rockville, Maryland*

This presentation will focus on conducting interviews in residential care and nursing homes for the National Health and Aging Trends Study (NHATS). NHATS is a national longitudinal study of Medicare beneficiaries age 65 and older. Baseline interviews were conducted in 2011 with about 8,000 sampled persons with annual interviews conducted in 2012, 2013, and 2014. Sampled persons who enter residential care facilities are interviewed if they are able to participate; otherwise a proxy interview is conducted. Issues covered will include training, contacting and locating procedures, gaining access to the sample person, determining whether the sample person can participate, and identifying proxy respondents if needed. Contact procedures and interviews with facility staff about the sample person will also be discussed. In Round 3 of NHATS, approximately 13% of the NHATS sampled persons resided in a facility. The NHATS interviews include collection of cognitive measures and physical performance measures.

### INTEGRATING DATA FROM THE FEDERAL NURSING HOME SURVEY AND CERTIFICATION PROCESS AND CLINICAL ASSESSMENT DATA TO INFORM THE PUBLIC AND IMPROVE NURSING HOME QUALITY: THE NURSING HOME COMPARE WEBSITE AND THE FIVE-STAR QUALITY RATING SYSTEM EXPERIENCE

D. Andersen, J.M. Freedlander, I. Kramer, E. Mortimore, *CMS, Baltimore, Maryland*

Each month, multiple data sources are integrated for display on the Nursing Home Compare website to inform consumers and to create Five-Star Quality Ratings in three domains, plus an Overall Five-Star Rating. Data for approximately 16,000 nursing homes, including resident-level data, are collected daily as part of the ongoing federal process of survey and certification conducted by the Centers for Medicare and Medicaid services. Nursing home deficiency data, including resident interview responses and redacted narratives, reported by nursing home inspectors are displayed on Nursing Home Compare and form the basis for the Five-Star Quality Rating System. Additional data collected as part of the detailed clinical assessments of residents captured on the

Minimum Data Set (MDS) are used to create and display clinical quality measures and for case-mix adjusted staffing calculations.

#### **DIRECT INTERVIEWS OF NURSING HOME RESIDENTS**

D. Saliba<sup>1,2,3</sup>, M. Pratt<sup>4</sup>, 1. *UCLA/JH Borun Center for Gerontological Research, Los Angeles, California*, 2. *VA GLAHS GRECC, Los Angeles, California*, 3. *RAND Health, Santa Monica, California*, 4. *Division of Chronic & Post Acute Care, Office of Clinical Standards and Quality, Centers for Medicare & Medicaid Services, Baltimore, Maryland*

In October 2010, all Medicare certified nursing homes in the US began collecting version 3.0 of the Minimum Data Set (MDS). For the first time, the MDS included items based on resident-self report. This more resident-centered approach included items that assessed resident mood, pain, preferences and desire to speak to someone about return to community. The inclusion of resident voice in the assessment represented a significant shift. National testing showed that resident interviews improved efficiency, reliability, validity and user-rated clinical relevance of the assessment. The MDS is collected on all residents in Medicare certified NHs and in VA Community Living Centers, thus providing important insights into resident's needs. We will discuss the advantages and challenges of using interviews to complete this core resident assessment.

### **SESSION 2105 (SYMPOSIUM)**

#### **DIFFERENT APPROACHES TO CROSS-NATIONAL AND INTERNATIONAL RESEARCH ON AGING**

**Chair:** P. Sauer, *Miami University, Oxford, Ohio*

**Co-Chair:** E. Gonzales, *Boston University, Boston, Massachusetts*

**Discussant:** S.R. Kunkel, *Boston University, Boston, Massachusetts*

Cross-national and international research on aging poses many interesting challenges to students, emerging and experienced scholars alike. Therefore, ESPO's International Task Force would like to illustrate how a diverse panel of junior and senior researchers approaches this type of research. The four panelists will present their work on understanding late-life volunteerism cross-nationally, the impact of social healthcare insurance on low-income older Mexicans, the association between working hours and happiness across the Confucian culture zone including China, Japan, Korea and Taiwan, and the relationship between national healthcare infrastructure and older adults' care preferences across European countries. Following these presentations, there will be ample opportunity to engage in discussion with the audience about the challenges of this type of research (e.g., methodological approaches, international datasets, lessons-learned). We aim to increase awareness and scholarship of international aging research in preparation for IAGG's World Congress of Gerontology and Geriatrics in 2017 which will be hosted by GSA.

#### **LATE LIFE VOLUNTEERING ACROSS COUNTRIES: DEFINITIONAL DIFFERENCES**

H. Chen, N. Morrow-Howell, *Washington University in St. Louis, St. Louis, Missouri*

This study aims to compare the definition of volunteering and examine how definitional differences influence volunteer rates and type of volunteer services provided by older adults. Data derive from two sources: census data available from national public agencies; and the published literature on older volunteers in North America, Europe, and East Asia. Data revealed substantial variation in definitions of volunteering across countries. These variations likely contribute to the wide range in volunteer rates, with a high of 24.4% in the US and a low of 2.4% in Spain. Recreational activities were included in social democratic countries (like Finland, Sweden), whereas service-oriented activities are the focus in liberal and corporatist states (like United States, Canada). In transitional democratic countries (like China), union membership

and government mandated events were considered as volunteer work. Cross-country comparison of volunteer rates by older adults is challenged by inconsistent and broad definitions of formal volunteering.

#### **NATIONAL HEALTHCARE INFRASTRUCTURE & CARE PREFERENCES AMONG OLDER ADULTS WITH CHRONIC DISEASE IN EUROPE**

C.A. Mair<sup>1</sup>, A.R. Quinones<sup>2</sup>, M. Pasha<sup>3</sup>, 1. *Dept. of Sociology and Anthropology, University of Maryland, Baltimore County, Baltimore, Maryland*, 2. *Portland VA Medical Center & Oregon Health & Science University, Portland, Oregon*, 3. *Columbia, New York, New York*

Older adults with chronic illness face physical and financial health burdens that may shape their preferences for old age support. Cross-nationally, older adults' preferences for old age support may also be shaped by national funding availability for public health, disability/sickness, and long term care. We use multilevel modeling to examine individual-level health burden and nation-level healthcare infrastructure as predictors of older adults' preferences for family- or state-based support in 14 European nations using data from the Survey of Health, Ageing and Retirement in Europe (SHARE) and the Organisation for Economic Cooperation and Development (OECD). We find that older adults with chronic disease who have high financial health burdens or who live in a nation with stronger national healthcare infrastructures prefer state-based support over family care. We discuss these findings in light of older adults' financial strain and the future role of specialized health support programs, such as long term care.

#### **THE IMPACT OF SOCIAL HEALTH INSURANCE IN THE USE OF PREVENTIVE CARE AMONG OLDER LOW-INCOME MEXICANS**

M. Rivera-Hernandez, V. Mor, O. Galarraga, *Brown University, Providence, Rhode Island*

Diabetes and hypertension in older adults are substantial and growing global health problems, with racial/ethnic minorities suffering from increased prevalence, inadequate control and elevated mortality [1,2]. To minimize health inequalities, the Mexican government passed a major health care reform and Seguro Popular [SP; insurance for the poor] was introduced in 2001. However, there is limited evidence on how SP has impacted health outcomes and health care utilization for older adults. We examined the impact of SP on the use of diabetes and hypertension screening among poor older adults in Mexico using repeated cross-sectional data from the Encuesta Nacional de Salud y Nutrición (ENSANUT) 2000, 2005-2006 and 2012 surveys. To adjust for endogeneity biases, we conducted an instrumental variable estimation. The results suggest positive increase in the use of preventive care for SP enrollees compared to the uninsured (29% for hypertension and 32% for diabetes).

#### **ARE EAST ASIANS HAPPY TO WORK MORE OR LESS? AN ANALYSIS OF CHINA, JAPAN, SOUTH KOREA AND TAIWAN**

T. Yamashita<sup>1</sup>, A.R. Bardo<sup>2</sup>, D. Liu<sup>1</sup>, 1. *University of Nevada, Las Vegas, Las Vegas, Nevada*, 2. *Miami University, Oxford, Ohio*

The present study analyzed the internationally representative 2010 East Asian Social Survey to examine the association between working hours and happiness across the Confucian culture zone including China, Japan, Korea and Taiwan. Results showed that working hours were only associated with happiness in Japan and Taiwan, but not in China or South Korea despite their shared cultural values. Findings from this study indicate that happiness is likely influenced by complex social forces, such as level of economic development, culturally guided work-family balance, degree of assimilation to Western values, and other sociodemographic trends in East Asia. In addition to the shared Confucian value system, each East Asian nation seems to form their



own perceptions of happiness according to their unique historical, economic, and social backgrounds. Findings from the present study could be useful for developing culturally sensitive public policy to promote the happiness of workers in East Asia.

## SESSION 2110 (SYMPOSIUM)

### PERSPECTIVES ON THE HOUSING AND HEALTH STATUS OF OLDER HOMELESS ADULTS

**Chair:** L. Thomas, *Social Work, University of North Carolina at Charlotte, Charlotte, North Carolina*

**Discussant:** J.G. Gonyea, *Boston University, Boston, Massachusetts*

The negative health, mental health, and social outcomes associated with homelessness are exacerbated for homeless adults over the age of 50 as the impacts of homelessness interact with and accelerate aging processes. Despite a complex and daunting combination of issues to address, permanent supportive housing (PSH) effectively ends homelessness and has been linked to improved physical and mental health outcomes and reduced health service utilization among formerly homeless adults. Less is known, however, about the impact of PSH on older homeless adults and the challenges faced as they enter housing and age in place. This panel presents new findings on the impact of PSH on older homeless adults and explores issues related to their health and tenancy. The first paper examines factors that predict housing in a cohort of older homeless adults and differing health and health utilization outcomes between those who were housed and those who were not. The second paper compares three groups of older veterans in order to examine the impact of PSH on Veterans Administration health and behavioral health services utilization. The third paper uses mixed-methods to examine the role of age and other factors in housing outcomes and as well as the challenges of working with a population aging in PSH. The fourth paper examines predictors of perceived health and mental health among older and younger homeless adults in PSH. The final paper explores how older homeless adults view themselves and how their identity may be shaped by their housing status.

### HEALTH OUTCOMES OF OBTAINING HOUSING AMONG OLDER HOMELESS ADULTS

R.T. Brown<sup>1</sup>, Y. Miao<sup>1</sup>, S.L. Mitchell<sup>2</sup>, M. Steinman<sup>1</sup>, *1. Division of Geriatrics, University of California, San Francisco/San Francisco VA Medical Center, San Francisco, California, 2. Hebrew SeniorLife Institute for Aging Research, Boston, Massachusetts*

Housing appears to improve health status and reduce acute care use among subgroups of the homeless population, such as those with severe mental illness. Little is known about the health outcomes of obtaining housing in the growing population of older homeless adults. We conducted a 12-month prospective cohort study of 250 homeless adults aged 50 and older recruited from shelters in Boston. At 12 months, 41% of participants had obtained housing. Participants who reported using a clinic as their usual source of healthcare (versus an emergency department) were more likely to obtain housing. Compared to participants who remained homeless at follow-up, those who obtained housing were less likely to have worsened depressive symptoms (Patient Health Questionnaire 9) at follow-up compared to baseline. Obtaining housing was associated with less emergency department use and fewer hospitalizations. Older homeless adults who obtain housing may experience improved health status and reduced acute care use.

### ESTIMATING COST SAVINGS ASSOCIATED WITH HUD-VASH PLACEMENT FOR OLDER HOMELESS VETERANS

T.H. Byrne, *School of Social Policy and Practice, University of Pennsylvania, Philadelphia, Massachusetts*

This study assesses the extent to which the placement of older homeless Veterans (ages 55+) in a joint HUD-VA permanent supportive housing program (HUD-VASH) is associated with reductions in the cost

of VA health services utilization. We used a difference-in-difference approach to compare changes in VA service use pre/post HUD-VASH move-in for HUD-VASH tenants to changes in VA service use over the corresponding time period for both homeless and housed matched Veteran comparison groups. Among HUD-VASH tenants, VA health services costs decreased by \$13,128 from 1-year before move-in to 1-year after move-in relative to the homeless Veteran comparison group. Additionally, there were no significant differences in the cost of VA health services between HUD-VASH tenants and their housed counterparts in the 1-year period following HUD-VASH move-in. These findings suggest that for older homeless Veterans, HUD-VASH placement may generate substantial health care cost savings.

### AGING IN PLACE IN PERMANENT SUPPORTIVE HOUSING

B. Henwood<sup>1</sup>, T. Gilmer<sup>2</sup>, M.L. Katz<sup>3</sup>, *1. Social Work, University of Southern California, Los Angeles, California, 2. University of California San Diego, San Diego, California, 3. VA Greater Los Angeles Healthcare System, Los Angeles, California*

This mixed-methods study explores whether and how permanent supportive housing (PSH) can support successful aging in place. Quantitative analysis using a state level database of 67 PSH programs showed that as opposed to those who are younger (n=4927), older adults (n=3758) spent significantly fewer days homeless pre-enrollment. Still, older adults spent significantly less time homeless 1 year post- versus pre-enrollment partially due to increases in days living in an apartment and days living in congregate settings. Qualitative case study analysis of a program that exclusively served older adults revealed that limited mobility, depression, and lack of social support were viewed to be a bigger issue than substance abuse. End-of-life care was also regarded as the “elephant in the room” that providers were not prepared to address. These findings show that PSH is an effective way to end homelessness yet programs need additional supports and/or trainings to support aging in place.

### PERCEIVED HEALTH AMONG OLDER HOMELESS ADULTS IN PERMANENT SUPPORTIVE HOUSING

L. Thomas<sup>1</sup>, M. Clapsadl<sup>1</sup>, J. Shears<sup>2</sup>, *1. Social Work, University of North Carolina at Charlotte, Charlotte, North Carolina, 2. University of North Carolina at Greensboro, Greensboro, North Carolina*

Homeless adults have poorer health and mental health than the general population. Those over the age of 50 are particularly vulnerable, experiencing high rates of chronic health, mental health, and geriatric conditions. This longitudinal study examined the perceived health and mental health among older and younger homeless adults before and after entering a permanent supportive housing (PSH) program. Although older PSH tenants had more disabling conditions at baseline than did younger tenants, no difference was found between the age groups in their perceived physical or mental health. Across both groups, a positive correlation was found between general quality of life at baseline and perceived mental health at six months. Perceived social support from friends and number of disabling conditions were predictors of perceived mental health, but not physical health. This study expands research on older adults in PSH and offers insight into factors that may be associated with health outcomes.

### HOUSING STATUS AND SELF-IDENTITY: MANAGING THE STIGMA OF BEING OLD AND HOMELESS

K. Melekis<sup>1</sup>, J.G. Gonyea<sup>2</sup>, *1. University of Vermont, Burlington, Vermont, 2. Boston University, Boston, Massachusetts*

While research is emerging on the pathways into, and the lived experiences of, homelessness in later life; there is no research exploring how older adults who find themselves homeless negotiate their identities in a society in which both “the homeless” and “the elderly” are

negatively perceived. Using a symbolic interactionist approach, this qualitative study explored the social space in which 20 urban older homeless adults negotiated their identities and sought to protect their self-concepts despite membership in low status groups. Findings illustrate the range of strategies in which they engaged to manage stigma. The data underscore the role of reactive identity work, as participants engaged in self-disidentification to manage the discrepancies between internal identification and external ascription. Findings highlight the relationship between housing status and self-identity, and have implications for the importance of permanent housing not only in terms of the provision of shelter and security, but for positive self-concept.

## SESSION 2115 (SYMPOSIUM)

### A STATE SCORECARD ON LONG-TERM SERVICES AND SUPPORTS FOR OLDER ADULTS, PEOPLE WITH PHYSICAL DISABILITIES, AND FAMILY CAREGIVERS: SECOND EDITION

**Chair:** S.C. Reinhard, *AARP Public Policy Institute, Washington, District of Columbia*

In the ever-evolving long-term service and supports system and with the constant challenges in data availability, state performances vary widely. Even more important is how performances change over time. That is why The AARP Public Policy Institute (PPI), in collaboration with its partners at The SCAN Foundation and The Commonwealth Fund, will release the second edition of the State LTSS Scorecard in June, 2014. Based on a multi-dimensional approach and engaging a team of national advisors, this new edition of the State LTSS Scorecard features a new dimension, and revisits state performance across four other key dimensions of LTSS system performance including: affordability and access; choice of setting and provider; quality of life and quality of care; and support for family caregivers. This Scorecard features collaborations with several aging and disability research experts, including Dr. Joe Coughlin (MIT AgeLab), Dr. Vince Mor (Brown University), Dr. Lauren Harris-Kojetin (Center for Disease Control), Dr. Carol Irvin (Mathematica Policy Research), and Dr. Kevin Mahoney (Boston College.) Their data allowed us to rank states on nursing home quality, effective transitions, participant-directed services, and assisted living unit counts. Each researcher will present on the challenges they faced in adapting their data to rank states on individual indicators, as well as gaps they encountered in state and national data collection.

### MEASURING EFFECTIVE TRANSITIONS IN LONG-TERM CARE

C. Irvin<sup>1</sup>, A. Houser<sup>2</sup>, R. Borck<sup>1</sup>, L. Ruttner<sup>1</sup>, *J. Mathematica Policy Research, Cambridge, Massachusetts, 2. AARP, Washington, District of Columbia*

The second edition of the State LTSS Scorecard includes a new dimension that captures state performance in transitions among long-term care settings. Two of the six indicators that make up the Effective Transitions dimension include: (1) nursing home stays lasting 100 days or more and (2) nursing home stays of 90+ days that end by a transition to the community. Using the 2009 Chronic Conditions Warehouse Timeline file, we find that 20 percent of the 755,454 million Medicare beneficiaries who started a nursing home stay in 2009 eventually became long-term residents of nursing homes. Approximately 8 percent of the nearly 1.4 million Medicare beneficiaries in nursing home care for 90+ days successfully transitioned to the community that year. The results suggest variability in state performance on both measures. The derived state rankings for each are not highly correlated ( $r^2=0.31$ ), suggesting the measures capture different aspects of state long-term care systems.

### NATIONAL STUDY OF LONG-TERM CARE PROVIDERS: 2012 NATIONAL AND STATE RESULTS ON FIVE MAJOR SECTORS

L. Harris-Kojetin, M. Sengupta, L.L. Dwyer, C. Caffrey, E. Park-Lee, R. Valverde, V. Rome, *National Center for Health Statistics, Hyattsville, Maryland*

NSLTCP is a groundbreaking, biennial initiative by CDC's National Center for Health Statistics to monitor the diverse long-term care services industry. NSLTCP uses survey data on adult day services centers and residential care communities (RCCs); and administrative records data on home health agencies, nursing homes, and hospices. NSLTCP findings provide national and state benchmarks that may be useful for the State LTSS Scorecard. NSLTCP topics include Medicaid participation; capacity; services provided; staffing; practices such as depression screening; and provider-level distributions of users' demographics, need for assistance in activities of daily living, selected medical conditions, and hospitalizations. Differences exist by sector and state on a variety of characteristics. For example, among sectors, national daily use rates per 1,000 persons aged 65 and over were highest for nursing homes, although in 12 states the nursing home rate was equal to or lower than the RCC rate. Additional state-level findings will be presented.

### ASSESSING THE PRESENT AND FUTURE OF PARTICIPANT DIRECTION: FINDINGS AND METHODOLOGICAL CHALLENGES

K.J. Mahoney<sup>1</sup>, E.K. Mahoney<sup>1</sup>, S. Barrett<sup>1</sup>, C. Bouzan<sup>1</sup>, S. Crisp<sup>1</sup>, M. Sciegaj<sup>2</sup>, S. Suzuki<sup>1</sup>, K. Wang<sup>1</sup>, *1. Graduate School of Social Work, Boston College, Chestnut Hill, Massachusetts, 2. Pennsylvania State University, University Park, Pennsylvania*

The purpose of the 2013 National Resource Center for Participant-Directed Services (NRCPDS) National Inventory was to collect information on trends and program characteristics of over 250 publicly funded participant-directed long-term services and supports (PD-LTSS) programs across the United States. Data reflect the overall growth, current condition, and state to state variations in PD-LTSS programs nationwide. Measurable outcomes evaluated include flexibility, accessibility, and integrity of PD-LTSS programs. Emerging shifts include assimilation into managed care and increasingly variable reporting systems. Capturing National Inventory information has proven crucial in identifying challenges in not only PD-LTSS expansion, accessibility, and quality nationwide but also in identifying barriers to collecting this type of data. The NRCPDS National Inventory will continue to serve as a unique tool by informing ways to improve participant choice and control through policy and research.

## SESSION 2120 (SYMPOSIUM)

### CHRONIC PAIN AND SUFFERING IN OLDER ADULTS: SCIENTIFIC EVIDENCE AS GROUND FOR A MORAL IMPERATIVE

**Chair:** M.E. Morrissey, *Fordham University Graduate School of Business Administration, New York, New York*

Persistent pain and unbearable suffering in older adults are unrecognized public health and clinical problems across diverse communities that demand the urgent attention of policy makers, legislators and scientists (Institute of Medicine, 2011). These problems are made more urgent by loss and grief in old age, and the needs and distress experienced by family caregivers who are often performing complex medical tasks for their loved ones (Reinhard & Levine, 2012), as well as providing social support in the absence of clear, comprehensive policy. This symposium will address interdisciplinary science perspectives in health and aging, public health, nursing, medicine, and gerontological social work, to inform and guide policy, research, practice interventions, and workforce development. The first and second presenters will frame the theoretical and policy foundations for these important discussions,

drawing on international human rights conventions, human science frameworks, public health ethics, and government policies. The third presenter will review current scientific evidence and gaps in geriatric pain and palliative care research, making recommendations for workforce development, including education and training for health professionals and pre-professionals. The fourth and fifth presenters will focus on clinical practice interventions targeting chronic pain, loss and grieving among older adults and their family caregivers. Finally, presenters will respond to the overarching question as to whether persistent, unrelieved pain and pain disparities in the older adult population present a moral imperative supported by robust scientific evidence across the domains of policy, research and practice, that call for immediate steps in advocating for a national pain agenda.

### **CHRONIC PAIN AND CHRONIC ILLNESS: THE PUBLIC HEALTH RESPONSE TO ELDER SUFFERING**

M.E. Morrissey, *Graduate School of Social Service, Fordham University, White Plains, New York*

Research evidence continues to mount about the twin health problems that most aging Americans will face in their later years: chronic illness and chronic pain. Recent studies highlight the prevalence of chronic illness and chronic pain, and a positive association between pain and chronic illness burden among older adults. In first person narrative accounts of frail elders themselves, descriptions of chronic pain, suffering and traumatic losses experienced in living with chronic illness were salient. In light of this growing body of evidence of elder suffering, this presentation will focus on rights to palliative care and pain management for diverse elders under legal and regulatory frameworks, as well as the relationship between the right to health and human rights. Recommendations will be made regarding fashioning appropriate policy responses to the chronic pain public health crisis, including public health approaches to integration of palliative care across health systems in diverse communities.

### **THE ROLE OF POLICY IN ENSURING ACCESS TO CONTROLLED SUBSTANCES IN THE TREATMENT OF PAIN**

J. Cleary, *1. UW School of Medicine and Public Health, Madison, Wisconsin, 2. Pain and Policy Studies Group, Madison, Wisconsin*

“The medical use of narcotics “continues to be indispensable for the relief of pain and suffering. ...adequate provision must be made to ensure the availability of narcotic drugs for such purposes” (Preamble, Single Convention of Narcotic Drugs, 1961). The WHO defines morphine as an essential medicine, now included in the Essential Medicines List for Pain and Palliative care. In order to ensure their medical use, the “principle of balance” is applied, ensuring that these medicines are accessibility for medical purposes while working to reduce misuse, abuse and diversion. While opioids are readily available in the United States, there are still many barriers to their accessibility. These barriers can be defined according to 1) laws and policies, 2) medicine availability and 3) clinician education. Many US States have had significant barriers to opioid availability in their laws of policies. Based on efforts based in palliative care and end of life initiatives, State Report Cards in Pain Policy have been constructed over the last 10 years. Most states have shown improvement in these policies. However at the same time, deaths associated with opioid use have increased. While there is no denying the major increase in opioid use in the US, and that there is still a great need for clinician pain education analysis of this data indicates that most of the deaths are associated with a combination of opioids, sedatives and alcohol and 1/3 are associated with Methadone which only represents 3% of pain prescriptions. This data will be reviewed particularly from the perspective of those among the 100 million Americans suffering with pain, including the elderly, who may benefit from these essential medicines.

### **QUALITY CHRONIC PAIN CARE FOR ALL OLDER ADULTS: CURRENT PRACTICE, GAPS AND RECOMMENDATIONS**

K.A. Herr, *College of Nursing, University of Iowa, Iowa City, Iowa*

Persistent pain is a long-recognized problem in older adults across care settings that has a profound effect on function and quality of life. For over two decades research has improved the science on which to base clinical care decisions for this vulnerable population. Yet, after years of increased awareness and efforts to build an evidence base to improve quality of care, inadequacies in our health care system are evident. This presentation will highlight current evidence on implementation of assessment and treatment best practices, noting gaps that must be addressed. The state of science to guide assessment and treatment of chronic pain in older adults will be addressed. Recommendations are provided for strategies to address the imperative to improve the quality of pain care for all older adults, including future workforce development and research priorities.

### **INTERPROFESSIONAL TEAM APPROACH TO PAIN ASSESSMENT AND MANAGEMENT: IMPLICATIONS FOR HIGH QUALITY PERSON-CENTERED CARE**

T.V. Caprio, *1. Medicine/Geriatrics & Aging, University of Rochester, Rochester, New York, 2. Visiting Nurse Hospice, Webster, New York, 3. Rochester-Canandaigua VAMC, Canandaigua, New York*

The development of pain as the “Fifth Vital Sign” has raised pain assessment to the level of a quality of care metric, yet marked inconsistencies remain in the quality of pain screening efforts and in the development of pain care plans across clinical settings including outpatient practices, nursing homes, hospitals, hospice, and home care. Clinical teams are often poorly equipped with appropriate training in pain assessment and there has been a reductionist approach to pain screening simply by capturing a self-report on a numeric pain rating scale. A comprehensive approach to clinical pain management requires an interprofessional and person-centered approach which is appropriately captured in clinical documentation and within a team communication framework, utilizing both pharmacologic and non-pharmacologic approaches to improve quality of life. This presentation will discuss this interprofessional team approach to pain management, highlighting the areas for effective communication and documentation, and developing a approach for assessing pain for those with dementia.

### **CHRONIC PAIN: ISSUES OF LOSS AND GRIEF FOR OLDER ADULTS AND THEIR FAMILY CAREGIVERS**

N.R. Hooyman, *School of Social Work, Seattle, Washington*

Profound feelings of loss and grief are often experienced by people who are suffering from chronic pain. But these feelings may be discounted by health professionals or misdiagnosed as depression, often resulting in additional suffering for both older adults and their family caregivers. This presentation will address types of losses frequently experienced by those suffering from chronic pain, the ways in which grief may manifest and intersect with other losses, and how types of losses experienced may vary with culture, race and gender. There is a growing body of evidence that suggests the importance of health care providers addressing the psychosocial aspects of loss and grief, not only the physical symptoms of pain. Implications for clinical practice with older adults with chronic pain will be discussed within an overall framework of culturally competent care.

**HOSPICE AND END OF LIFE CAREGIVING****UNDERSTANDING VARIATION IN UTILIZATION OF HOSPICE INPATIENT RESPITE CARE**

A. Pozniak<sup>1</sup>, M.R. Plotzke<sup>1</sup>, K.E. Lucas<sup>2</sup>, 1. *Abt Associates, Cambridge, Massachusetts*, 2. *CMS, Baltimore, Maryland*

We used 2012 Medicare hospice claims to analyze utilization of inpatient respite care (IRC). We found 3.5% (N=45,116) of hospice beneficiaries received at least one day of IRC in 2012. These beneficiaries had a total of 64,606 IRC stays associated with a total of 275,784 IRC days ("IRC stay" is defined as consecutive IRC days in the hospice claims). Among beneficiaries who had any IRC days, 77% had only one stay. The most common site of service for IRC was an inpatient hospice setting (34%), followed by skilled nursing facility (28%), LTC nursing facilities (18%), and hospitals (13%). The average length of stay for IRC was 4.3 days and varied by site of service (slightly shorter at inpatient hospitals compared to other settings). Sixty-two percent of IRC stays were 5 days; 5 days was also the mode and median. Seventy-four percent of hospice providers provided at least one IRC day in 2012. The average share of hospice days billed as IRC was 0.4%, but a small number of providers exceeded 2%. A higher proportion of older hospices provide IRC than younger hospices, and nearly all large hospices provide IRC compared to about a third of small hospices. A higher percentage of hospice providers in the Midwest and New England states provided IRC compared to hospice providers in the West or South. Variations in utilization and provider characteristics may have implications regarding the availability of short term inpatient relief for caregivers of hospice beneficiaries.

**UNATTENDED SORROW IN THE WORKPLACE: CARE AIDES' GRIEF WHEN RESIDENTS DIE**

S. Caspar, P.A. Ratner, A. Phinney, *University of British Columbia, Vancouver, British Columbia, Canada*

**Purpose:** Central to the provision of person-centred care is the development of a positive, caring relationship between care recipients and formal caregivers. The development of these meaningful relationships is essential to both the quality of care and the quality of life in residential care facilities (RCFs). The purpose of this study was to explore how the experience of grief resulting from residents' deaths influences RCF staff members' disposition to develop caring and meaningful relationships with the residents for whom they provide care. **Methods:** We conducted an institutional ethnography to explore the social organization of care work in RCFs. The study was set in three RCFs and included 104 hours of naturalistic observation and 76 in-depth interviews with senior administrators, management, staff, residents, and residents' family members. **Results:** The care aides experienced considerable grief in response to residents' deaths, which occurred frequently. They reported receiving minimal if any support from management or the institutions within which they worked as they managed their grief. The most prominent source of support provided was from fellow care aides, which was largely dependent upon the presence of positive workplace relationships. When no support was available, the care aides were reluctant to form attached relationships with the residents, whom they described as being "here to die." **Implications:** Management initiatives are needed to encourage the formation of caring and meaningful relationships between care aides and residents and to support care aides when a relationship ends because of the death of a resident.

**DELIRIUM: ASSESSMENT AND MANAGEMENT FOR OPTIMAL END OF LIFE IN A HOSPICE SETTING**

C. Luz<sup>1</sup>, M.D. Ensberg<sup>2</sup>, 1. *Michigan State University, East Lansing, Michigan*, 2. *Sparrow Senior Health Center, Lansing, Michigan*

Evidence exists that delirium is not well understood in nursing homes and hospice settings. It is frequently misdiagnosed and inappropriately treated. Symptoms are seldom differentiated from dementia or depression. Rather, they may be grouped under headings such as "terminal restlessness". Pharmacotherapy is the most common response to a range of symptoms including agitation, sleep disruption, emotional lability, and hyperactivity. This represents a critical gap in best practices since delirium and depression are distinctly different from dementia in that they are potentially reversible. Appropriate assessment and management are essential as delirium compromises optimal health and quality of life. As part of a national Geriatric Education Centers' initiative, the Geriatric Education Center of Michigan developed and tested a training program for health teams working with older adults at end of life who are exhibiting symptoms of delirium, depression and dementia. It was presented to staff of a mid-Michigan in-patient hospice unit and consisted of a 2 hour didactic in-service and 10 team meetings for applied learning using actual case reviews. Content focused on understanding delirium; using an evidence-based screening tool; differentiating delirium from dementia; non-pharmaceutical interventions, and effective interdisciplinary care planning. 45 staff members representing 6 disciplines participated. Pre-posttests indicated significant knowledge gain; team meeting notes and care plans indicated transfer of knowledge into clinical practice; staff expressed improved satisfaction; and organizational changes are being made to sustain the program goals. Follow-up focus groups are being conducted and plans are underway to replicate and evaluate the program in other hospice settings.

**EXAMINING PALLIATIVE CARE IN NURSING HOMES**

N. Castle<sup>1</sup>, J. Engberg<sup>2,1</sup>, 1. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *RAND, Pittsburgh, Pennsylvania*

Many studies have explored clinical and economic effects of palliative care consultations in the acute care inpatient setting. In general, these acute care studies have identified that palliative care results in an improved patient experience with cost savings or cost neutrality. Palliative care practices have diffused into nursing homes, particularly for special populations such as for residents with advanced dementia, but they are far less prevalent than in acute settings. Identifying potential cost savings (and quality improvements) may be an effective means of changing policy to further diffuse palliative care practices into nursing homes. In this study, a simulation analysis of the potential cost savings and quality changes applied to nationally representative groups of nursing homes with varying policy, resident, and payor mixes is presented. Information for this simulation study came from a case study of palliative care in four facilities, a literature review, and cost information from nursing home billing/reimbursement systems. The potential impact to a facility, residents, Medicare, and Medicaid when implementing palliative care is discussed.

**FLORIDA ASSISTED LIVING FACILITY END-OF LIFE DIRECT CARE STAFF TRAINING: THE IMPACT ON RESIDENT HOSPICE AND PALLIATIVE CARE UTILIZATION**

S.J. Brande, D. Dobbs, *Ageing Studies, University of South Florida, Tampa, Florida*

According to the national hospice figures 116,000 of the 1.6 million decedents who received hospice care in the United States received it in assisted living (AL) settings, an increase from 2011. Given the growing demand for end-of-life care in AL, there is interest in direct care staff training patterns related to end-of-life care and whether it affects the use of hospice. This study examined the amount of direct care staff trained and hospice use in AL. A pilot sample of licensed ALs in Florida (N=48)

were surveyed between 2009-10 about end-of-life training practices for direct care staff and hospice use in the past three months. The eligible facility sample (N=48) represents 2,526 residents. Fifty-six percent were 75y≤; 81.69% were white, and 84.87% were female. Two multivariate analysis of variance models were conducted, one with small ALs (10–55 residents) and the other with large ALs (55< residents) using a three level covariate of the percent of trained staff (1=0, 2=1-59% and 3=60-100%) and the number of residents who used hospice (past three months) as the outcome. The MANOVA model of large ALs had a main effect of resident hospice use, Roy's Largest Root=.431, F(2,17) = 3.660, p=.048, partial eta squared=.301. The number of residents who used hospice (M=6.30, SD=5.314) and 60%-100% trained direct care staff resulted in a significant between-subjects effect, F(2)=3.607, p=.049, partial eta squared=.298. End-of-life staff training programs in AL could potentially increase hospice care for AL residents in larger ALs with more staffing resources.

## SESSION 2130 (SYMPOSIUM)

### A NATIONAL PERSPECTIVE ON PARTICIPATION IN VALUED ACTIVITIES: RESTRICTIONS AND POSITIVE INFLUENCES

**Chair:** J. Kasper, *Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

**Discussant:** E. Agree, *Johns Hopkins University, Baltimore, Maryland*

The National Health and Aging Trends Study (NHATS) was developed as a resource for the study of late life disability trends and dynamics in older people in the US. As a nationally representative study of Medicare beneficiaries ages 65 and older, NHATS provides data on functioning across the spectrum and, in addition to assessments of activities of daily living, incorporates information on participation in social, generative, productive activities. Attention to participation allows for study of important aspects of quality of life for older adults beyond the realm of self-care. The papers in the session examine health factors that potentially restrict participation, the role of core social networks in participation, and favorite activities of older adults. Two papers in this session focus on the relationship of two highly prevalent problems at older ages – pain and sleep disturbances— to ability to participate in valued activities. A third paper investigates the relationship of participation to core social networks, and discusses whether bolstering participation in valued activities could improve the social networks of older adults. A final paper explores favorite activities reported by older adults and variations by gender, health and other characteristics. Together these papers contribute to a developing literature on factors that influence participation, and provide new national estimates of the productive activities that older adults value and engage in. A brief overview of NHATS will be provided and a discussant will identify themes and promising future directions for research.

### IMPACT OF PAIN ON SOCIAL PARTICIPATION AMONG OLDER ADULTS IN THE UNITED STATES

K. Patel, D. Turk, *University of Washington, Seattle, Washington*

Chronic pain is common in older adults and is associated with decreased physical capacity; however, few studies have investigated the impact of pain on restricting participation in valued social activities (e.g., visiting with friends; attending clubs). We analyzed data from the 2011 National Health and Aging Trends Study (N=7,307). Prevalence of participation restriction was higher among older adults reporting pain (26.8%) than in those without pain (9.6%) [adjusted Prevalence Ratio=2.65 (95% Confidence Interval: 2.34-3.01)]. Participation restriction increased with greater anatomic sites of pain (15.3%, 21.6%, 26.1%, and 39.0% among those with 1, 2, 3, and ≥4 pain sites, respectively; P<0.001). Although adjustment for physical capacity, depressive symptoms, social network size, and other demographic/health charac-

teristics attenuated the association, the number of pain sites remained strongly associated with participation restriction (P<0.001). In summary, social participation is substantially reduced among older adults with pain, representing an important outcome to target for interventions.

### INSOMNIA SYMPTOMS AND PARTICIPATION IN VALUED ACTIVITIES IN U.S. OLDER ADULTS: THE NATIONAL HEALTH AND AGING TRENDS STUDY

A.P. Spira<sup>1</sup>, C.N. Kaufmann<sup>1</sup>, J. Kasper<sup>1</sup>, M.M. Ohayon<sup>2</sup>, G. Rebok<sup>1</sup>, E. Skidmore<sup>3</sup>, J.M. Parisi<sup>1</sup>, C. Reynolds<sup>4</sup>, 1. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*, 2. *Stanford University School of Medicine, Stanford, California*, 3. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 4. *University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania*

Few studies have investigated the association between insomnia symptoms and participation in valued activities among older adults. Using data from 6,050 adults aged ≥65 in the National Health and Aging Trends Study, we determined the association between number of insomnia symptoms (0, 1, or 2) and functional outcomes, including restricted participation in four valued activities. After adjustment for demographic characteristics, medical conditions, body mass index, psychiatric symptoms, cognitive performance, and sleep medication use, insomnia symptoms were associated with a greater odds of restricted participation in ≥1 valued activity (1 symptom vs. 0, odds ratio (OR)=1.32, 95% confidence interval (CI) 1.07, 1.65; 2 symptoms vs. 0, OR=1.58, 95% CI 1.19, 2.11), and in specific valued activities (going out for enjoyment, attending religious services). Insomnia symptoms may be a risk factor for restricted participation in valued activities in community-dwelling older adults, and warrant greater investigation as a potential cause of functional decline.

### VARIATIONS IN SIZE AND COMPOSITION OF CORE SOCIAL NETWORKS: ASSOCIATIONS WITH SOCIAL PARTICIPATION

D.L. Roth, L.J. Samuel, J. Huang, E. Tanner, J. Wolff, *Johns Hopkins University, Baltimore, Maryland*

Social contact and participation are established predictors of health, longevity, and well-being among older adults. Community-dwelling NHATS participants (N = 6680) were asked to name up to 5 “core” social network members with whom they talk about important matters. The size and composition (e.g., family vs. non-family) of these core networks were analyzed in relation to demographic variables and social participation (e.g., volunteerism, religious attendance). Older age was associated with having fewer non-family core network members. Men listed fewer core network members than women, although married men were more likely than married women to name their spouse. Religious service attendance was associated with having more family and non-family network members, whereas engaging in volunteer work was associated with having more non-family network members only. The correlates of social network size and composition suggest avenues for interventions aimed at reducing social isolation and increasing social participation in specific demographic subgroups.

### OLDER ADULTS' FAVORITE ACTIVITIES

S. Szanton<sup>1</sup>, R. Klimmek<sup>1</sup>, L. Roberts<sup>1</sup>, R. Thorpe<sup>1</sup>, J. Wolff<sup>1</sup>, E. Agree<sup>1</sup>, L.N. Gitlin<sup>1</sup>, C.L. Seplaki<sup>2</sup>, 1. *Johns Hopkins University, Baltimore, Maryland*, 2. *University of Rochester, Rochester, New York*

While much is known about staying engaged to stay healthy at older ages, we know little about the activities that older adults actually enjoy. This is an important gap as these could be powerful intervention targets for increasing engagement. We analyzed the favorite activity accomplished in the last month among NHATS community dwelling, cognitively-intact participants. Four of the top five most commonly mentioned favorite activities are physical: walking or jogging (14%),

outdoor maintenance (12.6%) playing sports (8.9%) and other physical activity (8.7%). The top favorite non-physical activity is reading (8.8%). These findings are consistent across age groups up until those in their 80s, where, even there, three of the top five activities are physical (walking/jogging, outdoor maintenance, and other physical activity.) These findings are similar by race, income level, and education though they do vary by self-rated health (OR=0.71,  $p < 0.001$ ), disability (OR=0.72,  $p < 0.001$ ), and gender (OR=0.52,  $p < 0.001$ ).

## SESSION 2135 (SYMPOSIUM)

### WELLBEING IN LATER LIFE: AN INTERDISCIPLINARY AND COMPARATIVE FOCUS

**Chair:** J. Nazroo, *CCSR, University of Manchester, Manchester, United Kingdom*

**Co-Chair:** A. Marshall, *CCSR, University of Manchester, Manchester, United Kingdom*

Wellbeing is an important aspect of healthy ageing, however, there is very little consensus, on how best to influence change in this outcome. This symposium contains five papers providing new understandings of inequalities in wellbeing in later life. The multidisciplinary symposium consists of contributions from social sciences, genetics and statistics investigating the role of the national and local context, and genetics on wellbeing at older ages. The papers exploit data from the English Longitudinal Study of Ageing and the Health and Retirement Study. The first paper explores country-specific influences on the determinants of two forms of subjective wellbeing (life satisfaction and quality of life) among older adults in England and the US highlighting different influences of education on each outcome in each country. The second paper, also adopts a US and England comparison by examining trajectories of depression and associated socioeconomic determinants after controlling for attrition and cross-national differences in the measurement of depression. The third paper considers the influence of neighbourhood deprivation and economic mixing on depression among older people in England. The fourth paper reports a genome-wide association analysis of depression using the Health and Retirement Study with new evidence for a significant association between particular genes and depression and a replication in the English Longitudinal Study of Ageing. Finally, the fifth paper considers an innovative solution to a central challenge of any study of wellbeing in later life; attrition, and, in particular, the tendency for those with poorer wellbeing to drop out of longitudinal surveys.

### TABLED PRESENTATION: LOSE YOUR DREAMS AND YOU WILL LOOSE YOUR MIND. AIN'T LIFE UNKIND? DETERMINANTS OF SOCIOECONOMIC INEQUALITY IN SUBJECTIVE WELLBEING IN LATER LIFE. A CROSS COUNTRY COMPARISON IN ENGLAND AND THE US

J. Nazroo<sup>1</sup>, S. Jivraj<sup>2</sup>, 1. *University of Manchester, Manchester, United Kingdom*, 2. *Institute of Education, London, United Kingdom*

**Aims** This paper explores the relative country-specific influences in the determinants of two forms of subjective wellbeing (life satisfaction and quality of life) among older adults in England and the US. **Results** Having a disability, being diagnosed with chronic conditions, or having low household wealth are strongly associated with poorer life satisfaction and quality of life. These statistical effects are consistent in England and the US. The effect of years spent in education, however, significantly varied between the two countries: educational inequalities have a greater adverse effect on subjective wellbeing in the US compared with England. **Conclusions** Interventions are required to counterbalance health inequalities that restrict sections of the population in England and the US from enjoying satisfying and meaningful lives in older age. Moreover, in England, the provision of welfare benefits and state funded public services may protect against the adverse effect of lower socioeconomic status on subjective wellbeing.

### POOR MAN EYES A RICH MAN, DENIGRATES HIS PROPERTY. A RICH MAN EYES A POOR MAN, AND ENVIES HIS SIMPLICITY. NEIGHBOURHOOD WEALTH INEQUALITY AND THE PREVALENCE OF DEPRESSION AMONG OLDER PEOPLE

A. Marshall, *University of Manchester, Manchester, United Kingdom*

**Aims** This paper considers whether the extent of inequality in house prices within neighbourhoods of England is associated with depressive symptoms in the older population using the English Longitudinal Study of Ageing. We consider two competing hypotheses: first, the wealth inequality hypothesis which proposes that neighbourhood inequality is harmful to health and, second, the mixed neighbourhood hypothesis which suggests that socially mixed neighbourhoods are beneficial for health outcomes. **Results** Our results support the mixed neighbourhood hypothesis, we find a significant association between neighbourhood inequality and depression with lower levels of depression amongst older people in neighbourhoods with greater house price inequality after controlling for individual socio-economic and area correlates of depression. This association is strongest for the poorest individuals, but also holds among the most affluent. **Conclusions** Our results are in line with research that suggests there are social and health benefits associated with economically mixed communities.

### WHAT A DRAG IT IS GETTING OLD: TRAJECTORIES OF DEPRESSIVE SYMPTOMS IN LATER LIFE IN THE US AND ENGLAND

B. Vanhoutte<sup>1</sup>, J. Nazroo<sup>1</sup>, S. Jivraj<sup>2</sup>, 1. *CMIST - School of Social Sciences - University of Manchester, Manchester, United Kingdom*, 2. *Centre for Longitudinal Studies - Institute of Education - University of London, London, United Kingdom*

Depressive symptoms occur commonly in later life, but the clinical diagnosis of depression is much rarer for elderly. Later life depression tends to be more somatic and contain less severe mood disturbances. Above that, there is a paradox in country levels of depression: while physical health is better in England, depression is less prevalent in the States, although physical and mental health are strongly linked. This study aims to answer this paradox by investigating the influence of social structure on depressive symptoms in a longitudinal and comparative way. Five matching waves of data originating from two longitudinal studies on ageing, the Health and Retirement Survey (HRS) and the English Longitudinal Survey on Ageing (ELSA) are analyzed in a latent growth model. While there is a small influence from measurement on both gender and country differences, these do not explain the substantial differences across age, gender and country. Similarly, selection mechanisms do play a role in the prevalence of development over time of depressive symptoms, but accounting for these does not alter our main findings. Previous instances of depression, wealth and educational differences explain away gender effects, while their country-specific function as a buffer largely explains the country disparities.

### 'SYMPATHY FOR THE DEVIL'. GENOME-WIDE ASSOCIATION ANALYSIS OF SUBJECTIVE WELL-BEING IN THE UNITED STATES AND UNITED KINGDOM

K. Mekli<sup>1</sup>, J. Nazroo<sup>1</sup>, J. Lee<sup>2,3</sup>, C. Prescott<sup>2</sup>, D. Phillips<sup>2</sup>, N. Pendleton<sup>1</sup>, 1. *CCSR, University of Manchester, Manchester, United Kingdom*, 2. *University of Southern California, Los Angeles, California*, 3. *RAND Corporation, Santa Monica, California*

**Aims** This study adopts a genome-wide association study in order to understand the genetic factors that influence subjective well-being. We build on previous research using twin and family studies that suggest that genetic factors account for a moderate, 30-40% variance in this trait independent of environmental influences. **Results** The most significant genome-wide association surviving correction was for SNP rs58682566 in the intronic region of the Ectopic P-granules autophagy protein 5 homolog (*C. elegans*) (*EPG5*) gene ( $p = 6.28E-09$ ,  $\beta = 0.19$ ).

Another 11 SNPs reached the genome-wide suggestive level (below  $p=1E-05$ ). Conclusion Our study provides evidence for the involvement of the EPG5 gene in subjective well-being. To support this novel finding we will conduct a replication study using common genotypic and phenotypic measures in a second representative cohort of community dwelling older adults (English Longitudinal Study of Ageing, ELSA). Findings from the replication will be available at the time of presentation.

### **YOU CAN'T ALWAYS GET WHAT YOU WANT: JOINT MODELS OF OLDER PEOPLE'S QUALITY OF LIFE AND ATTRITION IN BRITAIN 2002-2010**

G. Tampubolon, *University of Manchester, Institute for Social Change, Manchester, United Kingdom*

Objectives: Later life in public mind is being transformed by the emerging possibility of a flourishing third age with sustained quality of life. The trajectories of life quality over some period for four different cohorts are drawn. These trajectories are refined by jointly modelling attrition, recognising the fact that older people tend to leave longitudinal study for non-random reasons. Methods: Growth curve models of CASP-19 are estimated for participants in the English Longitudinal Study of Ageing waves 1 to 4. Then joint models are estimated where individual random effects are shared in the growth curve model and the attrition model. Extensive predictors are entered in the model including demographic attributes, social and economic status, health conditions, and health behaviours. Results: Strong non-linear age trajectory of life quality is revealed where the peak is achieved in the late 60s. Then joint models uncover the peak somewhat later in time, and importantly, show secular improvement in life quality experienced by the younger cohort. Sharp estimates for many predictors of higher levels of life quality are found across the different domains of demographic, social, economic and health predictors. Conclusion: For the first time the trajectories of life quality in the third age are drawn and improvement across cohorts is demonstrated. The contributions are estimated for predictors amenable to intervention such as social capital and social support. This can help in policy discussion on improving the lives of older people in the third age.

## **SESSION 2140 (SYMPOSIUM)**

### **ADVERSE LIFE CONDITIONS AND HEALTH ACROSS THE LIFESPAN**

**Chair:** K.E. Cichy, *Human Development and Family Studies, Kent State University, Kent, Ohio*

**Co-Chair:** R.S. Stawski, *Oregon State University, Corvallis, Oregon*

**Discussant:** T.L. Gruenewald, *USC Davis, Los Angeles, California*

Across the lifespan, exposure to adverse life conditions creates a context where physiological systems and coping resources are repeatedly taxed, and these emotional and physiological assaults are hypothesized to create vulnerabilities and produce disruptions in psychosocial functioning and stress-responsive biological systems that have cascading consequences for adult mental, physical, and cognitive health. Although researchers speculate about how these processes unfold throughout adulthood, questions about the effects on health related to the type and timing of experienced adversities, remain. This symposium addresses these unanswered questions by considering how multiple sources of adversity uniquely and collectively shape a diverse set of adult outcomes. Friedman and colleagues examine how childhood adversities collectively shape three indicators of cardiometabolic health, including diabetes, heart disease, and obesity. Cichy, Li, and Woolverton examine the extent to which adult deficits in family support and strained family ties mediate associations between reports of childhood abuse and markers of cardiovascular risk. Toyokawa and colleagues explore how adverse childhood experiences and negative experiences within the parental role contribute to depressive symptoms for custodial grandparents. Fagundes and colleagues examine associations between childhood abuse, quality of life difficulties, and immune functioning among breast

cancer survivors. Finally, Stawski, Fisher, Geldhof, and Wu explore how accumulating life events influence aging-related changes in depressive symptomatology. Together, these studies explore potential pathways through which adverse life experiences contribute to long-term health and well-being. Tara Gruenewald will reconcile the presentations and offer insights into how these research findings fit into and extend our understanding of adversity and health.

### **THE RELATIONAL LEGACY OF ADVERSE FAMILY ENVIRONMENTS AND CHRONIC DISEASE RISK**

K.E. Cichy, J. Li, N. Woolverton, *Human Development and Family Studies, Kent State University, Kent, Ohio*

Early exposure to abusive, unsupportive family environments has consequences for adult health. Researchers speculate that early family adversity leads to deficits in adult social support, which intensifies the risk for cardiovascular disease (CVD). The current study examines the extent to which family support and strain mediate associations between retrospective reports of childhood abuse and markers of CVD risk (e.g. Body Mass Index (BMI)) among adults from the Midlife in the United States Survey (MIDUS II) aged 34-84 years ( $N = 1255$ ,  $Mage = 55.2$ ). Emotional abuse ( $\beta = 0.11$ ), family support ( $\beta = -0.07$ ), and family strain ( $\beta = 0.13$ ) were significantly associated with BMI ( $p < .05$ ). Results revealed that family strain, not family support, partially mediated or reduced the association between emotional abuse and BMI ( $\beta = 0.08$ ), suggesting that the link between early family adversity and CVD risk is partially explained by increased family conflicts and demands.

### **CHILDHOOD ADVERSITIES AND ADULT CARDIOMETABOLIC HEALTH**

E. Friedman<sup>1</sup>, J.K. Montez<sup>2</sup>, C. Sheehan<sup>3</sup>, T.L. Gruenewald<sup>5</sup>, T. Seeman<sup>4</sup>, *1. RAND corp, Santa Monica, California, 2. Case Western Reserve University, Cleveland, Ohio, 3. University of Texas, Austin, Austin, Texas, 4. UCLA, Los Angeles, California, 5. University of Southern California, los angeles, California*

Mounting evidence shows that adverse early-life experiences, such as material deprivation or parental abuse, indelibly influence later-life health, often irrespective of adult circumstances. However, we know little about how early-life adversities collectively shape adult health (e.g., additively, nonlinearly), or whether they shape health similarly for women and men. Using MIDUS data, this study examines how childhood adversities are associated with three indicators of cardiometabolic health—diabetes, heart disease and obesity—for women and men. We test five specifications of adverse childhood experiences, and show that functional form matters. For instance, cumulative models of adversity are the best fit for heart disease and obesity and, to a lesser extent, diabetes. In addition, the association between childhood adversity and heart disease is stronger for women than men.

### **THE IMPACT OF LIFE EVENTS AND EDUCATION ON LONGITUDINAL CHANGES IN DEPRESSIVE SYMPTOMATOLOGY IN ADULTHOOD AND OLD AGE**

R.S. Stawski<sup>1</sup>, G.G. Fisher<sup>2</sup>, G. Geldhof<sup>1</sup>, C. Wu<sup>1</sup>, *1. Oregon State University, Corvallis, Oregon, 2. Colorado State University, Fort Collins, Colorado*

Life events and education have long been known to have a considerable impact on mental, physical and cognitive health; the former having deleterious effects and the latter, protective. Less is known about whether these factors contribute to long-term changes and trajectories of depressive symptomatology throughout adulthood and old age. The current study examines whether the accumulation of life events and education influence aging-related changes in depressive symptomatology among older adults. Drawing on bi-annual longitudinal data from four cohorts of the Health and Retirement Study: HRS Cohort (born 1931-1941), AHEAD (born <1924), Children of the Depression (CODA: born 1924-1930) and the War Baby Cohort (WB: born 1942-1947),

we observed significant longitudinal increases in depressive symptoms, particularly among the oldest ages and earliest born cohorts at baseline. Preliminary evidence also suggests that these effects are also exacerbated by the experience of life events, and attenuated by possessing higher levels of education.

#### **PARENTING EXPERIENCES WITH THEIR OWN CHILDREN INFLUENCE WELL-BEING OF PRIMARY CARE GRANDPARENTS**

N. Toyokawa, G.C. Smith, K.E. Cichy, *Kent State University, Kent, Ohio*

We compared individuals who reported being primary caregivers of grandchildren (PCG) to grandparents who were not to examine the cumulative effects of childhood adverse family environments and negative parenting experiences with PCGs' own children for their grandparents' psychological well-being. Out of 1,007 grandparents in the MIDUS I and II samples reporting demographic information, early adversity, and parenting experiences, four randomized comparisons were formed by gender and PCG or non-PCG status ( $N=50$  for each group). Negative parenting experiences in the past were significantly related to female PCGs' depressive symptoms,  $F(2, 37)=4.84$ ,  $p=.01$ ,  $\Delta R^2=.16$  and to their negative affect  $F(2, 37)=8.19$ ,  $p=.001$ ,  $\Delta R^2=.23$ , but were not significantly related to these outcomes for the other three groups. Adverse family environments during childhood were not significantly related to well-being for either PCGs or non-PCGs. Our findings suggest that negative parenting experiences are uniquely associated with negative affect and depressive symptoms in female PCGs.

### **SESSION 2145 (SYMPOSIUM)**

#### **AGEING IN THE ASIA-PACIFIC REGION: A LONGITUDINAL FOCUS**

**Chair:** D. McLaughlin, *School of Population Health, The University of Queensland, Herston, Brisbane, Queensland, Australia*

**Co-Chair:** N.A. Pachana, *School of Population Health, The University of Queensland, Herston, Brisbane, Queensland, Australia*  
**Discussant:** D. McLaughlin, *School of Population Health, The University of Queensland, Herston, Brisbane, Queensland, Australia*

Longitudinal studies of ageing provide unique perspectives on a range of health, emotional and social processes over time. Globally, increases in the proportion of older adults within the population make the data gleaned from longitudinal studies of increasing importance. Managing the challenges inherent in longitudinal studies of ageing participants requires flexible methodologies but provides a rich source of data which measure changes over time. The number of older people in the Asia-Pacific region is rising at an unprecedented rate and is unmatched in scale anywhere else in the world. Data in this symposium come from four large longitudinal studies located in Australia, New Zealand and Malaysia: the Australian Longitudinal Study on Women's Health (ALSWH); the Household, Income and Labour Dynamics in Australia (HILDA) Survey; the New Zealand Health Work and Retirement Study (HWR); and the Malaysian Elders Longitudinal Research study (MeLOR). Topics covered in this symposium include methodological changes over time and utilisation of administrative datasets to reduce participant burden (ALSWH); measurement of quality of life and health and linkages with government health data bases (HWR); changes in subjective and economic well-being (HILDA); establishing a new longitudinal study on ageing: challenges of recruitment, and collecting data in a multi ethnic developing country (MeLOR). This symposium offers diverse perspectives on the strengths and challenges of longitudinal studies in ageing. Objectives include (i) sharing our experiences in the pitfalls and riches inherent in longitudinal studies of ageing and (ii) describing the variety of recruiting and retention methods that these four studies have utilized.

#### **NATIONAL HEALTH DATA-LINKAGE IN A NEW ZEALAND LONGITUDINAL AGEING COHORT**

F. Alpass, C. Stephens, B. Stevenson, *Psychology, Massey University, Palmerston North, New Zealand*

The Health and Ageing Research Team's (HART) longitudinal cohort comprises a nationally representative community-based sample currently aged 52-89 years. We hold up to five biannual waves of self-reported health and well-being data for these older New Zealanders. A recent project was undertaken to link this existing data with participant health records held by the New Zealand Ministry of Health's National Medical Information Databases (including hospital admission and outpatient data, a cancer registry, pharmacy claims information, and mental health care details). Our data-linkage methodology was based on techniques employed by international studies of health and ageing, such as the Health & Retirement Study, the Australian Longitudinal Study of Women's Health and the Australian 45 & Up Study. This paper will describe the project linkage procedures undertaken, outline the challenges in securing consent from participants, and discuss the ethical concerns that such linkages bring.

#### **MEASURING QUALITY OF LIFE AMONG A COHORT OF OLDER PEOPLE IN NEW ZEALAND**

C. Stephens, F. Alpass, B. Stevenson, *School of Psychology, Massey University, Palmerston North, New Zealand*

The Health Work and Retirement (HWR) study has tracked a representative sample of older people (aged 55-70 years in 2006) for eight years as they transition from work into retirement and towards older age. The sample was selected from the New Zealand electoral roll and includes an oversample of Māori for statistical comparison purposes. Data collection is by postal questionnaire (and interviews with sub-samples). The study has focussed on Quality of Life as an outcome (QoL) and by beginning with a sample of 'young-old' New Zealanders has been able to measure a wide range of social and physical factors that are hypothesised to predict QoL in older age. The six data waves have also allowed for the inclusion and comparison of the performance of different measures of QoL and health related QoL. This paper will present and discuss comparisons between several of these measures including the WHOQoL, ICECAP, CASP-12, SF-36, SF-12, and PROMIS.

#### **LESSONS IN PERSISTENCE AND FLEXIBILITY: FOLLOWING AN AGEING LONGITUDINAL COHORT OVER TIME**

P. Gardiner<sup>1,2</sup>, N.A. Pachana<sup>3</sup>, D. McLaughlin<sup>1</sup>, *1. School of Population Health, The University of Queensland, Herston, Queensland, Australia, 2. Mater Research Institute - The University of Queensland, South Brisbane, Queensland, Australia, 3. School of Psychology, The University of Queensland, Brisbane, Queensland, Australia*

The Australian Longitudinal Study on Women's Health (ALSWH) is a prospective nationwide study which has been investigating factors related to the health and wellbeing of three cohorts of Australian women since 1996. 12,432 women in the 1921-26 birth cohort participated in the original survey, when they were aged 70-75. Data were collected every three years until 2011 when, due to increasing age and declining participation, it was decided to collect data every six months. Currently 3,389 women remain in the study; 2,544 women have withdrawn and 6,499 women have died. Survey data from participants are linked to national and state-level administrative datasets which provide valuable information on health service and pharmaceutical benefits scheme use, aged and community care services and residential aged care uptake. This paper will discuss the challenges and benefits as well as translational research opportunities offered by working with an older cohort as they continue to age.



## THE MALAYSIAN ELDERLY LONGITUDINAL RESEARCH (MELOR) STUDY: CHALLENGES AND PRELIMINARY FINDINGS

S.B. Kamaruzzaman<sup>1</sup>, M. Tan<sup>1</sup>, N.N. Hairi<sup>1</sup>, S. Jamal<sup>2</sup>, S. Khoo<sup>1</sup>, S. Siraj<sup>3</sup>, N. Tey<sup>4</sup>, A. Chin<sup>1</sup>, 1. Faculty of Medicine, University of Malaya, Kuala Lumpur, Wilayah Persekutuan, Malaysia, 2. Faculty of Law, University of Malaya, Kuala Lumpur, Wilayah Persekutuan, Malaysia, 3. Faculty of Education, University of Malaya, Kuala Lumpur, Wilayah Persekutuan, Malaysia, 4. Faculty of Economics, University of Malaya, Kuala Lumpur, Wilayah Persekutuan, Malaysia

The proportion of people aged > 60 in Malaysia is expected to be 22% by 2050. Western countries were already developed when challenged with their aging populations. However, Malaysia, being a developing country, has a shorter time to adjust to rapid population ageing. The Malaysian Elders Longitudinal Research (MELoR) study is a comprehensive multidisciplinary project integrating experts in the fields of Medicine, Engineering, Sports Science, Computer Science and Information Technology, Education, Economics, Sociology, Built Environment and Law. This study presents challenges of ageing and its research in a developing urban population. MELoR aims to generate a comprehensive dataset, based on feedback from older adults, on the overall needs and issues faced by them, to provide a foundation for strategic policy-making to increase quality of life and well-being of the elderly. This paper will present initial findings and discuss the challenges of recruitment, and collecting data in a multi ethnic developing country.

## CHANGES IN SUBJECTIVE AND ECONOMIC WELL-BEING AMONG AUSTRALIAN BABY BOOMERS

K. O'Loughlin<sup>1</sup>, V. Loh<sup>1</sup>, H. Kendig<sup>2</sup>, 1. University of Sydney, Lidcombe, New South Wales, Australia, 2. Australian National University, Canberra, Australian Capital Territory, Australia

The Household, Income and Labour Dynamics in Australia (HILDA) Survey, a nationally representative household-based longitudinal study, conducted annually since 2001; it includes all household members aged 15 years and older. Data collection is by personal interview and self-complete questionnaire focussing on issues in three inter-related areas: income/welfare, labour market participation and family dynamics. This paper will present and discuss data on the baby boom cohort (born 1946-1965) drawn from Waves 1 to 11. The measure of self-reported overall life satisfaction will be used along with socio-demographic variables (age, gender, health, educational level, household income, marital status, home ownership), and self-rated health to examine changes in subjective and economic well-being for this cohort as they transition from middle age to early later life.

## SESSION 2150 (SYMPOSIUM)

### UNDERSTANDING NURSING HOME RESIDENTS' PREFERENCES FOR EVERYDAY LIVING

**Chair:** K. VanHaitsma, Polisher Research Institute, North Wales, Pennsylvania

**Discussant:** C.J. Whitlatch, Benjamin Rose Institute on Aging, Cleveland, Ohio

Understanding and honoring preferences is fundamental in the promotion of well-being for frail elders. However, research has yet to fully address how to best assess everyday preferences of individuals living in nursing homes. This symposium will examine dimensions of understanding residents' preferences in everyday living based upon findings of the study Assessing preferences for everyday living in the nursing home: reliability and concordance issues [PI: Van Haitsma; NINR:1R21NR011334-01]. First, we begin with a description of the theoretical foundation for studying preferences and background of the study. Second, drawing on cognitive interview data, we examine how an inventory to assess older adults' everyday preferences was adapted

for use in a nursing home population producing a new measure called Preferences for Everyday Living Inventory (PELI). Third, the test-retest reliability of nursing home residents' everyday preferences as compared to a sample of young adults and a VA community over one week will be presented. Fourth, major domains reflecting why older adults may change their minds about the importance of their everyday preferences will be identified. Lastly, the concordance of family proxy reporters on the importance of residents' preferences will be examined, including which preferences are better understood by family members. While each presentation will capture a unique perspective of understanding older adults' preferences in everyday living in a nursing home setting, C. Whitlatch will integrate findings, highlighting implications for assessment of older adults' preferences, underscoring important future directions for research and practice.

### THEORETICAL FOUNDATIONS OF PREFERENCE BASED CARE

K. Eshraghi, C. Duntzee, K. Abbott, A.R. Heid, K. Van Haitsma, The Polisher Research Institute, The Madlyn and Leonard Abramson Center for Jewish Life, North Wales, Pennsylvania

Person-centered care (PCC) has been embraced by policy makers and providers with the goal of providing care that addresses the needs and preferences of frail elders. This presentation explores the theoretical frameworks of PCC and how honoring preferences is the foundation of PCC. Continuity Theory addresses the need to preserve and maintain familiar arenas of life, the Competence Press Model suggests that a match between one's abilities and environment maximizes well-being, and Self-Determination Theory purports the importance of promoting autonomy, competence, and relatedness across the lifespan. The integration of knowledge about individuals' psychosocial preferences into care is related to increased satisfaction with care and positive quality of life outcomes. This presentation also introduces an ongoing study, Assessing preferences for everyday living in the nursing home: reliability and concordance issues [NINR:1R21NR011334-01], that is developing a comprehensive, reliable instrument that assesses the everyday preferences of older adults, including those with cognitive impairment.

### ASSESSING RESIDENT PREFERENCES IN THE NURSING HOME: UNDERSTANDING MEANING AND LANGUAGE THROUGH COGNITIVE INTERVIEWING

K. Curyto<sup>1</sup>, G.L. Towsley<sup>2</sup>, K. Van Haitsma<sup>3</sup>, 1. VA Western NY Healthcare System, Batavia, New York, 2. University of Utah College of Nursing, Salt Lake City, Utah, 3. Polisher Research Institute, Madlyn and Leonard Abramson Center for Jewish Life, North Wales, Pennsylvania

This study adapted the Preferences for Everyday Living Inventory (PELI) for use with nursing home (NH) residents using cognitive interviewing. PELI items were administered to 31 Veteran participants and 39 non-Veteran participants who were at least 55 years of age, with moderately impaired to intact cognition, in the NH for at least one week, and medically stable. Participants rated level of importance and answered questions about their understanding and perceptions of these preferences. The majority of PELI items were retained; 25 percent of the items required wording changes, were deleted, or were added as new items. Responses from cognitive interviewing guided revisions of the PELI to include language that NH residents use and understand, reducing potential measurement error and ensuring that preferences assessed are relevant to NH residents. Individualized preference assessment using the PELI will help move clinical teams closer to the goal of providing PCC informed by individual preferences.

## PSYCHOMETRIC PROPERTIES OF A PREFERENCE TOOL IN THREE SAMPLES

K. VanHaitsma, K. Eshraghi, C. Duntzee, A.R. Heid, K. Abbott,  
*Polisher Research Institute, North Wales, Pennsylvania*

This study sought to test the reliability of everyday preferences over one week, comparing responses of residents at a community nursing home (n = 37), residents at a VA community living center (n = 42), and university students (n = 50). Participants completed the Preferences for Everyday Living Inventory (PELI) at baseline and 5-7 days later. The overall percent perfect agreement across samples was low, with an average of 62.73% agreement across the sample on 66 preferences. When dichotomizing preference responses to “important” or “not important”, percent agreement jumped from 63.73% to 84.4% for the 129 subjects in this study. The 3 samples did not show a significant difference in reliability. Qualitatively, the results suggest that there is instability in measuring everyday preferences. Age alone does not contribute to instability and further work is needed to identify if some preferences are more stable than others to inform assessment strategies.

## “IT DEPENDS”: REASONS WHY NURSING HOME RESIDENTS CHANGE THEIR MINDS ABOUT CARE PREFERENCES

K. Abbott, K. Eshraghi, C. Duntzee, A.R. Heid, K. VanHaitsma,  
*Polisher Research Institute, North Wales, Pennsylvania*

This study aims to understand and describe nursing home residents’ perspectives on why their daily care preferences may change over time. Content analysis of cognitive interviews completed with 39 cognitively capable nursing home residents revealed four major domains of reasons for why nursing home residents may change their importance rating of their preferences. Domains include within person, facility environment, social environment, and global environment factors. Residents reflected that the importance of their preferences fluctuated “depending upon” the circumstances related to these factors or their ability to perform the preference (i.e., barriers they encountered). In order to develop formal care that matches older adults’ preferences, regular assessment of both elders’ preferences and the contextual factors affecting preferences is needed. However, given the changing nature of preferences, there is also a need to determine how to best balance older adults’ changing preferences within care delivery environments.

## DO PROXIES GET IT RIGHT? DISCREPANCIES IN REPORTING EVERYDAY PREFERENCES OF NURSING HOME RESIDENTS

A.R. Heid, C. Duntzee, K. Eshraghi, K. Abbott, K. Van Haitsma,  
*The Polisher Research Institute, The Madlyn and Leonard Abramson Center for Jewish Life, Merion Station, Pennsylvania*

Research demonstrates discrepancies in understanding older adults’ values and preferences in family care. However, work has yet to examine how well family/friend proxies understand older adults’ everyday preferences when older adults are living in nursing homes. With 88 dyads of a nursing home resident and their relative/friend, we examined the concordance of importance ratings of residents’ everyday preferences across 4 domains: growth activities, leisure activities, self-dominion, and social contact. Utilizing multi-level modeling, we explored the association of individual and relationship-based characteristics with reported discrepancies. Dyads were only discrepant on the importance of growth activities for residents, with residents reporting higher levels of importance than their proxies. This discrepancy was associated with residents’ hearing impairment and personality trait of openness. The findings highlight areas where proxies may be able to inform care accurately for residents in skilled nursing care, but also where further discussions might be needed.

## SESSION 2155 (SYMPOSIUM)

### MODIFIABLE DETERMINANTS AND TRENDS OF COGNITIVE FUNCTIONING IN COMMUNITY-DWELLING OLDER PERSONS

**Chair:** H.C. Comijs, *Psychiatry, GGZinGeest/VUMC, Amsterdam, Netherlands*

**Co-Chair:** M. Visser, *Vu University Medical Center, Amsterdam, Netherlands*

**Discussant:** S.M. Hofer, *University of Victoria, Victoria, British Columbia, Canada*

The Longitudinal Aging Study Amsterdam (LASA) has a long tradition of studying cognitive functioning and its decline in a population-based sample of older persons. In this symposium we report about recent research from our cohort. We examined potential important determinants of cognitive functioning or cognitive decline, such as sedentary behaviour, loneliness and stress. All of these determinants are highly prevalent in older adults and are potentially modifiable. Therefore, the outcomes of these studies may offer important information for developing preventive interventions. Marjolein Visser will discuss the association between sedentary behaviour. Marja Aartsen will discuss whether loneliness mediates the relation between social support and cognitive functioning. Hanne Comijs will present data about life events, perceived stress and their relation with cognitive functioning. The last speaker, Tessa van den Kommer will present time-trend analyses to determine whether dementia prevalence changes over time. Finally, Scott Hofer will reflect on these presentations.

### SEDENTARY BEHAVIOR AND COGNITION IN OLDER ADULTS

M. Visser<sup>1,2</sup>, S. van Dongen<sup>1</sup>, H.C. Comijs<sup>2</sup>, *1. Health Sciences, VU University Amsterdam, Amsterdam, Netherlands, 2. VU Medical Center, Amsterdam, Netherlands*

We studied the cross-sectional association between sedentary behavior and cognitive functioning in 1,325 participants of the Longitudinal Aging Study Amsterdam, aged 60-100 years. Sedentary behavior (h/d) was assessed using a 6-item validated questionnaire (napping, reading, listening to music, watching TV, performing hobbies, talking). General cognitive functioning (MMSE), learning and delayed recall and information processing speed were assessed. After adjustment for demographics, lifestyle, depression and chronic diseases, total sedentary behavior was not associated with any cognition outcome. Napping (yes versus no,  $\beta$  -1.6 (95% CI -2.2 to -0.9)) and listening to music (>60 min/d versus no; -1.5 (-2.3 to -0.6)) were associated with poorer information processing speed. Reading (learning), watching TV (information processing speed and MMSE score) and performing hobbies (all domains) were associated with better cognition. The study suggests that not sedentary behavior per se, but the cognitive load during this behavior, is associated with cognitive functioning in old age.

### LIFE EVENTS, PERCEIVED STRESS AND COGNITIVE FUNCTIONING IN OLDER ADULTS

H.C. Comijs<sup>1</sup>, N. Korten<sup>2</sup>, *1. Psychiatry, GGZinGeest/VUMC, Amsterdam, Netherlands, 2. VU University Medical Center, Amsterdam, Netherlands*

Older persons are frequently exposed to various stressors that may interfere with the system’s physiological and psychological homeostasis, which may have an adverse effect on cognitive functioning. The aim of the present study is to examine the associations with life events and perceived stress and their effect on cognitive functioning. Data from the last LASA measurement will be used and include measures for executive functioning, memory and information processing speed. Next to a structured life events questionnaire, the Perceived Stress Scale was included. The first results show strong associations between the PSS and almost all domains of cognitive functioning. However, this associ-

ation was mainly driven by the Perceived Self-efficacy subscale of the PSS, there was no the association between the Perceived Helplessness subscale and cognitive domains.

### **DOES LONELINESS MEDIATE THE RELATION BETWEEN SOCIAL SUPPORT AND COGNITIVE FUNCTIONING IN LATER LIFE?**

L. Ellwardt<sup>1</sup>, M.J. Aartsen<sup>2</sup>, D.J. Deeg<sup>3,2</sup>, N.J. Steverink<sup>1</sup>, 1. *University of Groningen, Groningen, Netherlands*, 2. *Faculty of Social Sciences, VU-University, Amsterdam, Netherlands*, 3. *VU-University medical center, Amsterdam, Netherlands*

Research in gerontology has demonstrated mixed effects of social support on cognitive decline and dementia: This study investigates whether subjective appraisals rather than received amounts of social support affect cognitive functioning. We expect that receiving instrumental and emotional support reduces loneliness, which in turn preserves cognitive functioning. Data are from the Longitudinal Aging Study Amsterdam (LASA) and include 2255 Dutch participants aged 55-85 over a period of six years. Respondents were measured every three years. Cognitive functioning was assessed with the Mini-Mental State Examination (MMSE), the Coding Task, and the Raven's Coloured Progressive Matrices. The analytical approach comprised latent growth mediation models. Frequent emotional support relates to reduced feelings of loneliness and better cognitive functioning. Increases in emotional support also directly enhanced cognitive performance. After ruling out the possibility of reversed causation, we conclude that emotional support relationships are a more powerful protector of cognitive decline than instrumental support relationships.

### **TIME TREND IN PREVALENT DEMENTIA: RESULTS FROM THE LONGITUDINAL AGING STUDY AMSTERDAM**

T.N. Van Den Kommer<sup>1</sup>, H.C. Comijs<sup>2</sup>, D.J. Deeg<sup>3</sup>, 1. *VU University Medical Center, EMGO Institute for Health and Care Research, Department of Epidemiology & Biostatistics, Amsterdam, Netherlands*, 2. *VU University Medical Center, EMGO Institute for Health and Care Research, Department of Psychiatry; and GGZ InGeest, Amsterdam, Netherlands*, 3. *VU University Medical Center, EMGO Institute for Health and Care Research, Department of Psychiatry, Amsterdam, Netherlands*

Objective: To study whether dementia prevalence changes over time, adjusting for age and gender, and to examine possible explanatory variables. Methods: Data from the Longitudinal Aging Study Amsterdam over 10 years of follow-up were used. An age group of 68-88-year-olds was selected at each wave, including N=1,666 at baseline. Data were analyzed using logistic generalized estimating equations (GEE; 3-dependent correlation structure), with time as the main predictor. Explanatory variables were lagged one wave. Results: Dementia prevalence at baseline was 4.8% (N=71, ages 68-88), weighed according to gender and age of the Dutch population. The results showed a positive time trend for dementia prevalence (Exp(B) time (fully adjusted model)=1.045 (95% CI:1.004-1.087). Conclusion: Evidence was found for a positive time trend in dementia prevalence, i.e. an increase in dementia prevalence over time, taking into account age and sex. This time trend could not be explained by CVD, diabetes, life-style and depressive symptoms.

## **SESSION 2160 (SYMPOSIUM)**

### **INCREASING RESOURCES FOR OLDER ADULTS THROUGH TECHNOLOGY FOCUSED RESEARCH AND INTERVENTIONS**

**Chair:** S. Cotten, *Michigan State University, East Lansing, Michigan*

**Discussant:** S.J. Czaja, *University of Miami, Miami, Florida*

A variety of resources are being created to assist older adults in learning how to use computers, social media, and other technologies, increase health literacy, how to be safe online, and other educational and informational resources. Many of these resources are being created through technology focused research and intervention projects. The purpose of this symposium is to showcase some of the resources that have been created in recent years that are tailored to enhancing some aspect of older adults' quality of life. Researchers will detail their projects, the specific older age groups they targeted, the types of resources created, and future goals for expanding resources in these areas. Given and Given will provide details on NCI funded trials that developed and tested an AVR supported by a symptom Management Toolkit to help older patients manage symptoms and side effects that resulted from their cancer treatment. Jiang and colleagues detail a new NSF funded project focusing on understanding older adults' views on online safety and security, and the tools they use to keep themselves safe online. They also provide details on the types of technological tools older adults need to ensure their safety when online and what their project will provide. Xie and Watkins detail NIH funded projects using participatory design techniques to cultivate older adult teams to help design eHealth literacy tutorials for older adults. Cotten and colleagues detail resources created through a five year NIH funded randomized controlled trial working with older adults in assisted and independent living communities. Sara Czaja, the discussant for the symposium, emphasizes how these diverse projects with older adults provide key resources to enhance quality of life and ways to expand the creation of resources in times of less research funding.

### **CULTIVATING OLDER ADULT TEAMS (OATS) TO COLLABORATIVELY DESIGN EHEALTH LITERACY TUTORIALS FOR OLDER ADULTS**

B. Xie<sup>2,1</sup>, I. Watkins<sup>1</sup>, 1. *School of Information, University of Texas at Austin, Austin, Texas*, 2. *School of Nursing, The University of Texas at Austin, Austin, Texas*

Participatory design can empower older adults to shape the design of new technologies to make them more senior-friendly. We used participatory design to cultivate Older Adult Teams (OATs) to help design eHealth literacy tutorials for older adults. Between September 2009 and March 2014, 27 participants aged 65 and over participated in OATs. Weekly two-hour-long participatory design sessions with OATs occurred at public libraries in Austin, Texas and Hyattsville, Maryland. Working with the OATs we developed web-based multimedia tutorials for the Electronic Health Information for Lifelong Learners project, which focuses on developing and evaluating eHealth tutorials for older adults, and the Online Tutorial Overlay Presenter project, which overlays instructions on real websites to facilitate use. Forming friendships, socializing, and contributing to tutorial design were identified by OATs as key benefits derived from participation. These findings have significant implications for future research on older adult empowerment.

### **A RESOURCE FOR OLDER ADULTS: SYMPTOM MANAGEMENT FOR CANCER**

B.A. Given<sup>1</sup>, C.W. Given<sup>2</sup>, 1. *Michigan State University College of Nursing, East Lansing, Michigan*, 2. *Michigan State University College of Human Medicine, East Lansing, Michigan*

Cancer patients in active treatment have side effects and symptoms from the medication they receive. The use of an Interactive Voice

Response system (IVR) supported by a Symptom Management Toolkit to manage patients' side effects will be described. The IVR system contacted patients weekly over an 8 week period, assessed their side effects and symptoms, and based on the presence and severity of those symptoms then referred them to the Symptom Management Toolkit for guidance. This Toolkit had strategies for management of over 20 common side effects from cancer treatment. Reduction in the number of symptoms and reduced symptom side effects severity enables the older patient to continue optimal cancer treatment. The result of this resource enhances effective cancer treatment while improving the quality of life of the older patient.

#### **ICTS AND QUALITY OF LIFE: RESOURCES**

W.A. Anderson<sup>2</sup>, S. Cotten<sup>1</sup>, *1. Michigan State University, East Lansing, Michigan, 2. University of Alabama, Birmingham, Birmingham, Alabama*

The ICTs (information and communications technologies) & Quality of Life Study is a five-year, three-arm, randomized, controlled intervention study designed to assess the extent to which use of ICTs such as computers, the Internet, email, and social networking can increase social capital and improve quality of life among older adults living in independent and assisted living communities. In order to conduct the study, a customized, 8-week training manual was written for use by the participants. The manual included detailed instructions, screenshots, and "homework" exercises for each intervention session. In this presentation, the development and use of the manual are detailed, the manual is described, and outside resources that were used as adjunct materials (e.g., the SPRY foundation guide to evaluating health information on the Internet, assistive devices, and other materials) are discussed.

#### **UNDERSTANDING OLDER GENERATION'S PERCEPTIONS OF ONLINE RISKY BEHAVIOR IN THE ELECTRONIC BANKING CONTEXT**

M. Jiang, S. Cotten, H. Tsai, N. Rifon, B. LaRose, S. Alhabash, *Michigan State University, East Lansing, Michigan*

The study aims to understand the older generations' perceptions of online risky behavior, specifically electronic banking adoption, and the security measures they do or do not use to protect themselves online. Using Protection Motivation Theory (PMT), the researchers conduct 12 focus groups, in representation of two generational cohorts (seniors vs. older boomer) and two user groups (online banking users vs. non-users). Differences in threat appraisal and self-efficacy to perform protection behaviors were identified in different generation cohorts and user groups. Results show although older generations recognize the risks and benefits of electronic banking and self-responsibility in security protections, they expect the bank to teach them the latest security threats and protection resources. Non-users also need special training to increase technological literacy and network trust to transit from offline to online. These findings are being used to design age-tailored interventions to educate older generations to stay safe while banking online.

#### **SESSION 2165 (SYMPOSIUM)**

##### **HEALTH, CARE, AND COMMUNITY: AN ENVIRONMENTAL GERONTOLOGY PERSPECTIVE**

**Chair:** M. Kaup, *ATID, Kansas State University, Manhattan, Kansas*  
**Co-Chair:** J. Norstrand, *Boston College, Chestnut Hill, Massachusetts*

**Discussant:** S. Golant, *University of Florida, Gainesville, Florida*

This symposium presents research on the role of different forms of community in relationship to health care access, outcomes, and general well-being for older adults both in the US as well as China. Presentations will demonstrate the application of both qualitative and quantitative research strategies that can be used to study these variables as well the proposition of new conceptual frameworks for exploring the merger of

ecological models of aging with behavior models of health service use. Three individual presentations will highlight research projects which are exploring the roles and dimensions of environmental factors related to health and care outcomes. One presentation will share the outcomes of a project that examines the relationship between environmental and socio-economic community characteristics associated with health conditions of the elderly in China. A second presentation will discuss the experience of residential change from independent to assisted living in continuing care retirement communities as studied through a phenomenological lens. The final presentation will look to the future of the field of environmental gerontology and proposes a conceptual framework for a course of research that examines how neighborhood environments influence health care access, utilization, and outcomes for chronically ill elders. At the conclusion of this symposium, participants will be able to identify environmental variables that influence older adults' access to health care as well as identify methods and various forms of scholarly inquiry that can be applied to study the relationships between health, care, and community.

#### **COMMUNITY ENVIRONMENT, HEALTH CONDITIONS AND HEALTH CARE OF THE ELDERLY IN CHINA'S COASTAL AREAS**

H. Mi, Z. Ren, *Zhejiang University, Hangzhou, China*

A major criticism of economic development in China has been its negative effects on environment and health. The financial support or pension programs provided to the elderly are limited. This study examines the relationship between environmental and socio-economic community characteristics associated with health conditions of the elderly. The sample included elders in 1010 households from 36 communities. We pooled data from the Household Energy Consumption, Environment and Health Longitudinal Survey. Logistic regression models with multilevel structure were used to control for non-independence of respondents in the same community. The main results show that at the community-level, (1) environmental characteristics, such as not using fuel woods in the community, are the most significant factors to health conditions of the elderly; (2) medical and endowment insurance are not significant due to its low security level, the unbalance between urban and rural areas, and the separation of health care and elderly services systems.

#### **DEFINING COMMUNITY IN ASSISTED LIVING: IMPLICATIONS FOR CARE AND WELL-BEING**

L.L. Lien<sup>1</sup>, M. Bruin<sup>2</sup>, *1. University at Buffalo, Buffalo, New York, 2. University of Minnesota, St. Paul, Minnesota*

Active and supportive communities greatly impact the care and well-being of older adults. In an assisted living environment, the concept of community embodies a unique meaning, spanning physical, social, and psychological domains. This qualitative phenomenological study explored the experience of residential change from independent to assisted living among 22 older adult women residing in two different Continuing Care Retirement Communities. Themes of adaptation, socialization, memories, and satisfaction shed light on how community is defined by residents in supportive housing. Declines in health and newfound dependencies altered perceptions of self, but positively stimulated mutual support and connectedness between participants and staff and among fellow residents, thereby expanding care networks. Knowledge of how community is established within assisted living facilities provides insight into the unique needs and desires of residents, and further helps generate implications for design, policy, and research to cultivate supportive and active networks that improve care and well-being.

## A CONCEPTUAL FRAMEWORK FOR EXAMINING NEIGHBORHOOD ENVIRONMENTS AND OLDER ADULTS' HEALTH CARE ACCESS

M. Ryvicker, *Center for Home Care Policy and Research, Visiting Nurse Service of New York, New York, New York*

A growing body of research has examined how older adults' health and wellbeing are sensitive to the physical and social environments of their surrounding neighborhoods. However, relatively little is known about how neighborhood environments influence older adults' access to health care, beyond geographic variations in health care supply. This paper proposes a conceptual framework for a course of research that examines how neighborhood environments influence health care access, utilization, and outcomes for chronically ill elders. The framework merges the ecological model of aging with the behavioral model of health service use to propose testable hypotheses about the health care environment, social environment, and built environment as causal and moderating factors in access to care. The model aims to facilitate analysis of within-city variation in access, with the goal of identifying environmental factors contributing to disparities in access that are not fully explained by variations in the supply of health services.

## SESSION 2170 (SYMPOSIUM)

### INEQUALITIES IN HEALTH AND WELL-BEING ACROSS THE LIFE COURSE: EVIDENCE FROM AMERICANS' CHANGING LIVES

**Chair:** A. Karraker, *Population Studies Center, University of Michigan, Ann Arbor, Michigan*

**Discussant:** J.A. Ailshire, *University of Southern California, Los Angeles, California*

The determinants and dynamics of health inequalities across the life course are complex and have important implications for individuals, families, communities, and society. These papers use data from the Americans' Changing Lives (ACL) to document and explicate the determinants of health inequalities across the life course. Americans' Changing Lives is the longest continuously running longitudinal study in the United States of the determinants of health and well-being and contains rich and repeated measures of health-related outcomes and related social factors. This nationally-representative sample contains five waves of data spanning from 1986 through 2011. These papers draw on ACL's rich data to explore the social, economic, psychological, and behavioral factors associated with health and well-being across individuals' lives. Papers use data from the newly-available fifth wave of data which includes several novel measures, such as sleep quality, diet, and detailed measures of health screening and preventative care. The presentations examine 1) the sociodemographic patterning of depression trajectories, 2) the connections between life course mastery and mobility-related assistive technology, 3) the relationships between chronic disease, depression and sleep problems, and 4) the social patterning of health care utilization. This suite of papers demonstrates the interrelationships between multiple dimensions of social position, health, and well-being with one another and the importance of longitudinal data in documenting cumulative (dis)advantage. The discussant will identify common themes across papers, methodological innovations, and highlight policy implications and directions for future research.

## A LIFE COURSE VIEW ON DEPRESSION: TRAJECTORIES AND TYPOLOGIES OVER 25 YEARS OF AMERICANS' CHANGING LIVES

O. Rostant<sup>1,2</sup>, P. Clarke<sup>3</sup>, R.J. McCammon<sup>4</sup>, M. Sinkewicz<sup>5</sup>, K. Zivin<sup>2,6</sup>, 1. *National Institute on Aging, Baltimore, Maryland*, 2. *Psychiatry, University of Michigan, Ann Arbor, Michigan*, 3. *Institute for Social Research University of Michigan, Ann Arbor, Michigan*, 4. *Department of Medicine University of Michigan Medical School, Ann Arbor, Michigan*, 5. *University of Michigan School of Social Work, Ann Arbor, Michigan*, 6. *Department of Veterans Affairs, HSR&D Center for Clinical Care Management, and Serious Mental Illness Treatment, Resource and Evaluation Center (SMITREC), Ann Arbor, Michigan*

This study investigates variations in trajectories of depressive symptomatology across the life course and examines the extent to which socio-demographic characteristics explain this variation. Data come from the Americans' Changing Lives (ACL) study, a national sample of 3617 adults (age 25+) followed over 25 years (1986-2011). Depressive symptoms were assessed across five waves of data, with a 7-item abbreviated version of the Center for Epidemiologic Studies-Depression scale (CES-D7). Results indicate that the CES-D7 was invariant across time. Two latent depression trajectories were identified across the life course; one was a normative trajectory (60% of the sample) and the other (40%) had persistently high depressive symptoms. Individuals in the high depressive symptomatology class were more likely to be female, African American, have less education and lower incomes. This study highlights the need for examining heterogeneity in depressive trajectories in order to appropriately screen and treat depression in an increasingly diverse society.

### LIFE COURSE MASTERY AND MOBILITY-RELATED ASSISTIVE TECHNOLOGY USE: FINDINGS FROM THE AMERICANS' CHANGING LIVES SURVEY

K. Latham<sup>1</sup>, P. Clarke<sup>2</sup>, 1. *Department of Sociology, Indiana University-Purdue University Indianapolis, Indianapolis, Indiana*, 2. *University of Michigan, Ann Arbor, Michigan*

Mastery in older ages is intrinsically linked to early-life and midlife experiences. Prior research has demonstrated that mastery is positively associated with health, and it is thought to shape health behavior including mobility device (e.g., canes, walkers, or wheelchairs) use. Using 25 years of data from the Americans' Changing Lives Survey, this research explores whether life course mastery influences the likelihood an older adult with functional impairment uses a mobility device. We used growth mixture models with a distal outcome, and examined the relationship between functional limitations and mobility device use as it varies across latent classes of life course mastery, controlling for socio-demographic characteristics and health histories. The odds of device use in the face of functional limitations was significantly higher among those with a history of persistently high life course mastery over adulthood, all other things being equal (difference in coefficients = 1.29, 95% CI = .03, 2.79).

### THE IMPACT OF SLEEP DISTURBANCE ON THE ASSOCIATION BETWEEN STRESSFUL LIFE EVENTS AND CHRONIC ILLNESS WITH DEPRESSIVE SYMPTOMS

A.N. Leggett<sup>1</sup>, S.A. Burgard<sup>1</sup>, K. Zivin<sup>1,2</sup>, 1. *The University of Michigan, Ann Arbor, Michigan*, 2. *Department of Veterans Affairs, Ann Arbor, Michigan*

Sleep problems are common among older adults and may negatively impact depressed mood and its risk factors. We examine sleep disturbance as a moderator of the association between stressful life events and chronic illness with depressive symptoms in wave five of the American Changing Lives Study. On average, participants (N=1306; mean age = 63 years) experienced one chronic illness, three life events, and moderate sleep disturbance. Using linear regression, we found that

chronic illness, life events and sleep disturbance were associated with depressive symptoms. Additionally we found a significant sleep disturbance by life events interaction showing that individuals experiencing many life events and severe sleep disturbance were at particularly high risk for depressive symptoms. While chronic illness, life events and sleep disturbance all impact depressive symptoms, findings indicate the stress-mood relationship is strongest at poor levels of sleep. Sleeping restfully may allow individuals the rejuvenation needed to manage stress adaptively.

#### **THE ROLE OF INFORMAL AND FORMAL PREVENTIVE MEDICAL BEHAVIOR IN EDUCATIONAL DISPARITIES IN HEALTH**

S. Burgard<sup>1</sup>, J. House<sup>2</sup>, P. Christine<sup>2</sup>, K. Hauschildt<sup>2</sup>, D.C. Brown<sup>2</sup>, K.M. Langa<sup>2</sup>, R. Melendez<sup>2</sup>, R. Mero<sup>2</sup>, 1. *Sociology, University of Michigan, Ann Arbor, Michigan*, 2. *University of Michigan, Ann Arbor, Michigan*

Education has a very strong protective effect on health over the life course, particularly in preventing or postponing the onset of morbidity and functional impairment/disability. Improved socioeconomic attainments of better-educated people and patterns of risk or protective behaviors over the life course (smoking, alcohol consumption, total caloric consumption/body mass/obesity, and physical activity) explain part of education's effect. Using cross-sectional data from Wave 5 (2011/12) and data from earlier waves of the ACL study, we show that less-studied factors are also strongly associated with education (and less so with income) and may help to explain some of the remaining association between education and poor health. These include health literacy, specific dietary factors (e.g. Mediterranean diet), formal preventive behaviors (e.g., screening tests for blood pressure, cholesterol, blood sugar, colon polyps, and dental or eye problems) and informal ones (e.g., supplements such as vitamins, aspirin, and calcium).

#### **SESSION 2175 (PAPER)**

#### **DIMENSIONS OF CAREGIVING: CROSS-NATIONAL PERSPECTIVES**

#### **POSITIVE AND NEGATIVE WORK-FAMILY SPILLOVER ON PSYCHOLOGICAL AND PHYSIOLOGICAL FUNCTIONING IN MIDLIFE PARENTAL CAREGIVERS OF INDIVIDUALS WITH AND WITHOUT DISABILITIES**

J.D. Wong<sup>1</sup>, Y. Shobo<sup>2</sup>, 1. *Human Sciences, The Ohio State University, Columbus, Ohio*, 2. *West Virginia Higher Education Policy Commission, Charleston, West Virginia*

The influence of positive and negative work-family spillover on psychological and physiological functioning was examined in a sample of 69 parental caregivers (Mage =49.84, SD=9.66) of individuals with disabilities and 278 parents (Mage=50.88, SD=9.07) of individuals without disabilities. As a part of the National Survey of Midlife in the United States (Wave-2), parents completed interviews, questionnaires, and a Daily Diary Study. Parents also provided saliva on four of the eight Daily Diary Study days. Hierarchical regression analyses showed that parents of individuals with disabilities who reported high levels of negative family-to-work spillover had the greatest levels of negative affect than the comparison parents. Multilevel models also revealed a significant interactive effect of caregiver status and negative work-to-family spillover on bedtime cortisol level. Our findings highlight the importance of bridging research on parental demands and occupational stress to better understand the psychological and physiological impact of caregiving for individuals with disabilities in midlife.

#### **POSITIVE ASPECTS OF FAMILY CAREGIVING: ITEM RESPONSE THEORY ANALYSES OF RACE AND GENDER DIFFERENCES**

D.L. Roth<sup>1</sup>, P. Dilworth-Anderson<sup>2</sup>, J. Huang<sup>1</sup>, A.L. Gross<sup>1</sup>, L.N. Gitlin<sup>1</sup>, 1. *Johns Hopkins University, Baltimore, Maryland*, 2. *University of North Carolina-Chapel Hill, Chapel Hill, North Carolina*

Recent research and theory have emphasized certain positive experiences that may result from providing care to a family member with dementia. The 11-item Positive Aspects of Caregiving (PAC) scale was designed to assess this construct, and it was administered to participants in the second Resources for Enhancing Alzheimer's Caregiver Health (REACH II) clinical trial. PAC item data were obtained from 211 African American, 212 Hispanic, and 219 White family caregivers at baseline and before any REACH II interventions were provided. Item response theory models were used to assess for possible differential item functioning (DIF) by caregiver race and gender. Statistically significant ( $p < .05$ ) and practically meaningful (odds ratio (OR)  $> 2$ ) DIF was found for African Americans compared to Whites on two of the PAC items. Meaningful DIF was not found when comparing Hispanics to Whites or women to men. After controlling for the unidimensional latent construct underlying all 11 items, African Americans were more likely than Whites to agree that caregiving helped them "to develop a more positive attitude toward life" (OR = 3.12,  $p < .001$ ) and "to appreciate life more" (OR = 2.66,  $p < .001$ ). The 11-item PAC scale appears to contain two items that are particularly sensitive to cultural factors and caregiving expectations that are more important for African Americans than for Whites or Hispanics, and associations with observed summary scores on the PAC may be moderately impacted by this differential sensitivity. These findings reinforce considering the cultural implications of positive experiences in caregiving.

#### **FAMILY CARE AND HEALTH BEHAVIOR AMONG MEN: DOES RELATIONSHIP QUALITY MATTER?**

N. DePasquale<sup>1</sup>, C.A. Polenick<sup>1</sup>, D. Almeida<sup>1</sup>, J. Bray<sup>4</sup>, J. Hinde<sup>5</sup>, P. Moen<sup>3</sup>, L.B. Hammer<sup>2</sup>, 1. *The Pennsylvania State University, University Park, Pennsylvania*, 2. *Portland State University, Portland, Oregon*, 3. *University of Minnesota, Minneapolis, Minnesota*, 4. *Bryan School of Business and Economics, Greensboro, North Carolina*, 5. *RTI International, Research Triangle Park, North Dakota*

Although men now represent nearly half of family caregivers in the United States and continue to increase in number, relatively little is known about caregiving men. Given their shorter lifespans and unhealthier lifestyles compared to women, determining whether and how family care roles affect health behavior is particularly important for men. Using survey data on 370 cohabiting and married men from the Work, Family, and Health Study, we examined family care (child care only, elder care only, and multigenerational or 'sandwiched' care) correlates of self-reported sleep duration, cigarette smoking, alcohol consumption, exercise, and physical activity. We also tested the degree to which partner relationship quality moderated these associations. Findings suggest that partner relationship quality moderates caregiving men's health behavior across care situations. Evaluating health behavior and related contextual factors among caregiving men is important not only for their own health, but also for their ability to provide quality care.

#### **DECISION ON INSTITUTIONALIZATION BY FAMILY CAREGIVERS: THE CASE OF GREECE**

C. Pliakos, 1. *University of Central Lancashire, Preston, United Kingdom*, 2. *Greek Institute of Gerontology and Urban Sociology on Ageing, Athens, Greece*

Purpose: In part of a cross-nation project between UK and Greece, on the theme of 'ageing in place' named the PATH project, this empiri-

cal study aims to identify the decisive factors of Greek family caregivers to older adults that could lead their decision to institutionalize their beloved ones. Methods: A mixed method technique in two independent samples is used by conducting an e-mail survey with structured questionnaires responded by 932 home-based family caregivers (n=932) and a qualitative study with 53 in-depth interviews conducted on 74 caregivers/decision makers (n=53) using a semi-structured questionnaire of 9 open-ended questions during the procedure of seeking a nursing or residential setting to place their relatives. Qualitative and quantitative data were analysed using Nvivo10 and SPSS10 and compared findings through methodological triangulation applied in the independent studies. Results: Findings suggested a number of 'push' and 'pull' factors for possible institutionalization with order of influence: Diminishing health status and the need for extra care, poor housing quality, lack of supportive community services, dementia related challenging behaviors, safety concerns, emotional burden and psychological stressors, changes in working conditions at the job of the caregivers, feeling of loneliness and need for socialization. Conclusions: The study develops more in-depth understanding on the reasons affecting the choice of institutionalization made by the Greek family caregivers. However, there is a need for further research with data collection on different phases of the institutionalization process and cross-nation comparisons with respect to cultural diversity issues in undertaking the caregiving role.

### **ELDERCARE IN TRANSNATIONAL SETTINGS: GLOBAL CARE CHAIN AND MEXICAN MIGRANT WOMEN**

I. Amin, *University of North Texas at Dallas, Dallas, Texas*

With increase of transnational families and global aging, transnational elder care is becoming common. To date, global care chain analysis has predominantly focused on married women migrating to richer countries to take up domestic work leaving their dependent children, the care of whom is provided by other poorer women or often by unpaid labor. Little is known about the care chains involved in the transnational elder care practices and the delivery of physical and emotional care throughout the chain, and the influence of cultural and familial expectations on the caring arrangements for the aged. To fill this knowledge gap, using a grounded theory approach, this study analyzed transnational eldercare practices of nine Mexican migrant female care workers living in the U.S. The age of the women was between 24 and 48, and care recipients between 56 and 73. The narrated stories of the women reveal many strategies they adopt to deliver emotional care to the aged parents left behind, and in most cases at the bottom of the chain the physical as well as emotional eldercare are provided by hired domestic female labor, and other unpaid female family members. The care chain is multidirectional and the quality of care depends on factors such as, remittance sent, number of siblings, types of family, and age of the care recipient. The findings contribute to a growing body of research suggesting that international migration impacts eldercare, and by highlighting the importance of institutional policies to cater the caregiving needs of transnational families.

## **SESSION 2180 (PAPER)**

### **FAMILY CAREGIVING**

#### **HOW DO FAMILY CAREGIVERS DEAL WITH CONFLICT IN LONG TERM CARE? APPLICATION OF CONFLICT THEORY**

A. Petrovic-Poljak, C. Konnert, *Department of Psychology, University of Calgary, Calgary, Alberta, Canada*

Conflict between families and staff in long term care (LTC) is a daily reality that has adverse outcomes for residents, staff and families. However, to date it has not been empirically evaluated. Multiple barriers exist in examining conflict, including its sensitive nature, which may have precluded such study, as well as lack of theoretical integration. In

order to examine family-staff conflict and its management in LTC, this research is merging two independent bodies of literature, that of family caregiving in LTC and organizational behavior literature on conflict. This study presents the argument that two prominent theories from the conflict literature, namely the theory of cooperation and competition (Deutsch, 1973) and the dual concern theory (Pruitt & Rubin, 1986) can be applied in the LTC context. In addition to discussing theoretical applications, the study examined conflict resolution strategies through questionnaires in a sample of family caregivers, with data showing preliminary support for the model. Results indicate that family caregivers engage in a variety of conflict resolution strategies to manage family-staff conflicts and indicate a significant role for trust, power and communication between family and staff. The implications of the conflict resolution techniques endorsed by family caregivers and the theoretical fit will be discussed. In order to effectively intervene in family-staff conflicts, it is imperative that greater understanding of conflict and its management from the point of view of family caregivers is obtained, and that conflict and conflict management models successfully used in other conflict situations are applied to family-staff conflicts.

### **CAREGIVER OUTCOMES FROM THE GEORGIA AND TENNESSEE REPLICATION STUDIES OF BRI CARE CONSULTATION**

B. Primetica<sup>1</sup>, D.M. Bass<sup>1</sup>, C. Holloway<sup>2</sup>, L. Easom<sup>2</sup>, C. McCarthy<sup>1</sup>, J. Wade-Whitehead<sup>3</sup>, *1. Benjamin Rose Institute on Aging, Cleveland, Ohio, 2. Rosalynn Institute for Caregiving, Americus, Georgia, 3. Alzheimer's Tennessee, Inc., Knoxville, Tennessee*

BRI Care Consultation is an evidence-based program for older adults with physical or mental health challenges and their family caregivers. It is a telephone-based program that provides health- and care-related information, supports family and friend involvement in care, increases awareness and use of community services, and gives emotional support and coaching. With funding from the U.S. Administration on Aging's "Alzheimer's Disease Services and Support Program," BRI Care Consultation was implemented by three Area Agencies on Aging in Georgia and one Alzheimer's disease support organization serving the eastern half of Tennessee. This investigation examines changes in three categories of caregiver outcomes from enrollment to 12-months post enrollment for family caregivers in the Georgia and Tennessee programs. Outcomes included: 1) caregiver strains, 2) unmet needs, and 3) formal and informal support. Multivariate analyses of data from structured interviews with 439 caregivers indicated significant, modest-sized decreases in several types of caregiver strains over the 12-month study period, particularly for caregivers of care receivers with more cognitive and behavioral symptoms. Sizeable, significant decreases occurred for all types of unmet needs, such as with understanding memory problems, completing daily living tasks, and accessing community services. There were significant, modest-sized increases in satisfaction with informal help for care receivers and caregivers, and quality of care from physicians. Overall, results show a large-scale community implementation of BRI Care Consultation, outside of a controlled research study, was associated with improvements in a wide range of caregiver outcomes.

### **EXPLORING THE RELATIONSHIPS BETWEEN RESILIENCE, BURDEN, AND WELL-BEING IN FAMILY CAREGIVERS TO HOLOCAUST SURVIVORS**

K.A. Anderson<sup>1</sup>, N.L. Fields<sup>2</sup>, *1. University of Montana, Missoula, Montana, 2. University of Texas Arlington, Arlington, Texas*

Background: Family members often draw upon resilience to help address the myriad stressors associated with caregiving. For some family caregivers, however, high levels of perceived resilience may preclude them from seeking assistance, resulting in unmet need and excess burden. Qualitative research has found that this may be the case with family caregivers to Holocaust survivors. Using quantitative methods, researchers examined the relationships between resilience and well-be-

ing in this unique group of family caregivers. **Methods:** Convenience sampling was used to recruit 89 (N = 89) family caregivers to Holocaust survivors. Participants completed the Resilience Scale, Zarit Burden Interview-Short Version, Center for Epidemiology Studies Depression Scale, and the Perceived Well-Being Scale-Revised. Participants were grouped as having “low-resilience”, “moderate resilience”, and “high resilience”. ANOVA analyses with Scheffé’s post-hoc tests were used to analyze the data. **Results:** Caregiver resilience was not significantly related to burden ( $F(2,86) = 0.72$ , ns) and there were no significant differences in mean levels of burden between the groups. Caregiver resilience was significantly related to depression ( $F(2,86) = 12.98$ ,  $p = .000$ ) and physical well-being ( $F(2,86) = 7.05$ ,  $p = .001$ ). Mean levels of depression were significantly higher and mean levels of physical well-being were significantly lower in low-resilience caregivers. **Discussion:** Reflective of past research, resilience appears to have a strong relationship with well-being; however, high levels of resilience may not protect family caregivers from burden and may obscure legitimate needs for assistance. These findings are explored in context to caregiving for other aging trauma survivors (e.g., combat veterans).

#### SHARED CARE PARTNERS INTERVENTION FOR HEART FAILURE PATIENTS AND FAMILY CAREGIVERS

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Heart Failure (HF) patients experience poor self-care, suffer cognitive impairment and increased mortality risk, and underutilize palliative care. This study tested the feasibility of delivering the Shared Care Partners Intervention (SCPI) to HF patients and family caregivers, hereafter referred to as care partners. The SCPI’s goal is to improve HF self-care and future care planning. The SCPI adapted the effective SHARE program, which assisted partners managing dementia to develop a future care plan. A one-group quasi-experimental design was used, with eleven HF care partner pairs recruited from the community. Mean patient age was 80 years, 5 female, 6 African American. Mean caregiver age was 61, 10 female, 6 African American. Results of process and outcome evaluation supported the feasibility of the SCPI. Specifically patients had improvements in self-care maintenance ( $d = .39$ ) and management ( $d = .48$ ). An important finding occurred with the “Care Circles” tool where 30 self-care tasks are assigned by the patient and caregiver separately into one of three circles (caregiver, family/friends, and paid helpers). Both partners believed that the patient would prefer that the caregiver help with over 80% of self-care tasks. In subsequent joint discussion, the “full” caregiver circle and “empty” family and paid helpers circles were compelling representations of the overload that could occur. This awareness supported development of a future care plan, as well as a broader perspective on HF prognosis. Results supported our hypothesis that targeted communication facilitated self-care and care planning. We are currently enhancing the SCPI with iPad application software.

#### CAREGIVER BURDEN AND RACIAL DISCRIMINATION: A MIXED METHODS STUDY OF CHRONIC STRESS

D.Y. Stevens, K. Hepburn, *Emory University, Atlanta, Georgia*

Caregiver burden is a multidimensional response to the physical, emotional, and financial stressors of caring for an adult with a disabling condition. Burden has been repeatedly linked with illness, depression, and decreased quality of life. Using the Pearlin Stress & Coping framework, we examined the negative effects of chronic psychosocial stress, specifically caregiver burden and racial discrimination, on the health of African American caregivers of dementia patients ( $n=100$ ). We utilized a mixed methods design with both quantitative and qualitative components. Correlation procedures and multivariate regression analyses were conducted for quantitative data analysis. A phenomenological

approach was used to guide the qualitative data collection and analysis. By blending research methods, we were able to illuminate compounded challenges African American family caregivers face. Consistent with previous findings, we discovered that caregiver burden and discrimination have independent relationships with both depression and anxiety. We also discovered discrepancies between the survey data and narrative accounts of caregiver burden. We concluded that measures of discrimination (both everyday and vigilance) were added stressors for African American caregivers, significantly predicting both depression and anxiety in this sample. We also found some caregivers were more resilient and perceived low levels of burden, while others are burdened by their caregiving responsibilities. It is critical for researchers to continue to explore how multiple stressors can have a cumulative effect on minority caregivers. Researchers conducting caregiver studies involving African Americans should consider how these cultural- and societal-level determinants influence the caregiving experience.

#### SESSION 2185 (SYMPOSIUM)

##### NUTRITION AS A DETERMINANT OF HEALTHY AGING : NEW RESULTS FROM THE NUAGE STUDY

**Chair:** P. Gaudreau, *University of Montreal, Montreal, Quebec, Canada*

**Discussant:** H. Payette, *University of Sherbrooke, Sherbrooke, Quebec, Canada*

Preservation of functional capacities and autonomy represents an important challenge in our aging societies. Although the impact of modifiable determinants for example diet have gain substantial interest, longitudinal dietary data in elderly populations are still sparse. The NuAge cohort study is an observational study of 1,793 community-dwelling men and women aged 67-84 years, in good general health as well as cognitively- and functionally-intact at recruitment in 2004. Participants were drawn from a random sample stratified by age and sex, obtained from the Quebec Medicare database for the Montreal, Laval and Sherbrooke areas (QC, CA). The general hypothesis of the study was that maintenance of optimal dietary intakes throughout the senior years is associated with better physical and mental health. Here, the conference presentations are focusing on the effects of nutrients and/or dietary patterns on trajectories of physiological dysregulation, using an array of circulating biomarkers, as well as on cognition and late-life depression. Results emerging from these studies indicate that diet significantly regulates physiological trajectories during aging. Moreover, high sodium intake is detrimental to cognition in sedentary but not in physically active older individuals. Finally, a change in some micronutrients but neither in macronutrient nor energy intakes is observed in depressed NuAge participants. Altogether, these findings indicate that dietary intakes and patterns play a pivotal role in the maintenance of health in old age and suggest new avenues for dietary interventions.

##### INTERACTIONS BETWEEN NUTRITIONAL PATTERNS AND PHYSIOLOGICAL DYSREGULATION TRAJECTORIES DURING AGING

A.A. Cohen<sup>1</sup>, E. Milot<sup>1</sup>, H. Payette<sup>1</sup>, P. Gaudreau<sup>2</sup>, N. Malo<sup>1</sup>, 1. *Université de Sherbrooke, Sherbrooke, Quebec, Canada*, 2. *Centre de recherche hospitalier de l’université de Montréal, Montréal, Quebec, Canada*

We have recently proposed a method to measure physiological dysregulation (PD) during aging using an array of basic blood biomarkers. Here, we used this approach to study how dietary patterns affect trajectories of PD, using the NuAge cohort study. We found that total caloric intake predicts individual basal dysregulation level, but has no measurable effect on the individual rate of dysregulation. In contrast, dynamic dietary intake, estimated using Bayesian trajectory models, had a significant effect on the rate of dysregulation, meaning that individuals who increased their caloric intake faster during the interval



also dysregulated faster. Additionally, higher baseline total score on the Canadian adaptation of the USDA Healthy Eating Index (C-HEI) and greater increase in fruit/vegetable C-HEI together predicted lower rate of dysregulation. This result implies that changing one's diet to conform to C-HEI guidelines for fruits and vegetables may actually slow the rate of aging.

#### **DIET AND LATE-LIFE DEPRESSION: A REVERSE CAUSALITY STUDY IN COMMUNITY-DWELLING OLDER ADULTS. THE NUAGE STUDY**

L. Gougeon<sup>1</sup>, H. Payette<sup>2,3</sup>, J.A. Morais<sup>1</sup>, K. Gray-Donald<sup>1</sup>, *1. McGill University, Montreal, Quebec, Canada, 2. University Institute of Geriatrics of Sherbrooke, Sherbrooke, Quebec, Canada, 3. University of Sherbrooke, Sherbrooke, Quebec, Canada*

To test the reverse causality hypothesis between diet and depression, in which becoming depressed would affect older adults' intake, we compared changes in usual intakes of depressed (75.1 ± 4.0y, n=158, 61% female) and age-sex-matched non-depressed participants (n=158) at the year prior to depression and at the year of depression (GDS<sub>≥</sub>11 or antidepressant use). In GLM mixed models, energy, protein, saturated fat, and total dietary fibre (three non-consecutive 24h-recalls) did not change significantly in those who became depressed vs. those who did not. Depressed subjects had significant lower overall intakes of folate, vitamins B6 and B12. A significant interaction of time\*depression (p=0.033) was observed for B12 intake: depressed subjects declined over time compared to non-depressed, indicating incident depression only seemed to affect this one nutrient. Implications for practice and potential psychological and dietary resilience among these seniors will be discussed.

#### **THE PROTECTIVE EFFECT OF A HEALTHY DIET ON COGNITION IS MODULATED BY PERSONAL CHARACTERISTICS AND LIFESTYLE FACTORS IN THE NUAGE STUDY**

G. Ferland<sup>1</sup>, S. Belleville<sup>1</sup>, M. Kergoat<sup>1</sup>, J. Morais<sup>2</sup>, B. Shatenstein<sup>1</sup>, C. Greenwood<sup>3</sup>, *1. IUGM, Université de Montreal, Montreal, Quebec, Canada, 2. McGill University, Montreal, Quebec, Canada, 3. University of Toronto, Toronto, Ontario, Canada*

A healthy diet has been linked to better cognition in older individuals, although the strength of the association has varied among studies. It has been suggested that personal characteristics [e.g. socio-economic status (SES)] and lifestyle factors (e.g. physical activity) could modulate the diet-cognition relationship in old age. We investigated the modulatory role of these factors in subgroups of individuals from the NuAge cohort (aged 67–84 years). Adherence to a healthy diet was related to better cognition at recruitment only in individuals in the upper categories of income and education, and was associated with less cognitive decline only in those with low SES. In separate analyses, a high sodium intake was found to be particularly detrimental to cognition in sedentary, but not in physically active individuals. These findings suggest that cognition in old age is influenced by multiple personal and lifestyle factors, which interact with one another.

## **SESSION 2190 (SYMPOSIUM)**

### **EVIDENCED-BASED CARE TRANSITIONS MODELS: HOW AGING AND DISABILITY RESOURCE CENTERS IMPLEMENTED MODELS TO CONNECT PEOPLE TO SUPPORTIVE SERVICES AND REDUCE HOSPITAL READMISSION RATES**

**Chair:** C. Ryan, *US Administration for Community Living, Washington, District of Columbia*

**Co-Chair:** S. Jenkins, *US Administration for Community Living, Washington, District of Columbia*

**Discussant:** C. Ryan, *US Administration for Community Living, Washington, District of Columbia*

In 2010, The Administration for Community Living (ACL) and CMS funded 16 states to implement evidence based care transition programs through Aging and Disability Resource Center (ADRC) and hospital partnerships. Although results varied by state, preliminary findings indicate that these community/hospital partnerships have the potential to address the social determinants of health and reduce readmissions. During this symposium, participants will learn about the experience of three states that successfully implemented and evaluated ADRC transition programs. These states will share how the community based programs tracked outcomes, including readmissions and explore the impact of person centered counseling and connection to long term services and supports on readmission rates.

### **FROM HOSPITALS TO THE COMMUNITY KIOSKS FOR LIVING WELL: HOW THE AGING AND DISABILITY RESOURCE CONSORTIUM OF THE GREATER NORTH SHORE, INC. IN MASSACHUSETTS LEVERAGES CARE TRANSITIONS MODELS TO PREVENT AVOIDABLE HEALTH CARE CRISES, REDUCE READMISSION RATES, AND PROMOTE GREATER COMMUNITY LIVABILITY**

V. Parker Callahan, *1. Greater Lynn Senior Services, Lynn, Massachusetts, 2. Aging and Disability Resource Consortium of the Greater North Shore, Inc., Lynn, Massachusetts*

The Aging and Disability Resource Consortium of the Greater North Shore, Inc. (ADRCGNS) is an independent non-profit organization spanning nineteen diverse communities served by multiple health care systems on Massachusetts' North Shore. Dedicated to delivering person-driven supports through a "No Wrong Door" system that promotes greater consumer engagement and investment in health and well-being, the ADRCGNS has created and collaboratively implemented critical programs across the region using key care transitions principles to enhance the ways in which community-based long term support services (LTSS) more effectively address chronic disease, health care access, community inclusion, and overall consumer health and well-being. This session will review several innovative ADRCGNS initiatives including: 1) cooperative programs with hospitals, physician practices, health centers, and emergency medical service providers; 2) enhanced LTSS coordination for the Commonwealth's pilot duals demonstration; and 3) the development of the Kiosks for Living well as social magnets fostering more effective health self-management.

### **COMMUNITY-HOSPITAL PARTNERSHIP TO FACILITATE IMPROVEMENTS IN CARE TRANSITIONS**

L. Davie, *1. Center on Aging and Community Living, Durham, New Hampshire, 2. Institute for Health Policy and Practice, Durham, New Hampshire*

Improving health care with quantifiable results requires non-traditional partnerships extending beyond traditional medical models. In 2010 Laconia New Hampshire's ServiceLink Resource Center (SLRC), an Aging and Disability Resource Center, and Lakes Region General Hospital, piloted a unique approach to enhance the Better Outcomes for Older Adults through Safe Transitions (BOOST) care transition model.

The project linked hospital discharge to community-based services, using long-standing infrastructure with a primary purpose of assisting people in finding community resources. Resources included connections with community services, increased caregiver support, early assessment of long term care needs, and working with hospital patients and their caregivers to begin long term planning. We will discuss how the program tracked outcomes explored the impact of person centered counseling on the connection to long term services and supports. The program demonstrated a lower 30 day readmission rate, even with a higher case mix.

## SESSION 2195 (PAPER)

### BIOLOGY OF AGING

#### WHY ARE “RISK ALLELES” COMMON IN GENOMES OF LONG-LIVED PEOPLE?

S.V. Ukraintseva, A. Kulminski, K.G. Arbeeve, I. Akushevich, D. Wu, K. Land, P. Stallard, A.I. Yashin, *Duke University, Durham, North Carolina*

Genetic variants that have been associated with increased risks of complex health disorders, such as CHD, cancer, diabetes and Alzheimer’s disease (AD), are often found in genomes of long-lived people, and do not seem to compromise longevity. Causes of this phenomenon are important to understand. Here we argue that one such cause could be that the effect of a gene variant on person’s survival is not fixed but may depend on other factors and change during the life course. Specifically, the influence of a genetic variant on lifespan may be significantly modified by: (i) antagonistic effects of this variant on health and aging related traits (“genetic trade-offs”); (ii) person’s age, (iii) interaction with other genes (epistasis), and (iv) gene-environment interaction, among other factors. We review current evidence in support of this hypothesis and show that the above factors can plausibly explain the common presence of so called “risk alleles” in genomes of long-lived people. E.g., an allele that increases the risk of cancer in middle age via upregulation of IGF-1, may also improve survival chances in the oldest old due to attenuation of sarcopenia and physical senescence owing the same upregulation of IGF-1, so that such allele will not necessary reduce someone’s chances of becoming a centenarian. Advancing research on conditional effects of genes on phenotypes of senescence, disease and survival is crucial for better understanding the complex relationships between physiological aging, health decline and longevity, and for facilitating the progress in the area of personalized prevention.

#### IS CHRONIC ASTHMA ASSOCIATED WITH SHORTER LEUKOCYTE TELOMERE LENGTH AT MIDLIFE?

D. Belsky, *Center for the Study of Aging and Human Development, Duke University, Durham, North Carolina*

Background. Asthma is prospectively associated with age-related chronic diseases and mortality, suggesting the hypothesis that asthma may relate to a general, multi-system phenotype of accelerated aging. Objective. To test whether chronic asthma is associated with a proposed biomarker of accelerated aging, leukocyte telomere length. Method. Asthma was ascertained prospectively in the Dunedin Multidisciplinary Health and Development Study cohort (N=1,037) at 9 in-person assessments spanning ages 9 to 38 years. Leukocyte telomere length was measured at ages 26 and 38 years. Asthma was classified as life-course-persistent, childhood onset without persistence, and adolescent/adult onset. We tested associations between asthma and leukocyte telomere length using regression models. We tested for confounding of asthma-leukocyte telomere length associations using covariate adjustment. We tested serum C-reactive protein and white blood cell counts as potential mediators of asthma-leukocyte telomere length associations. Results. Study members with life-course-persistent asthma had shorter leukocyte telomere length as compared to sex- and age-matched peers

with no reported asthma. In contrast, leukocyte telomere length in study members with childhood-onset and adolescent/adult-onset asthma was not different from leukocyte telomere length in peers with no reported asthma. Adjustment for life histories of obesity and smoking did not change results. Study members with life-course-persistent asthma had elevated blood eosinophil counts. Blood eosinophil count mediated 29% of the life-course-persistent asthma-leukocyte telomere length association. Conclusions. Life-course-persistent asthma is related to a proposed biomarker of accelerated aging, possibly via systemic eosinophilic inflammation. Life histories of asthma can inform studies of aging.

#### BLOOD AND MUSCLE MITOCHONDRIAL BIOENERGETICS ARE ASSOCIATED WITH PHYSICAL FUNCTION IN OLDER ADULTS

D.J. Tyrrell, M.S. Bharadwaj, C.G. Van Horn, S.B. Kritchevsky, B. Nicklas, A.J. Molina, *Geriatrics and Gerontology, Wake Forest School of Medicine, Winston Salem, North Carolina*

Background: Gait speed provides an integrated measure of physical ability that is predictive of morbidity, disability, and mortality in older adults. Energy demands associated with walking suggest that mitochondrial bioenergetics may play a role in gait speed. Here, we examined the relationship between gait speed and skeletal muscle mitochondrial bioenergetics, and further evaluated whether blood-based bioenergetic profiling might have similar associations with gait speed. Methods: Participants in this study were comprised of two subsets (n=17 per subset) and were overweight/obese (BMI, 30.9±2.37), well functioning, community-dwelling older adults (69.1±3.69yrs) without major comorbidity. Gait speeds were calculated from a fast-paced 400m walk test. Respiratory control ratios (RCR) were measured from mitochondria isolated from leg skeletal muscle biopsies from one subset. Maximal respiration and spare respiratory capacity (SRC) were measured from peripheral blood mononuclear cells (PBMCs) from the other subset. Results: Individual differences in gait speed correlated directly with RCR of mitochondria isolated from skeletal muscle (r=0.536, p=0.027) and with both maximal respiration and SRC of PBMCs (r=0.585 and p=0.014; r=0.609 and p=0.009, respectively). Conclusions: The bioenergetic profile of isolated mitochondria from skeletal muscle is an objective measure associated with physical ability in older adults. Blood-based bioenergetic profiling may provide a simpler alternative measure that is also associated with physical ability in older adults.

#### INTERRELATIONSHIPS BETWEEN MUSCLE ENDURANCE, SELF-PERCEIVED FATIGUE AND CIRCULATING MARKERS OF INFLAMMATION IN PARTICIPANTS OF THE COPENHAGEN AGING AND MIDLIFE BIOBANK

I. Bautmans<sup>1,2</sup>, I. Beyer<sup>2,1</sup>, A. Hansen<sup>3,4</sup>, K. Avlund<sup>3,4</sup>, H. Bruunsgaard<sup>5</sup>, D. Molbo<sup>3</sup>, E.L. Mortensen<sup>3,4,6</sup>, R. Lund<sup>3</sup>, 1. *Gerontology Department (GERO) and Frailty in Aging Research group (FRIA), Vrije Universiteit Brussel (VUB), Brussels, Belgium*, 2. *Department of Geriatrics, Universitair Ziekenhuis Brussel (UZBrussel), Brussels, Belgium*, 3. *Section of Social Medicine, Department of Public Health, University of Copenhagen, Copenhagen, Denmark*, 4. *Centre for Healthy Aging, University of Copenhagen, Copenhagen, Denmark*, 5. *Department of Clinical Immunology, Center for Inflammation and Metabolism, National University Hospital, Copenhagen, Denmark*, 6. *Institute of Preventive Medicine, Bispebjerg Hospital, Copenhagen, Denmark*

INTRODUCTION Fatigue, muscle weakness and low-grade inflammation are strongly related to frailty at higher age. This study investigated whether the interrelationships between self-perceived fatigue, muscle endurance and inflammation come already to expression at midlife. If already interrelated at midlife, they might be used as early markers for frailty. METHODS 965 participants of the Copenhagen Aging and Midlife Biobank (aged 52±4 years, 536 male, 426 female)

were assessed for self-perceived fatigue (20-item multidimensional fatigue inventory), muscle endurance (grip work), circulating markers of inflammation (HsCRP, IL-6, IL-10, TNF-alpha and IFN-gamma), daily physical activity (PAS-2), body composition (%body fat assessed by bio-impedance) and self-reported health status. Subjects were categorized (stratified by age and gender) according to high fatigue and/or low muscle endurance, and differences in inflammatory profile were assessed by ANCOVA (corrected for PAS-2, %body fat and presence of inflammatory conditions). RESULTS Overall, grip work, fatigue and inflammatory markers were significantly interrelated. Higher levels of HsCRP ( $p < 0.001$ ), IL-6 ( $p < 0.001$ ), IL-10 ( $p = 0.035$ ) and TNF-alpha ( $p = 0.028$ ) were observed in subjects presenting both low grip work and high fatigue. IFN-gamma was highest in those with high fatigue but normal grip work ( $p = 0.015$ ). CONCLUSIONS We found that middle-aged subjects presenting higher fatigue in combination with lower muscle endurance show higher levels of inflammation, independently from physical activity, body fat and inflammatory pathology. The underlying mechanisms as well as whether these individuals show early signs of reduced physiological reserve capacity, which at later life come to full expression by means of frailty, needs confirmation in future studies.

#### **FROM CELLS TO SOCIETIES: A MULTIPLEX AND ELISA VALIDATION PILOT STUDY FOR ASSAYING INFLAMMATORY MARKERS IN AGING RESEARCH**

S. Vasunilashorn<sup>1</sup>, L.H. Ngo<sup>1</sup>, J. Guess<sup>1</sup>, S. Jastrzebski<sup>2</sup>, J. McElhaney<sup>2</sup>, G.A. Kuchel<sup>2</sup>, E. Marcantonio<sup>1</sup>, *1. Medicine, Beth Israel Medical Center/Harvard Medical School, Brookline, Massachusetts, 2. University of Connecticut Health Center, Farmington, Connecticut*

The collection of blood for clinical and population-based research has increased opportunities to examine inflammation in aging. Enzyme-linked immunosorbent assay (ELISA)-based technologies are the current “gold-standard” for measuring inflammation; however, ELISA is limited by its requirement for significant sample volume, high labor and reagent costs, and narrow detectable range. Multiplex approaches have been developed to address these limitations and enable measurement of multiple markers within the same sample. To determine the utility of the multiplex approach, we: 1) examined the reliability of concentrations obtained from a multiplex method using a Luminex-based platform (MagPix high-sensitivity [hs] cytokine kit, R&D Biosystems) to a standard-kit ELISA (R&D), and 2) compared results from the two methods. We investigated interleukin-6 (IL-6) measured at 4 timepoints (preoperatively, in the post-anesthesia care unit, postoperative day 2, and 1 month post-surgery) in patients age  $\geq 70$  undergoing non-cardiac surgery enrolled in the Successful Aging after Elective Surgery (SAGES) Study. Delirium cases and non-delirium controls (5 pairs) were matched on age, gender, surgery type, general cognitive performance, and vascular comorbidity using the Optimal Matching Procedure. ELISA and MagPix concentrations yielded acceptable coefficients of variation (CV) (about 10% for both) and low missing values (20% and 10%, respectively), with standard curves for ELISA (R<sup>2</sup> 1.00—excellent) and Magpix (R<sup>2</sup> 0.70—acceptable). MagPix and ELISA were highly correlated (Spearman’s  $r = 0.9$ ); however, MagPix IL-6 values were consistently 30% lower. We conclude that the multiplex approach is an appropriate method for determining levels of IL-6. Additional cytokines will be investigated in future work.

## **SESSION 2200 (SYMPOSIUM)**

### **FROM THE CELL TO THE GRAVE: SUCCESSFUL AGING AND DYING IN PRISON**

**Chair:** A.J. Bishop, *Human Development and Family Science, Oklahoma State University, Stillwater, Oklahoma*

**Discussant:** B. Williams, *University of California-San Francisco, San Francisco, California*

Prison inmates represent the only constitutionally protected population with a right to accessible healthcare. The maintenance of individual health is assumed to be an essential element of successful aging. Yet, correctional healthcare systems across the United States are challenged by an ever-growing number of inmates who die behind bars. This has been attributed to an increasing proportion of older inmates who enter prison and must serve multiple criminal sentences over a longer period of time. More than half of these prisoners will die from an age-associated chronic illness and disease that requires long-term geriatric medical assistance in the form of end-of-life care. The purpose of this symposium is to provide theoretical and empirical evidence related to key biopsychosocial indicators that contribute to successful aging and dying in prison. Additional discussion will entail presentation of evidenced-based models and applications used to promote the well-being of aging prisoners as well as improve quality-of-care for older inmates near the end-of-life. Recommendations and implications for geriatric medical care, social work/case management, and hospice/end-of-life care involving older correctional populations will be addressed.

### **RELIGIOSITY AND SUCCESSFUL AGING IN PRISON: THE MEDIATING ROLE OF FORGIVENESS**

G. Randall<sup>1</sup>, A. Bishop<sup>2</sup>, *1. Family & Consumer Sciences, Bradley University, Peoria, Illinois, 2. Oklahoma State University, Stillwater, Oklahoma*

Using data collected from 261 older incarcerated males, the current study addresses the mediating role of forgiveness between religiosity and seven outcomes of successful aging. First, we investigated the psychometric properties of the Heartland Forgiveness Scale (HFS). Rotated factor loadings supported the validity of the HFS for this sample, including three latent variables: forgiveness of self, others, and situations. Second, we investigated the mediating role of three types of forgiveness (latent variables) in the religiosity – health relationship. Outcomes included valuation of life, depressive symptoms, perceived stress, social provisions, perceived health, health conditions, and PADLs. The model fit the data well:  $\chi^2 (N=256; df=101) = 7.40; p = .014; CFI = .98; RMSEA = .04; SRMR = .03$ . Significant total indirect effects were found for religiosity on each outcome through forgiveness, firmly establishing the mediating role of forgiveness. Last, implications for the assessment and therapeutic role of forgiveness for successful aging in prison are discussed.

### **“I’M NOT AFRAID OF DYING, I’M AFRAID OF PAIN”: LIVING WITH CHRONIC ILLNESS IN PRISON**

R.S. Allen<sup>1</sup>, A.R. Tackett<sup>2,1</sup>, L. Miller<sup>1</sup>, *1. Psychology/Center for Mental Health and Aging, The University of Alabama, Tuscaloosa, Alabama, 2. Corrections Center, Bremerton, Washington*

Thirty-two chronically ill male state prison inmates with an increased likelihood of death within two years provided responses to semi-structured in-depth qualitative interviews regarding quality of life and views of death. A two-member analysis team independently coded transcripts and developed themes using qualitative description. Emergent themes related to successful aging and dying in prison included 1) inmates receive inmate-to-inmate support for care needs and 2) inmates desire a quick, painless and peaceful death with preference to die in their sleep. Quotes describing support revealed subthemes of generativity and empathy among lifers, bartering and reciprocity, and becoming prey. Some inmates expressed that pain occurs during life in prison

rather than at death: “They always talk about pain – that’s before the death.” Interventions designed to harness inmate-to-inmate support may enhance quality of life and death in prison by inmate skills training in dignity and forgiveness as well as hospice care.

#### **FROM THE CELL TO THE GRAVE: A COLLABORATIVE NETWORK APPROACH TO ENHANCING PRISON END-OF-LIFE CARE**

S.J. Loeb<sup>1</sup>, J. Penrod<sup>1</sup>, C.S. Hollenbeak<sup>2</sup>, *1. School of Nursing, The Pennsylvania State University, University Park, Pennsylvania, 2. Penn State College of Medicine, Hershey, Pennsylvania*

Community based participatory research (CBPR) requires active collaboration between researchers and insiders across project phases. Achieving leadership buy-in, identifying staff to champion the project, and gaining prisoners’ perspectives promoted shared values and built system-wide support. The purpose of this research was to explore the values, beliefs, and practices related to end-of-life (EOL) care in a state department of corrections and to develop a Toolkit for Enhancing EOL Care in Prisons. Our CBPR approach engaged 12 state level officials, 176 state correctional institution employees, 17 prisoner caregivers, and 21 prisoner patients. All relevant human subjects approvals were gained prior to recruitment. Findings regarding organizational structures, attitudes, and beliefs facilitated a deep understanding of considerations to be mindful of when deriving discrete strategies for enhancing prison EOL care. By project end, the Toolkit was developed, 24 insider co-researchers were trained in Toolkit module delivery, and the Toolkit was infused and evaluated.

#### **THE CURATIVE EFFECT OF ‘PSYCHOSOCIAL SPIRITUAL MEDICINE’ ON OLDER ADULTS HEALTH AND WELL-BEING IN PRISON**

T.M. Maschi, *Graduate School of Social Service, Fordham University, New York, New Jersey*

The objective of this study was to aspects of successful aging in place in prison. This study used a cross-sectional mixed methods design and a sample of 677 older adults in a northeastern state correctional system. Participants completed a mailed survey that included the Coping Resources Inventory, the Healthy Days measure, and open-ended questions about what factors helped them cope with stress in prison. Qualitative data analysis consisted of inductive and deductive content analysis methods. The findings revealed that participants’ reported engaging in one or more activities that fostered their root (basic survival), physical (e.g., exercise), cognitive (e.g., positive thinking), emotional (e.g., expressing feelings), social (e.g., family contact), spiritual (e.g., praying), and participatory (e.g., leadership) well-being. Correlation analyses showed the coping resources were positively correlated with physical and mental well-being. These findings suggest areas in which successful aging in prison can be promoted in prison. Program exemplars that foster successful aging in prison are highlighted.

### **SESSION 2205 (SYMPOSIUM)**

#### **SOCIAL INEQUALITIES IN THE LIVES OF LGBT OLDER ADULTS: DIVERSITIES WITHIN SOCIETY’S COMMUNITIES**

**Chair:** K.I. Fredriksen-Goldsen, *University of Washington, Seattle, Washington*

**Discussant:** C.A. Emler, *University of Washington, Tacoma, Washington*

Given shifting demographics, lesbian, gay, bisexual, and transgender (LGBT) populations are aging. The emerging literature to date targets health disparities among LGBT older adults resulting from disadvantaged statutes related to sexual and gender identities. In many studies these populations are treated as homogeneous and grouped together, with limited attention to subgroup differences. Based on data from the

National Health, Aging and Sexuality Study: Caring and Aging with Pride, the papers illustrate the importance of exploring diversities among LGBT older adults. In this symposium, we investigate the influences of social-structural factors that may result in social and health inequalities, including age, gender, sexual identity, and social-economic status, in order to better understand the full continuum of health and aging outcomes, Fredriksen-Goldsen and colleagues explore both similarities and differences in the configuration of protective and risk factors among LGBT midlife and older adults, and identify factors related to healthy aging by specific age groups. Kim and colleagues examine gender differences in dimensions of health-related quality of life, with sexual minority women having more physical limitations than sexual minority men, although men have more emotional role limitations. Among bisexual older adults, Shiu and colleagues present a curvilinear relationship between disclosure of sexual identity and mental health, suggesting a more complex relationship than is often assumed in existing studies. Patterns of diverse social-economic statuses and resources are explored by Muraco and colleagues, as they are linked to other co-occurring health conditions and social relations among LGBT older adults. The presentations in this symposium exemplify how social-structural factors intersect and perpetuate inequalities in aging processes and health disparities among LGBT older adults.

#### **HEALTHY AGING AMONG LGBT MIDLIFE AND OLDER ADULTS: DIFFERING PATHS BY AGE GROUPS**

K.I. Fredriksen-Goldsen, C. Shui, H. Kim, C.A. Emler, *University of Washington, Seattle, Washington*

Evidence documents health disparities among lesbian, gay, bisexual, and transgender (LGBT) adults. Yet, much less is known about successful aging of LGBT midlife and older adults. This paper highlights findings from the National Health, Aging and Sexuality Study: Caring and Aging with Pride, with 2,560 demographically diverse LGBT adults 50 and older, conducted through community collaborations. Based on the Health Equity framework, the paper explores the relationship between quality of life (QOL) and social resources, adversity, health behaviors, SES, and background characteristics, and the moderating effects of age group differences. Younger age groups had lower levels of stigma with higher rates of disclosure and victimization. The influence of victimization was most salient among the oldest age group. The research highlights the importance of understanding differing configuration of resources and risks by age and their association with well-being and healthy aging in our increasingly diverse society.

#### **GENDER DIFFERENCES IN DIMENSIONS OF HEALTH-RELATED QUALITY OF LIFE OF LGBT OLDER ADULTS**

H. Kim, K.I. Fredriksen-Goldsen, *University of Washington, Seattle, Washington*

Gender is known to be an important social indicator of health-related quality of life (HRQOL). Still, knowledge about gender differences in HRQOL among lesbian, gay, bisexual, and transgender (LGBT) individuals in later life is limited. This study examines gender differences in dimensions of HRQOL taking into consideration socio-demographic factors and health conditions. National survey data of LGBT adults aged 50 and older (n=2,560) was analyzed, and HRQOL was measured by SF-8. After controlling for age, income, education, disability status, and chronic conditions, women showed poorer HRQOL in the domains of bodily pain, physical functioning, and physical role limitation than men. Men showed poorer HRQOL than women in the dimensions of mental health and emotional role limitations. It is important to recognize gender differences in efforts to eliminate health disparities and improve well-being among LGBT older adults.

## MENTAL HEALTH AND DISCLOSURE OF SEXUALITY AMONG BISEXUAL OLDER ADULTS

C. Shiu, K.I. Fredriksen-Goldsen, *University of Washington, Seattle, Washington*

Disclosure of sexuality has positive effects on mental health among lesbian and gay men based on current literature. However, there is limited attention on the experiences of bisexual older adults. This sample of 174 bisexual older adults came from the National, Health, Aging and Sexuality Study: Caring and Aging with Pride. Mental health was measured by the CES-D 10. The index of disclosure level was computed by averaging over 12 items, asking how “out” respondents were to specific relations. Multiple-variable linear regression was used to evaluate the relationship between CES-D scores and disclosure levels while controlling for covariates. The relationship was curvilinear, and its shape approached an inverted U-shaped curve, suggesting either full or limited disclosure was related to more positive mental health among bisexual older adults. More research is needed to better understand under what conditions varying levels of disclosure are associated with mental health outcomes.

## UNEQUAL LIVES: HEALTH AND SOCIAL DISPARITIES AMONG LGBT OLDER ADULTS

A. Muraco<sup>1</sup>, C.A. Emler<sup>2</sup>, K.I. Fredriksen-Goldsen<sup>3</sup>, 1. *Sociology, Loyola Marymount University, Los Angeles, California*, 2. *University of Washington, Tacoma, Washington*, 3. *University of Washington, Seattle, Washington*

This study examines interview data from LGBT adults, age 50 and older, in order to understand how their socioeconomic statuses affect their experiences of aging. The study is comprised of 35 in-depth qualitative interviews with a sub-sample of CAP survey participants who lived in greater Los Angeles. Data collection occurred in 2011. Two groups emerged from the data: Haves (40%) and the Have-Nots (60%). The Haves are more likely to be in long-term relationships, have worked in professional jobs, own homes, have retirement income, and be white and male. The Have-Nots are more likely to be single, have worked in non-professional employment or have long periods of unemployment, have HIV disease or other chronic and disabling conditions, live in subsidized housing, and be of-color, female, or transgender. Results illustrate disparities in resources for these groups, particularly with respect to social support, and adequate resources to age in place.

## SESSION 2210 (SYMPOSIUM)

### AFFORDABLE HOUSING WITH SERVICES TO SUPPORT SUCCESSFUL AGING IN COMMUNITY: CREATING AN EVIDENCE BASE

**Chair:** R. Stone, *LeadingAge, Washington, District of Columbia*

**Co-Chair:** L. Alexih, *The Lewin Group, Arlington, Virginia*

**Discussant:** R.E. Katz, *U.S. Department of Health & Human Services, Washington, District of Columbia*

The U.S. Departments of Health and Human Services (HHS) and Housing and Urban Development (HUD) supported a project exploring the potential for publicly-subsidized senior housing to serve as a platform for efficiently managing the population health of low-income older adults with various levels of physical and mental health risk. This symposium presents findings from this effort and a companion MacArthur Foundation-funded survey that examined the extent of service-enriched senior housing and its impact on resident health, quality of life and Medicare/Medicaid costs. The centerpiece of this initiative was to pilot creating a new dataset linking HUD tenant and Medicare/Medicaid claims data to compare—for the first time—the health characteristics, insurance enrollment/ subsidy status, and utilization patterns of residents in HUD-assisted properties with their community-dwelling counterparts in 12 jurisdictions across the country. Data from the services survey conducted at the property level were linked to the HUD/HHS

database to facilitate an examination of types and intensity of services available and the impact of service enrichment on resident health outcomes and costs. Analyses indicate that HUD-assisted elderly residents are more likely to be dually eligible for Medicare and Medicaid, sicker and more costly to both programs than their non-subsidized peers in the community and that service enrichment can help to mitigate some costs. Presenters will review the methodological challenges with the pilot data match, describe major findings from each study, and discuss the federal and state-level health, long-term care and housing policy implications and next steps for demonstration and evaluation.

## METHODOLOGICAL CHALLENGES WITH LINKING HUD AND CMS DATA

J. Marshall, L. Alexih, *Lewin Group, Falls Church, District of Columbia*

This presentation will describe the pilot matching methods between the HUD-assisted residents and Medicare/Medicaid enrollment data. Our sample of over two million HUD-assisted housing recipients consisted of all individuals appearing in the TRACS or PIC data at any point in time during 2008 in the 12 non-randomly selected study jurisdictions. Based on social security number alone, approximately 73% of HUD-assisted housing recipients less than age 65 and 96% of recipients age 65 or older matched to Medicaid, Medicare or both. Using a more strict criteria that added date of birth and gender resulted in 69% of HUD-assisted housing recipients less than age 65 and 87% of HUD-assisted housing recipients age 65 or older that linked. We will discuss how small changes to the criteria (e.g., using month of birth rather than date) influence the match rate and challenges related to matching administrative data.

## HEALTH CHARACTERISTICS AND HEALTH CARE USE AND COSTS OF HUD-ASSISTED ELDERLY RESIDENTS

J. Marshall, L. Alexih, *Lewin Group, Falls Church, District of Columbia*

This presentation will review findings from the seminal study linking HUD and Medicare/Medicaid data to explore differences between HUD-assisted elderly housing residents and their community-dwelling counterparts. The study examined Medicare FFS beneficiaries aged 65+ receiving a HUD-subsidy and non-subsidized community-dwelling older adults in 12 jurisdictions. Two subgroups were identified—those enrolled in Medicare and those enrolled in both Medicare and Medicaid. Approximately 68% of HUD-subsidized Medicare FFS beneficiaries were dually enrolled compared to only 13% of their non-subsidized peers in the community. HUD-subsidized dual eligibles had more chronic conditions and higher Medicare-covered health care utilization and costs than their non-subsidized peers, driven by more home health, ambulatory surgery center, physician office and emergency department visits. Similar patterns were observed for Medicaid utilization and costs. The average total medical and prescription drug per member per month Medicare payment for HUD-subsidized beneficiaries was \$1,479 compared to \$937 for their non-subsidized peers.

## EFFECTS OF SERVICE-ENRICHMENT ON HUD-ASSISTED ELDERLY RESIDENTS

R. Stone<sup>1</sup>, A. Sanders<sup>1</sup>, L. Alexih<sup>2</sup>, J. Marshall<sup>2</sup>, 1. *LeadingAge, Washington, District of Columbia*, 2. *The Lewin Group, Arlington, Virginia*

This presentation reviews findings from a survey on the scope and intensity of services in HUD-assisted senior housing properties. Approximately one-third of properties have a service coordinator available from part- to full-time. Almost all have some type of service provided either directly or indirectly through partnerships with health/social service providers. In-house services tend to include social activities, transportation, meals, fitness, health education, and information and referral. Relatively few properties offer through formal partnerships more intensive

services (wellness nurse, personal care, medication management) and a small minority have co-located services such as adult day care or clinics. Preliminary analyses indicate that service enrichment affects health care utilization and costs. Dual eligible residents in housing properties that offer more intensive services, particularly medication management, care management through a service coordinator/nurse team are likely to have fewer hospitalizations and emergency department visits than their community-dwelling peers.

## SESSION 2215 (SYMPOSIUM)

### FACTORS PROMOTING RESILIENCE IN MIDDLE AGED AND OLDER WOMEN ACROSS TWO CHRONIC DISEASES: HIV/AIDS AND ALZHEIMER'S DISEASE

**Chair:** P.B. Harris, *Sociology & Criminology, John Carroll University, University Heights, Ohio*

The resilience process is still not well understood as it relates to managing chronic diseases. This study compares women diagnosed with two very different chronic diseases, either Alzheimer's disease (AD) or HIV/AIDS, and demonstrates how by using a resilience framework, positive promoting factors can be identified, common to both diseases. A qualitative phenomenological methodology was used comparing (N=20) case studies, 10 diagnosed with AD and 10 with HIV/AIDS, half who were resilient and half who were not. The differences between the resilient and non-resilient groups, regardless of diagnosis, lie in 3 major areas: human capital (individual differences)-acceptance of diagnosis, positive attitude/optimism, and active engagement, 2) social capital (relationship and environmental differences) - supportive social relationships and a person-centered environment, and 3) community capital - connections with community resources and supportive health care professionals. Practice implications for helping people live better with chronic disease will be discussed.

### CARERS OF PEOPLE WITH DEMENTIA PERCEPTIONS OF THE FACTORS THAT STRENGTHEN RESILIENCE

K. Murphy, D. Casey, *NUI, Galway, Galway, Ireland*

Approximately 26,104 people with dementia are living in the community in Ireland being cared for by family and friends. Carers report a lack of support, information and skills. Many experience high burden, are at risk of illness and social isolation. Resilience training focuses on modifiable intra-personal skills and protective factors aimed to increase the person's 'hardiness' to remain psychologically and physically healthy (resilient) in the face of adversity. This presentation will report the findings of a descriptive qualitative study involving 28 carers' of people with dementia designed to explore carers perceptions of resilience and the factors that are important in building carer resilience. Preliminary findings indicate that internal and external factors influenced participant's resilience. These included self-esteem, coping style, knowledge, supports, activities, social networks, connection to, and learning from, other carers, humour and time for self. This study concludes that resilience can be strengthened if supports are in place.

### PEOPLE WITH DEMENTIA'S PERCEPTIONS OF THE FACTORS THAT STRENGTHEN RESILIENCE

D. Casey, K. Murphy, *National University of Ireland Galway, Galway, Ireland*

Resilience is a 'behavioral process' built by strengthening personal attributes and external assets (Windle 2011). However despite the recognized potential of resilience the extent to which resilience exists or can be cultivated and nurtured in people with dementia is relatively unknown. This presentation shares the findings of a descriptive qualitative study involving people with dementia (n=8), designed to explore their understanding and experience of resilience and the factors that strengthen same. Windle's framework was used to develop the interview guide and the CORTE interviewing framework was used to guide

the interview process as a way of maximizing the voice of the person with dementia. Preliminary findings indicate that personal factors, enduring relationships, social support and community engagement matter to strengthening resilience. This small study concludes that people with dementia have the capacity to be resilient and building resilience matters for social inclusion.

### BUILDING RESILIENCE IN PEOPLE WITH DEMENTIA, HIV/AIDS, AND THEIR CAREGIVERS

P.B. Harris<sup>1</sup>, J. Keady<sup>2</sup>, *1. Sociology & Criminology, John Carroll University, University Heights, Ohio, 2. The University of Manchester, School of Nursing, Midwifery, and Social Work, Manchester, United Kingdom*

People face many adversities in their lives, but none may be more devastating than to receive a diagnosis, such as dementia or HIV/AIDS. Such a diagnosis has vast implications not only for the diagnosed individual, but also for their family members and their communities. Resilience, the behavioral process of being able to negotiate, manage, and adapt to various sources of stress or trauma (Windle, 2011) may provide some key factors, which can help people face such adversities and maintain some quality of life. However, this concept is just beginning to be examined in the gerontological literature. This symposium seeks to add to our understanding about resilience by applying it to two very different populations, across three different countries, and examining it from perspectives of both the individual and caregiver. Murphy and Casey using an Irish sample, examine factors that can promote resilience in people in early stage dementia and their caregivers, and identify factors that can facilitate resilience and foster the social inclusion of people and their caregivers within communities. McGee, Robinson, and Eldridge, focus on grandmothers in Malawi, who because of the HIV/AIDS epidemic, have become the main caregivers of their grandchildren. They will discuss the resilience of these grandmothers and strategies for conducting cross-cultural resilience research. With an American sample, Harris compares women diagnosed with dementia or HIV/AIDS and using a resilience framework, identifies common factors that cut across both diseases and helps people manage better. Practice and policy implications will be discussed from national and international perspectives.

### RESILIENCE AND CAREGIVING IN THE CONTEXT OF THE HIV/AIDS EPIDEMIC IN MALAWI, AFRICA

J. McGee, *University of Alaska Anchorage, Anchorage, Alaska*

Malawi, Africa, is at the epicenter of the HIV/AIDS crisis where over 44,000 people die of AIDS each year with over 610,000 orphaned and vulnerable children (OVCs) as a result (United Nations Children's Fund, UNICEF, 2013). Malawian elders, most often grandmothers, typically assume the caregiving role for OVCs when their parents die. There are reports of elders caring for 8 or more OVCs often foregoing their own needs to provide for these children. Little systematic research has been conducted on the health and wellbeing of these caregivers who by antidotal reports demonstrate remarkable resilience in the context of significant adversity. In this symposium, we will describe the development of the Malawi Resilience Project (MRP) which aims to address this gap in the literature. Specifically, we will discuss our strategy for conducting cross-cultural resilience research with elders caring for OVCs in Malawi including lessons learned from the pilot.

## SESSION 2220 (SYMPOSIUM)

### GENE-ENVIRONMENT INTERPLAY IN A SOCIAL CONTEXT: THE IGEMS CONSORTIUM

**Chair:** N.L. Pedersen, *Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden*

**Discussant:** J.W. King, *National Institute on Aging, Bethesda, Maryland*

The Interplay of Genes and Environment across Multiple Studies (iGEMS) consortium of nine longitudinal twin studies was initiated to determine how genes and environments interact to influence late-life functioning. This symposium provides examples of how the influence of genetic effects on individual differences in aging related outcomes can be moderated by age, gender, and social context. The first presentation evaluates the role of marital status on measures of self-rated health. Marital status has widely differing influences on determinants of self-rated health depending on the measure, gender and age. The second presentation addresses the interplay of socioeconomic status (SEI) with genetic influences on cognitive aging. As SEI level increases, genetic contributions decrease in importance for some cognitive abilities, particularly for age cohorts 60 - 69 and 70-79. There are a variety of ways in which one can assess whether there may be an interaction of genes and environments for aging related outcomes. The third presentation uses identical twin comparisons to demonstrate gene-environment interplay. GE interplay may be more important for late life decline than for more stable mid-life periods. Whereas the first two presentations focused on interplay given specific environments (marital status and socioeconomic status), the last presentation evaluates both interplay and the role of APOE genotype in the interplay, using grip strength as an example. As a whole, this symposium is meant to provide further insights into the complex interplay of genes and social context on susceptibilities and resilience in the aging process.

### MARITAL STATUS MODERATES GENDER DIFFERENCES IN GENETIC AND ENVIRONMENTAL INFLUENCES ON SUBJECTIVE HEALTH

D. Finkel<sup>1</sup>, C.E. Franz<sup>2</sup>, B. Horwitz<sup>3</sup>, 1. *School of Social Sciences, Indiana University Southeast, New Albany, Indiana*, 2. *University of California, San Diego, San Diego, California*, 3. *California State University, Fullerton, Fullerton, Colorado*

Subjective health (SH) taps personality and cognitive status, as well as physical health. Behavior genetics allow us to examine genetic and environmental contributions to SH. Three measures of SH are collected by 9 twin studies participating in IGEMS. Over 16,000 individuals aged 24 to 95 contributed data on 3 SH items: self-rated health (SRH), health compared to others (COMP), and impact of health on activities (ACT). Marital status, coded as either married/cohabitating or living alone, was used as a marker of environmental resources that impact subjective health perceptions. The strongest impact of marital status was found for ACT in men. Heritability of ACT was higher in single men (40%) than married men (30%) up to age 70, then the pattern reversed and heritability was higher in married men (26%) than single men (10%). Results suggest gender differences in the role of marriage as a source of environmental resources for health.

### SOCIOECONOMIC STATUS AND AGE AS MODERATORS OF COGNITIVE PERFORMANCE

C. Zavala<sup>1</sup>, W. Johnson<sup>2</sup>, C.A. Reynolds<sup>1</sup>, 1. *Psychology, University of California, Riverside, Riverside, California*, 2. *The University of Edinburgh, Edinburgh, United Kingdom*

Socioeconomic status (SES) shows a robust influence on cognitive performance across the lifespan. Furthermore, evidence suggests heritability of cognitive abilities may differ across levels of SES. The current study examined the presence of GxE interaction, with harmonized household occupational status (SEI) as a moderator of cognitive

performance in the IGEMS consortium of nine studies. Cognitive tasks assessed verbal, spatial, working memory, and perceptual speed abilities. Results suggested SEI moderation of genetic and environment contributions for verbal ability, memory, and perceptual speed. For example, shared environmental contributions were greater with higher SEI for verbal ability and perceptual speed, while additive genetic and unique environmental influences were smaller. For verbal ability, age group differences suggested that SEI moderation of shared environmental variance was most striking in older cohorts (60 years and later). Overall, results suggested that the relative contributions of genetic and environmental to cognitive performance vary with both SEI and age.

### GENE-ENVIRONMENT INTERPLAY CONTRIBUTES TO HEALTH, WELL-BEING AND COGNITIVE PERFORMANCE IN MID TO LATE ADULTHOOD

C.A. Reynolds, *UC Riverside, Riverside, California*

Gene – environment interplay may be important across aging domains. GxE interactions were evaluated for depressive symptoms, BMI, and cognitive performance in eight IGEMS studies from Denmark, Sweden, and the US. Analyses considered mixture distributions of within pair differences among identical twins. Results for the full sample, within country, and within sex, suggested GxE for depressive symptoms ( $p < 1.62E-05$ ) and for BMI ( $p < 2.26E-06$ ). GxE was suggested across cognitive domains in the full sample ( $p < 5.29E-03$ ), and generally across country and sex. Trends over age bands (<50, 50-59, 60-69, 70-79, 80+) suggested GxE for depressive symptoms until age 80, peaking at 60-69 years. For BMI, GxE trends were nonlinear with peaks before 50 and after 70 years. For cognition, peak GxE was observed in midlife for speed but later adulthood for verbal ability and working memory. Peak periods of GE interplay in health, wellbeing and cognitive traits may coincide with salient periods of age-related change.

### GENE-BY-ENVIRONMENT INTERACTION PARTLY EXPLAINS THE HAND GRIP STRENGTH LEVELS AS WELL AS DECLINE

I. Petersen<sup>1</sup>, K. Christensen<sup>1</sup>, M. McGue<sup>2,1</sup>, C.A. Reynolds<sup>3</sup>, 1. *Institute of Public Health, University of Southern Denmark, Odense, Denmark*, 2. *Department of Psychology, University of Minnesota, Minneapolis, Minnesota*, 3. *Department of Psychology, University of California, Riverside, California*

Previous studies of hand grip strength have demonstrated a strong association with age and sex; males having a higher initial as well as decline of grip strength than females. Heritability studies of grip strength have estimated that genes and environmental factors each account for half of the observed variation of grip strength. However, apart from sex and age, little is known about the genetically and environmental determinants of level and decline of grip strength. Based on a pooled sample of longitudinal survey studies of Danish, Swedish and US twins (N=10,000; age-range: 34-99) we set out to examine the possible presence of gene-by-environment interaction as part of the mechanism behind initial level and age-dependent decline of grip strength. Using an analytical approach proposed by Fisher (1925) revealed evidence of heterogeneity of the distribution of the within-pair difference of growth curve parameters in monozygotic twins indicating that gene-by-environment interaction may be present.

## SESSION 2225 (SYMPOSIUM)

### AGING IN THE CONTEXT OF NEIGHBORHOOD CHANGE

**Chair:** J.A. Ailshire, *Andrus Gerontology Center, Univ Southern California, Los Angeles, California*

**Discussant:** P. Clarke, *University of Michigan, Ann Arbor, California*

The U.S. population is aging rapidly and many factors, from the predicates of policy, to the assumptions of individuals, are heightening

expectations that older adults will be able to live independent, active and engaged lives within their communities. But the dynamics of population change and resulting shifts in the local social, economic, and physical environment mean that communities change around individuals as they age. Furthermore, older adults may age in a changing context as a result of moving to a new community. Issues related to neighborhood change have largely been overlooked in studies of aging and the environment. This symposium presents research on how neighborhoods change around people and what happens when older adults change their neighborhood through a residential move. The presentations use both national and local data sources, as well as multiple methodologies, to provide insight into how neighborhoods are changing as the population ages. Data from multiple waves of the Health and Retirement Study and the Multi-Ethnic Study of Atherosclerosis are used to identify older adults who experience a residential move and how both their environments and their health and behavior change as a result of the move. The discussant will highlight common themes across the presentations, consider how the presentations extend this emerging field of study, and discuss the potential for further investigations on the topic.

### **SEGREGATION IN PLACE: POPULATION AGING AND NEIGHBORHOOD RACIAL CHANGE**

M.D. Bader, *Sociology, American University, Washington, District of Columbia*

Nearly all research investigating the cause of racial residential segregation focuses on how residential relocation creates residential segregation. Research has largely ignored the influence of changing age structures on patterns of segregation in U.S. metropolitan areas. In this paper, I examine the role of differential rates of fertility and mortality on overall patterns of segregation. Using national age- and race-specific fertility and mortality rates, I simulate the consequences of fertility and mortality, and the resulting shift in the age composition of residents, on neighborhood racial composition. Higher chances of White mortality in integrated neighborhoods coupled with higher chances of minority births in those same neighborhoods contributes to a long-term racial re-segregation of previously integrated communities. I expect that this effect explains a non-trivial percentage of contemporary racial residential segregation in U.S. metropolitan areas. Implications of these processes for older residents aging in place are discussed.

### **INTEGRATING DEMOGRAPHIC AND CULTURAL APPROACHES IN THE EXAMINATION OF NEIGHBORHOOD CHANGE**

N.T. Saldana, *University of Michigan, Ann Arbor, Michigan*

Demographic factors play a fundamental role in the quantification of neighborhood change. Research primarily focuses on race and socioeconomic composition of residents derived from census data. While scholars have demonstrated the importance of census-based demographic factors for understanding neighborhood change, less is known about how neighborhood-based organizations and institutions, such as local businesses, change over time. I incorporate systematic social observation, from in-person ratings and photographs, with census data to determine the level of correlation between census-based measures of demographic change and “on-the-ground” observations of the local neighborhood environment. Observations are made in several major U.S. cities (Los Angeles, New York, Chicago, Detroit, and Atlanta), providing a comparative perspective that is often absent in neighborhood change research. A major focus of this research seeks to unpack the mechanisms shaping the social construction of neighborhoods, how both real and symbolic boundaries are constructed, and implications for residents’ outcomes.

### **CONSEQUENCES OF RESIDENTIAL MOVES AMONG OLDER ADULTS**

J.A. Ailshire, *Andrus Gerontology Center, Univ Southern California, Los Angeles, California*

Research on the importance of the residential environment for aging largely focuses on those who age-in-place and ignores the experience of older adults who move. Using data from multiple waves of the Health and Retirement Study (2004-2008), this study identifies adults ages 55 and older who experienced a between-wave move and the resulting change in their residential environment. Approximately 9% of respondents moved between waves. Of those who moved, 4% reported moving to a less safe neighborhood and 7% reported moving to a safer neighborhood. Neighborhood-based interactions with family and friends declined for 13% and 18% of movers, respectively. However, 15% of movers reported increased interaction with family in the new neighborhood and 25% reported increased interaction with friends; one of the primary cited reasons for moving was to be nearer relatives and friends. Older adults who move may experience a significant shift in their neighborhood environment.

### **CHANGE IN WALKING FOLLOWING RESIDENTIAL RELOCATION: THE MULTI-ETHNIC STUDY OF ATHEROSCLEROSIS**

J.A. Hirsch<sup>1</sup>, K.A. Moore<sup>1</sup>, A.V. Diez Roux<sup>3</sup>, K. Evenson<sup>2</sup>, D. Rodriguez<sup>2</sup>, *1. Epidemiology, University of Michigan, Ann Arbor, Michigan, 2. University of North Carolina, Chapel Hill, North Carolina, 3. Drexel University, Philadelphia, Pennsylvania*

We investigated whether moving to neighborhoods with closer proximity of destinations and greater street connectivity was associated with more walking and a greater probability of meeting the “Every Body Walk!” campaign goals ( $\geq 150$  minutes/week of walking). We linked longitudinal data from 701 Multi-Ethnic Study of Atherosclerosis participants aged 48-87, who moved during 2004-2012, to a commercial walkability measure (Street Smart Walk Score®) for each residential location. We used fixed-effects models to estimate if changes in walkability resulting from relocation were associated with simultaneous changes in self-reported walking behaviors. Adjusting for relevant confounders, moving to a new location with 10-points higher Walk Score (better walkability) was associated with a 16.0 minutes/week increase in transport walking and 11% higher odds of meeting “Every Body Walk!” goals through transport walking. Change in walkability was not associated with change in leisure walking. Our findings illustrate the potential for neighborhood infrastructure to support walking.

### **SESSION 2230 (SYMPOSIUM)**

#### **THE IMPACT OF CROSS-CUTTING INTERVENTIONS TO PROMOTE EVIDENCE-BASED FALLS PREVENTION PROGRAMMING AND POLICIES**

**Chair:** T. Shubert, *Center for Aging and Health, UNC Chapel Hill, Chapel Hill, North Carolina*

**Co-Chair:** M.G. Ory, *Texas A&M, College Station, Texas*

**Discussant:** M.L. Smith, *University of Georgia, Athens, Georgia*

Although falls are recognized as a major public health problem for older adults, and multi-level, multi-disciplinary interventions are strongly encouraged, more efforts are needed to understand the implementation and dissemination of evidence-based fall prevention programs. Little is known regarding what, if any, effect these efforts have on the behavior of falls free coalitions, health care providers, and older adults themselves. Through its State Falls Prevention Program, the Centers for Disease Control and Prevention has supported several major initiatives to examine the implementation and dissemination of fall prevention programs and policies. This symposium will present data from projects to highlight the impact of three different fall prevention activities on three different systems committed to addressing falls: 1)



the effect of training and technical assistance provided to state-wide Fall Prevention Coalitions about current activities and future planning (presenter: Ms. Schneider); 2) the effect of a national training initiative for physical therapists to deliver the Otago Exercise Program, a home-based falls prevention program, on both clinical practice and patient outcomes (presenter: Dr. Shubert); and 3) the effect of a real-time and online curriculum on community health workers behaviors (presenter: Dr. Ory). A discussant (Dr. Smith) will describe the outcomes of these three initiatives in the broader context of disseminating evidence-based programs for older adults, emphasizing facilitators and barriers to dissemination, and sustainability of efforts. Time will be allotted to enable the audience to interact with the panelists about the dissemination of falls prevention programs and policies.

#### **THE IMPACT OF WEBINAR TRAINING AND TECHNICAL ASSISTANCE ON POLICIES AND ACTIVITIES OF STATE-BASED FALL PREVENTION COALITIONS**

E.C. Schneider<sup>1</sup>, T. Shubert<sup>1</sup>, M.L. Smith<sup>2</sup>, M. Altpeter<sup>1</sup>, M. Scheirer<sup>4</sup>, M.G. Ory<sup>3</sup>, 1. *Center for Aging and Health, UNC Chapel Hill, Chapel Hill, North Carolina*, 2. *University of Georgia, Athens, Georgia*, 3. *Texas A&M, College Station, Texas*, 4. *Scheirer Consulting, Princeton, New Jersey*

The National Council on Aging (NCOA) released the State Policy Toolkit for Advancing Falls Prevention in 2012. The Toolkit provides evidence-based guidance and resources for Fall Prevention Coalitions to have the greatest impact on change. To facilitate use of the Toolkit, the NCOA hosted a one-hour webinar in 2013 and provided technical assistance to four selected states. Prior to the webinar, a survey was deployed to the 34 active state Coalitions to assess fall prevention strategies, policies, and regulations implemented to advance fall prevention. Additionally, the survey identified facilitators and barriers and documented general coalition practices and procedures. The same survey was deployed one year later to determine change. This presentation will: (1) present pre-post data to describe the impact of the Toolkit and technical assistance on policies pursued by the Coalitions; (2) identify successful strategies employed to advance evidence-based falls prevention policies; and (3) discuss future opportunities to promote state engagement in fall prevention.

#### **EVALUATING A REAL-TIME AND ONLINE FALL PREVENTION CURRICULUM FOR COMMUNITY HEALTH WORKERS**

M.G. Ory<sup>2</sup>, J. St. John<sup>2</sup>, C.B. Clarke<sup>1</sup>, M.L. Smith<sup>3</sup>, C.E. Beaudoin<sup>2</sup>, C. Rosemond<sup>1</sup>, D. Howell<sup>2</sup>, T. Shubert<sup>1</sup>, 1. *Center for Aging and Health, UNC Chapel Hill, Chapel Hill, North Carolina*, 2. *Texas A&M, College Station, Texas*, 3. *University of Georgia, Athens, Georgia*

The Policies, Programs, and Partners for Fall Prevention (PPFP) study incorporates multi-level intervention approaches to address fall prevention using several dissemination research methodologies—including training Community Health Workers (CHWs)/Promotores to deliver fall prevention messages. This presentation will discuss the evaluation of an innovative falls prevention CHW curriculum. The curriculum was developed and tested in both real time and online platforms for English and Spanish-speaking audiences. Demographic, evaluation and practice change data will be presented for the first 30 CHWs to complete the real-time training and the first 30 to complete the online training. The advantages and disadvantages of each format will be discussed as well as participants' perceptions about the impact on CHW practice and potential reach of each format.

#### **FALL PREVENTION FOR PHYSICAL THERAPISTS: OUTCOMES FROM AN INITIATIVE TO CHANGE PRACTICE USING AN ONLINE TRAINING PROGRAM**

T. Shubert<sup>1</sup>, C.B. Clarke<sup>1</sup>, S.A. Bomberger<sup>1</sup>, M.L. Smith<sup>2</sup>, M.G. Ory<sup>3</sup>, E. Roberts<sup>1</sup>, J. Busby-Whitehead<sup>1</sup>, 1. *Center for Aging and Health, UNC Chapel Hill, Chapel Hill, North Carolina*, 2. *University of Georgia, Athens, Georgia*, 3. *Texas A&M, College Station, Texas*

The Otago Exercise Program is an evidence-based fall prevention program delivered by physical therapists in 6 visits over a one-year period. Developed in New Zealand, few physical therapists in the United States have knowledge about the program. Through a multi-agency effort led by the Carolina Geriatric Education Center, part of the Center for Aging and Health at UNC Chapel Hill, and including the Centers for Disease Control and the North Carolina Area Health Education Centers, an online training program was developed and deployed to maximize reach and implementation of the program. This presentation will: 1) present demographic and practice change data from the first 1,000 therapists to complete the training; 2) present outcome data for 75 patients receiving Otago in a variety of settings; and 3) discuss next steps for continued Otago dissemination and implementation, which includes leveraging the efforts of physical therapists with other allied health providers.

#### **SESSION 2235 (SYMPOSIUM)**

##### **SOCIAL CONNECTEDNESS AND RESILIENCE**

**Chair:** J. Duyndam, *University of Humanistic Studies, Utrecht, Netherlands*

**Co-Chair:** A. Machielse, *Academic Centre for Social Intervention, Utrecht, Netherlands*

**Discussant:** P. Bos, *Radboud University, Nijmegen, Netherlands*

The central theme of this symposium is the importance of social connectedness and resilience for older people's experiences and social conditions (Berkman & Glass, 2000; Heller & Rook, 2001; Machielse, 2006; Pescosolido & Levy, 2002). Positive interpersonal attachments are conceived as the most important resources for people to their experience of a meaningful life (Baumeister, 1991; Stillman, et al., 2009). On its turn, the experience of a meaningful life has been hypothesized to strengthen a person's identity and character (Van Praag, 1997) and to protect against the damaging effects of external adversity such as lengthy caregiving, community relocation and increased chronic conditions that accompany aging (Ryff & Singer, 2009). So social connectedness contributes substantially to resilience, defined as the 'the ability to uphold humanity, i.e. principles of human decency, or promote these principles when faced with adversity or when under pressure' (Duyndam, 2012). We will compare two studies on the lived experiences of elderly people with regard to social connectedness. The first study is focusing on life-events of older adults in the Netherlands. The second study is conducted in a traditional rural community in the Netherlands. The comparison is supplemented by a third study: a philosophical investigation of conditional linkages between social connectedness and social resilience. A fourth will intersect on resilience and autonomy related to care.

##### **AGING AND SOCIAL RESILIENCE**

J. Duyndam, *University of Humanistic Studies, Utrecht, Netherlands*

Recent research results show the conditional social character of resilience, highly depending on so-called 'social ecologies' (Ungar, 2012; Duyndam, 2012; Wild et al., 2013; Randall, 2012). However, resilience still depends on the capacity of making sense of one's life events. Therefore, the study of interrelationships between social connectedness, meaning, and resilience is of great relevance. The research question of this paper contributing to this study is "How can resilience be understood, in the context of ageing well, as related to social connect-

edness and meaning?" The research of this subproject is conducted from a narrative perspective. It is hypothesized that the navigating to and negotiating for resources to resilience can be considered to be narrative processes. It is also hypothesized that because of its narrative character resilience can become exemplary, and inspiring to others. Accordingly, the philosophical 'method' consists of a hermeneutic reading and interpretation of relevant textual and empirical sources.

#### **LIFE-EVENTS AND THE IMPORTANCE OF SOCIAL CONNECTEDNESS IN MODERN SOCIETY**

A. Machielse, *Academic Centre for Social Intervention, Utrecht, Netherlands*

Social relationships with relatives, friends and acquaintances, which meet belongingness needs (Baumeister, 1991), are important resources for the personal functioning of people and contribute to their experience of a meaningful life. However, in late modern society such relationships have become less self-evident. As a result family relationships have become less stable and obvious and the significance of self-chosen relationships has increased, particularly friendship (Allen, 2008; Friedman, 1989; Pahl, 1998). The central research question of this paper is: "Which contribution make personal relationships for the experience of a meaningful life age after a life-event, and how might this differ between (given) relationships with family members and (self-chosen) relationships with friends?" It will be answered on the basis of data from a qualitative study conducted in the Netherlands. The study group consists of older adults (65+) who in the last year have been confronted with an age-related life-event.

#### **AN ETHNOGRAPHIC INVESTIGATION INTO AGEING AND SOCIAL CONNECTEDNESS IN A TRADITIONAL ORTHODOX CHRISTIAN COMMUNITY IN THE NETHERLANDS**

P. Bos, *Radboud University, Nijmegen, Netherlands*

With a population of 16 million people, policymakers in the Netherlands foresee 25% of 65+-people in 2040 (Avramov & Maskova, 2003). This age-imbalance concurs with fundamental social changes in Dutch society (Beck & Beck-Gernsheim, 2002; Giddens, 1990). The loss of (extended) family traditions had great impact on social connectedness. However, the Netherlands nowadays has a great number of traditional communities, with intergenerational cohabitation and other distinctive household-constellations, not determined by dominant cultural norms. This paper reflects an ethnographic study in an orthodox protestant village in central Netherlands (1600 inhabitants). The researchers approach every household on the spot, unravelling lived experiences within extended household constellations regarding ageing well and social connectedness (Warburton, Hung & Shardlow, 2013). In-depth interviews and participant observations reveal culturally determined perceptions from the perspective of aged people and their cohabitants.

#### **RESILIENCE, AUTONOMY AND CARE**

J. Dohmen, *University of Humanistic Studies, Utrecht, Netherlands*

Persons are not passive objects but ageing actors. One fundamental issue in actual philosophy of agency and ageing is about the tension between autonomy or care in relation to resilience. From a care-ethical perspective, autonomy is not a property of isolated individuals but the product of, and bound up with, relationships. Resilience is the product of care. From the perspective of autonomy, autonomy is bound up with relationships, but certainly not just the product of relations. Resilience is the product of autonomy. In my view, both moral values, care and autonomy, are of vital importance for resilience in later life. I will defend the concept of a well-integrated moral attitude for resilience in later life.

## **SESSION 2240 (SYMPOSIUM)**

### **RELATIONSHIPS AND HEALTH IN ADULTHOOD: UNDERSTANDING MUTUAL INFLUENCES ON MULTIPLE TIME SCALES**

**Chair:** S.J. Wilson, *Human Development & Family Studies, Penn State University, University Park, Pennsylvania*

**Co-Chair:** M. Barrineau, *Human Development & Family Studies, Penn State University, University Park, Pennsylvania*

**Discussant:** C.A. Berg, *University of Utah, Salt Lake City, Utah*

The ability to gather unprecedented amounts of data may facilitate our understanding of how couples impact one another's health and well-being across moments, days, months, and years. Thus, it is increasingly important for conceptual clarity and appropriate design and measurement that researchers consider how effects can be distinguished by their time course. This symposium will examine processes of variability and change in couples at various time scales and the connections between patterns of brief experiences and longer developmental trajectories. In so doing, we aim to foster discussion of how to improve conceptual models of couples and health with consideration of temporal factors. The first talk by Dr. Gizem Hular will utilize ecological momentary assessment to examine how accurate a healthy sample of older adults is in evaluating their partner's feelings and whether individual, partner, and couple characteristics can explain individual differences. The remaining talks in the symposium will consider different time scales from a study of osteoarthritis patients and their spouses. Mary Jon Barrineau will assess emotion transmission in two different time scales within daily data. Stephanie Wilson will look at how couples' daily pain-related exchanges are associated with change in patient physical function and couple well-being across six months. Finally, Dr. Rachel Hemphill will present on whether spouses' confidence in arthritis patients' ability to be physically active predicts increases in patients' physical activity longitudinally and whether this association is mediated by spouses' involvement in physical activity.

### **DAILY PAIN-RELATED INTERACTION PATTERNS AND LONGITUDINAL CHANGE IN INDIVIDUAL AND DYADIC WELL-BEING**

S.J. Wilson<sup>1</sup>, L.M. Martire<sup>1</sup>, M.P. Stephens<sup>2</sup>, *1. Human Development & Family Studies, Penn State University, University Park, Pennsylvania, 2. Kent State University, Kent, Ohio*

Cross-sectional studies have demonstrated the relevance of chronic pain and couples' pain-related disclosure and responses for both patient and partner well-being. However, associations between daily communication patterns and later change in individual and dyadic well-being remain largely unexplored. Knee osteoarthritis patients and their spouses provided daily reports of patient pain, patient verbal pain disclosure, and spouse empathic responses to patient pain, as well as measures of physical function, pain communication efficacy, and marital satisfaction at baseline and six months later. Multilevel models revealed that the same-day covariation of patient pain disclosure and spouse empathic responses was not related to changes in patient physical function or pain disclosure efficacy. Stronger positive covariation between daily disclosure and empathic responses was related to increases in spouse pain communication self-efficacy and patient marital satisfaction. Thus, the daily linkage of pain disclosure and empathic responses may support couple communication and relational well-being.

## **SPOUSE CONFIDENCE AS A PREDICTOR OF CHANGE IN OSTEOARTHRITIS PATIENTS' PHYSICAL ACTIVITY ACROSS SIX MONTHS**

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Research suggests that spouses' confidence in their chronically ill partners' ability to perform health behaviors has unique effects on patients' health behaviors and outcomes beyond patients' own self-efficacy. The mechanisms through which spouse confidence influences patients' health remain relatively unexplored. This study of 152 older adults with osteoarthritis and their spouses examined 1) spouses' confidence in patients' ability to be physically active as a predictor of change in patients' physical activity (PA) over time and 2) whether this association was mediated by spouses' provision of autonomy support, persuasion, or pressure for patients' PA. Results indicated that higher levels of spouse confidence predicted greater increases in patients' PA six months later, even when controlling for patients' self-efficacy and illness severity; however, this association was not mediated by spouses' support, persuasion, or pressure. Alternative mechanisms that may explain the impact of spouse confidence on patients' PA will be discussed.

## **DAILY EMOTION TRANSMISSION BETWEEN OSTEOARTHRITIS PATIENTS AND THEIR SPOUSES**

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Emotion transmission occurs when emotions in one individual's daily experience have a predictive relationship to subsequent emotions in another person (Larson and Almeida, 1999). In the current study, 152 osteoarthritis patients and their spouses reported their positive and negative affect three times per day across 22 days. The multiple reports within the day allows for consideration of shorter and multiple transmission time scales. Specifically, it is predicted that negative emotion will be transmitted from patient to spouse within the day from morning to the end of the day. It is expected that positive emotion will be transmitted from patient to spouse on a shorter time scale, either from morning to afternoon or afternoon to end of day. Multi-level modeling will be used to test the transmission hypotheses along with assessing the role of moderating variables, specifically gender and marital satisfaction.

## **EMPATHY IN THE DAILY LIVES OF OLDER COUPLES**

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Empathy refers to recognizing emotions in others and is crucial for relationship satisfaction. Empathy has typically been examined by self-ratings or standardized tests. In this study, we take a different approach by obtaining information in people's daily life. Specifically, older couples (aged 70+) participated in a daily-diary study (49 observations across 7 days) where they, among others, rated their (a) own happiness at the moment and (b) their partner's happiness, both on a scale ranging from 0 to 100. Correlating self- and partner-ratings revealed that older adults were fairly accurate in evaluating whether their partner was less happy or happier than usual ( $r = .27$ ). However, the absolute differences between self- and partner-ratings within a given couple was astonishingly large and amounted to an average of 0.8 SD units (or 18 scale points). We discuss factors that contribute to empathy and the role of empathy for relationship quality.

## **SESSION 2245 (SYMPOSIUM)**

### **INNOVATIVE METHODS AND MODELS FOR UNDERSTANDING THE POSSIBLE HEALTH BENEFITS OF FAMILY CAREGIVING**

**Chair:** D.L. Roth, *Johns Hopkins University, Baltimore, Maryland*  
**Co-Chair:** W.E. Haley, *University of South Florida, Tampa, Florida*  
**Discussant:** K.M. Langa, *University of Michigan, Ann Arbor, Michigan*

Being an informal caregiver of a family member with a chronic illness or disability is often considered to be a highly stressful experience that may adversely affect the health of caregivers. However, many studies that compare health outcomes of caregivers with non-caregiving controls have methodological limitations. These include using convenience samples, different selection procedures for caregivers and non-caregivers, insufficient matching techniques, shared (or unshared) exposures to other risk factors, and other potential biases. In this symposium, presenters will review recent advances in formulating caregiver/non-caregiver comparisons, present findings on the impact of caregiving on health and mortality, and discuss the psychological and physiological mechanisms by which caregiving activities may affect health outcomes. Using methods and data from population-based studies (Study of Osteoporotic Fractures, the Reasons for Geographic and Racial Differences in Stroke project), presenters will summarize findings that indicate lower all-cause mortality for caregivers after careful matching with suitable non-caregiving comparison groups. Caregivers in these population-based studies report relatively low levels of caregiving strain in comparison with previous convenience samples, and even those caregivers who report psychological distress have lower all-cause mortality than matched non-caregivers. Conceptual interpretations and the potential physiological mechanisms underlying these health benefits will be discussed and will provide stimulating directions for future research. Having a close family member with a disabling or deteriorating health condition can be a stressful and depressing situation, but the opportunity to help a loved one, and the related feelings of mastery, purpose, and compassion, appear to be health enhancing.

### **METHODS TO REDUCE POTENTIAL SELECTION BIAS AND CONFOUNDING IN STUDIES OF CAREGIVING HEALTH OUTCOMES**

L. Fredman, *Epidemiology Department, Boston University School of Public Health, Boston, Massachusetts*

As a result of findings that caregivers have lower rates of mortality and other adverse health outcomes than non-caregivers, there is increased attention to ensuring that studies of caregiving health outcomes include appropriate non-caregiver comparison groups and adequately address confounding and potential selection bias. This presentation describes methods used to reduce confounding in the Caregiver-Study of Osteoporotic Fractures (Caregiver-SOF) and the REGARDS studies, such as matching non-caregivers to caregivers at the design phase. It will describe analyses to minimize confounding in the analysis phase, including analyses that account for changes in caregiver status and related health status over the study period. It will address selection bias by comparing characteristics of SOF participants who agreed to participate in Caregiver-SOF to those who were eligible but did not participate. The advantages and disadvantages of these approaches will be discussed with regard to analyzing data from existing studies compared to designing new studies.

## CAREGIVERS ARE STRESSED AND DEPRESSED, BUT LIVE LONGER: FINDINGS FROM A PROPENSITY-MATCHED ANALYSIS

D.L. Roth<sup>1</sup>, V.G. Wadley<sup>2</sup>, W.E. Haley<sup>3</sup>, 1. *Johns Hopkins University, Baltimore, Maryland*, 2. *University of Alabama at Birmingham, Birmingham, Alabama*, 3. *University of South Florida, Tampa, Florida*

Using data from the national Reasons for Geographic and Racial Differences in Stroke project, we individually matched 3503 caregivers with 3503 noncaregivers using propensity scores derived from a logistic regression analysis of 15 demographic, health history, and health behavior covariates. Previous findings revealed an 18% reduction in all-cause mortality for the caregivers compared to the matched noncaregivers ( $p = .02$ ). Subsequent analyses reveal that the caregivers reported more symptoms of depression and higher perceived stress scores than the matched noncaregivers ( $ps < .001$ ). Depressive symptoms were positively related with increased mortality, an effect that was similar in magnitude to the opposing protective effect of decreased mortality associated with caregiving. Having a family member with a chronic illness or disability is associated with perceived stress and depressive symptoms, but providing care to that person appears to provide health benefits to the caregivers, as indexed by increased longevity.

## A CONCEPTUAL MODEL FOR LINKING CAREGIVING BEHAVIORS TO IMPROVED SURVIVAL

S.L. Brown, 1. *Psychiatry, Stony Brook University, Port Jefferson, New York*, 2. *University of Michigan, Ann Arbor, Michigan*

Caregiving has been linked to better health, reduced mortality risk, and well-being. However, almost no research addresses the physiological mechanisms by which a caregiver's survival may be influenced by his or her own caregiving activities. In my talk, I will present a theoretical model of a "caregiving system" which describes the neurobiological basis of the motivation to care for others, and connects features of the underlying neurobiology to physiological homeostasis, including stress regulation and reduced exposure to chronic inflammation. After a brief review of new models of inflammatory disease and cancer biology, I discuss how the caregiving system is uniquely poised to also interrupt the development of lethal forms of cancer. I will present the results of several studies that have tested the "caregiving system" model and conclude my talk with the implications for health policy and medical research.

## SESSION 2250 (SYMPOSIUM)

### WISDOM AND OPTIMAL AGING? THE POSITIVE (AND NEGATIVE) ASPECTS OF WISDOM IN OLD AGE

Chair: M. Ardel, *Sociology and Criminology & Law, University of Florida, Gainesville, Florida*

Wisdom is usually assumed to contribute to optimal aging, yet not all aspects of wisdom might be beneficial. This symposium explores positive and negative aspects of wisdom in old age, using quantitative and qualitative data from Europe, North America, and China. In the first presentation, interviews with 47 older wisdom nominees and 47 older control participants from Austria revealed that when asked about difficult experiences in their life, wisdom nominees reported more reflectivity, appreciation of divergent views, and gratitude but also less control over life events and greater relativity. The second presentation investigates how positive and negative emotions work together to promote recovery and growth from challenging life events. Results of the qualitative interview study of 50 older US adults show that "achievers" defined successful aging in hedonic terms, while "seekers" were more interested in eudaimonic well-being. The third presentation uses ratings by US nominators to study differences between 524 middle-aged and older wise and creative nominees. Wisdom nominees were on average rated higher than visual artists on wisdom-related and mature personal-

ity qualities and well-being, yet only ratings of creativity were positively correlated with ratings of self-expression and zest. The fourth presentation demonstrates that different conceptualizations of wisdom (3D-WS and ASTI) relate differently to life satisfaction and general well-being in Canada, USA, Ukraine, and China, using samples of 50 older adults in each country. Finally, the last presentation is an ethnographic study that illustrates how wisdom benefits older adults in formal care settings in Ireland if their caregivers are wise.

## "IN NO WAY WOULD I DARE TO JUDGE HOW OTHER PEOPLE DEAL WITH THIS": CRITICAL SELF-REFLECTION AS A POSITIVE AND NEGATIVE ASPECT OF GROWING WISER

J. Glueck<sup>1</sup>, S. Koenig<sup>1</sup>, J. Drewelies<sup>2</sup>, K. Naschenweng<sup>3</sup>, 1. *Alpen-Adria Universität Klagenfurt, Klagenfurt, Austria*, 2. *Humboldt University, Berlin, Germany*, 3. *Pädagogische Hochschule Kärnten, Klagenfurt, Austria*

Wisdom is generally viewed as highly desirable. At the same time, we still debate whether wise people are happier than others. One reason why they might sometimes even be less happy is that "un-wise" people may believe that they know what is right and have control over their life, while wiser individuals are aware of the relativity of perspectives and the uncertainty of outcomes. Here, we report findings from a study comparing 47 wisdom nominees and 47 age- and gender-parallel control participants (mostly older adults,  $M = 60.5$  years) with respect to difficult life experiences, life lessons, gratitude, and resources. Wisdom nominees reported higher levels of reflectivity, less control over life events, more life lessons involving relativity, more gratitude for difficult experiences, and more appreciation of divergent views. Being critical of one's own views may be painful sometimes, but it is essential for growing toward wisdom.

## EMOTION REGULATION AND WISDOM IN LATER LIFE

H. Igarashi, M. Levenson, C.M. Aldwin, *School of Behavioral and Health Sciences, Oregon State University, Corvallis, Oregon*

Regulation of positive and negative affect is an essential component of resilience and successful aging in later life (Carstensen et al., 2011). However, how positive and negative emotions work together to promote recovery and growth is not well understood. Semi-structured interviews were conducted with 50 men ( $n = 14$ ) and women ( $n = 36$ ), aged 56 - 91 years ( $M = 71.71$ ;  $SD = 8.8$ ). Participants described a challenging moment in their lives, coping strategies and attendant changes. Individuals were grouped into conservers, achievers and seekers based on their affect pattern and orientation towards personal growth and environmental mastery (Helson & Srivastava, 2001). Most individuals reported some change, changing across typologies (e.g., conservers to achievers). Achievers described successful aging in hedonic terms, while seekers used eudaimonic ones (Friedman & Ryff, 2012). Mixed methods approaches were used to examine group differences in a self-report wisdom inventory (ASTI; Levenson et al., 2005).

## A COMPARISON OF TWO EXEMPLARS OF SUCCESSFUL AGING: WISDOM NOMINEES AND NOMINATED VISUAL ARTISTS

M. Ardel<sup>1</sup>, L. Orwoll<sup>2</sup>, 1. *Sociology and Criminology & Law, University of Florida, Gainesville, Florida*, 2. *Clinical Psychologist, Ann Arbor, Michigan*

Both wise and creative older adults are often considered exemplars of successful aging, although the personality of creative artists might be less integrated and more complex. Using ratings by judges, psychologists, clerics, and visual artists randomly selected from their professional directories, this study analyzed the differences in personality qualities between 247 wisdom nominees ( $M_{age} = 62.82$ ) and 277 nominated visual artists ( $M_{age} = 64.98$ ). Three-way 2 (nominator group) x 2 (age group <60 versus 60+) x 2 (sex) MANOVA and follow-up

t-tests revealed that both wise and creative nominees tended to age well as the nominator ratings were generally positive. Yet, wise nominees seemed to age even better than creative nominees. Moreover, ratings of the nominees' wisdom (but not creativity) were positively correlated with wisdom-related and mature personality qualities and well-being, whereas creativity ratings were positively correlated with self-expression and zest. Overall, wisdom appears to be a stronger predictor than creativity of successful aging.

### CULTURAL DIFFERENCES IN THE BENEFITS OF WISDOM IN OLD AGE

M. Ferrari<sup>1</sup>, M. Ardel<sup>4</sup>, C.S. Hu<sup>1</sup>, T. Rozin<sup>1</sup>, G. Shariff<sup>1</sup>, R. Liu<sup>2</sup>, E. Ivanova<sup>3</sup>, 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *Beijing Normal University, Beijing, Hebei, China*, 3. *Kharkiv National University, Kharkiv, Ukraine*, 4. *University of Florida, Gainesville, Florida*

Our international study of wisdom in older adults (age 60-99) in Canada, USA, Ukraine, and China (50 participants per country) explores how well general well-being (GWB) and life satisfaction (LS) can be predicted by the 3 Dimensional Wisdom Scale (3D-WS) and the Adult Self-Transcendence Inventory (ASTI). Linear regressions of both measures of wisdom on life satisfaction found that the 3D-WS predicts GWB in all 4 countries, while the ASTI does not in Ukraine; by contrast, the ASTI predicts LS in all countries but Ukraine, while the 3DWS does so only in Ukraine. However, the 3D-WS and ASTI correlate differently in these 4 countries: positively in Canada and the USA, but negatively in the Ukraine and China. All participants were also interviewed about experiences of wisdom in their own lives and a narrative phenomenological analysis shows that the wisdom themes measured by these two scales are understood differently in these countries.

### EMBEDDED AND CONNECTED WISDOM: IMPACTS OF WISE PRACTICES ON COMMUNAL LIVING IN LATER LIFE

R. Edmondson, *School of Political Science and Sociology, National University of Ireland Galway, Galway, Ireland*

This talk interrogates the use of ethnographic methods in exploring salient impacts of practices described by (other) participants as wise. It focuses on everyday life in two institutions in Ireland: a day-care centre for eighty users with sheltered accommodation for twenty, and a nursing home with forty residents. Commentators such as Ardel have emphasised the significance of personal practice in wisdom; the talk seeks to complement this by tracing specific practical effects of components of wisdom traditionally associated with the social virtues. Concentrating on managers' interventions, we can track incidents involving tolerant solutions to disputes, or cases where communication is restored after difficulty. This shows that managers and nurses identified by others as wise both draw on and add to shared stocks of constructive communicative practice, enabling the achievement of shared goals: positive and pacific forms of joint living. Lastly, it assesses the significance of ethnography in eliciting these results.

## SESSION 2255 (SYMPOSIUM)

### POSITIVE AFFECT, HEALTH, AND WELL-BEING

**Chair:** J. Williams Robinette, *University of California, Irvine, Irvine, California*

**Co-Chair:** S.T. Charles, *University of California, Irvine, Irvine, California*

**Discussant:** A.D. Ong, *Cornell University, Ithaca, New York*

A large literature attests to the importance of positive affect (PA) and health. This series of presentations further unpack the associations between different aspects of PA and health and health-related constructs. Luong and colleagues investigated daily relationships between PA and health in a large sample of adults across a wide age range. They

found that mean levels of PA are associated with better health, but more PA variability is associated with worse health. These associations were stronger among the oldest adults. Boehm and colleagues further examine the importance of means levels and variability in affect-related measures. They found that both average levels and variability in life satisfaction are related to mortality, and that these two indices interact with one another. Sin et al. used a large national study of adults and found that heightened PA reactivity to positive events in one's day was associated with increased inflammation, measured by IL-6. Robinette and colleagues further examined unique associations between different types of negative affect and PA in relation to two different measures of health: self-reported health and allostatic load, a measure of cumulative physiological wear and tear. Results indicated that, although PA and anxiety are uniquely associated with self-reported health above the effects of depressive symptoms, affect was not associated with allostatic load. Together, these studies explore different aspects of affect – including both valence and variability – that have unique correlations with health. Anthony Ong, Ph.D., an expert in the determinants and consequences of PA, will integrate and summarize the findings.

### AFFECT, HEALTH, AND PHYSIOLOGY

J. Williams Robinette, S.T. Charles, *University of California, Irvine, Irvine, California*

Higher levels of negative affect and lower levels of positive affect (PA) are associated with poorer health and health-related constructs. In the present study, we used a large national sample of adults 34-86 years-old to examine how symptoms of depression and anxiety and PA each are associated with two related variables: self-reported chronic conditions and allostatic load, an objective assessment of biomarkers predicting poorer health outcomes. Zero-ordered correlations reveal more depressive and anxiety symptoms and lower PA were significantly associated with more self-reported health conditions and physical symptoms. However, only anxiety and PA were significantly associated with health when all affect measures were assessed simultaneously. Greater allostatic load was associated with poorer health but was not related to the affect variables. Attendees at this presentation will learn that different health-related measures share different associations with affect-related measures.

### AFFECTIVE REACTIVITY TO DAILY POSITIVE EVENTS AND INFLAMMATION

N.L. Sin<sup>1</sup>, J.E. Graham-Engeland<sup>2</sup>, A.D. Ong<sup>3</sup>, D. Almeida<sup>1,4</sup>, 1. *Center for Healthy Aging, The Pennsylvania State University, University Park, Pennsylvania*, 2. *Department of Biobehavioral Health, The Pennsylvania State University, University Park, Pennsylvania*, 3. *Department of Human Development, Cornell University, Ithaca, New York*, 4. *Department of Human Development and Family Studies, The Pennsylvania State University, University Park, Pennsylvania*

Objective: Inflammation increases the risk of aging-related diseases, but the links between emotional responses to daily events and inflammation are unknown. We examined the associations of positive affect reactivity (i.e., changes in positive affect in response to a daily positive event) with inflammatory markers IL-6 and CRP. Methods: A cross-sectional sample of 683 adults aged 35-84 from the Midlife in the United States Study completed an 8-day diary protocol and provided blood samples. Multilevel models estimated affective reactivity slopes for each participant, which were subsequently used in regression models to predict inflammation. Results: Heightened reactivity was associated with higher IL-6, controlling for demographics, mean positive affect, percent of days with positive events, body mass index, comorbidities, and medications. Reactivity was not associated with CRP. Discussion: Affective reactivity to daily positive events is linked to higher IL-6. These findings underscore the importance of considering dynamic features of positive affect for health.

## TOO MUCH OF A GOOD THING? AGE DIFFERENTIAL LINKS BETWEEN POSITIVE AFFECT, HEALTH, AND WELL-BEING

G. Luong<sup>1</sup>, C. Wrzus<sup>2</sup>, G.G. Wagner<sup>3,4</sup>, M. Riediger<sup>1</sup>, *1. Affect Across the Life Span Research Group, Max Planck Institute for Human Development, Berlin, Germany, 2. Johannes Gutenberg University, Mainz, Germany, 3. Berlin University of Technology, Berlin, Germany, 4. Max Planck Institute for Human Development, Berlin, Germany*

Older adults value emotionally meaningful goals, but often report wanting to maintain (vs. increase) their positive affect (Riediger et al., 2009). This apparent contradiction may be explained by the differential effects of mean levels of positive affect (i.e., affect intensity) versus how much people fluctuate in their momentary positive affect (i.e., affect variability) in predicting health and well-being. In an experience sampling study, 397 participants between 12-88 years of age ( $M = 39.87$ ,  $SD = 20.48$ ) provided momentary reports of their affective experiences. Greater positive affect intensity was associated with better physical health and well-being, and these associations were more pronounced with older age. Moreover, greater positive affect variability was associated with poorer health and well-being, and these effects were stronger with older age. In sum, the findings point to a possible explanation why older adults may prefer to maintain (vs. increase or maximize) their positive affect.

## VARIABILITY MODIFIES LIFE SATISFACTION'S ASSOCIATION WITH PREMATURE MORTALITY IN OLDER ADULTS

J.K. Boehm<sup>1</sup>, A. Winning<sup>2</sup>, S. Segerstrom<sup>3</sup>, L.D. Kubzansky<sup>2</sup>, *1. Psychology, Chapman University, Orange, California, 2. Harvard School of Public Health, Boston, Massachusetts, 3. University of Kentucky, Lexington, Kentucky*

This longitudinal study investigated whether premature mortality was associated with mean levels of life satisfaction across time, variability in life satisfaction across time, and the interaction between mean life satisfaction and variability in life satisfaction. Participants were 4,458 Australians initially  $\geq 50$  years old. During the 9-year follow-up, 522 people died. Adjusting for age, increases in mean levels of satisfaction were associated with reduced risk of premature mortality ( $HR=0.81$ ;  $95\% CI=0.75-0.88$ ). In a separate model adjusting for age, increases in the variability of satisfaction were associated with increased risk of premature mortality ( $HR=1.20$ ,  $95\% CI=1.11-1.29$ ). The interaction between mean satisfaction and variability in satisfaction was significantly associated with premature mortality risk ( $HR=0.92$ ;  $95\% CI=0.87-0.97$ ); individuals with low mean satisfaction and high variability in satisfaction had the greatest risk of premature mortality. In combination with mean levels of life satisfaction, variability in life satisfaction is relevant for premature mortality among older adults.

## SESSION 2260 (SYMPOSIUM)

### PERSONALITY DEVELOPMENT IN OLD AGE: POTENTIALS AND CHALLENGES

**Chair:** J. Wagner, *Psychological Methods, Humboldt-University of Berlin, Berlin, Germany*

**Co-Chair:** D. Gerstorf, *Psychological Methods, Humboldt-University of Berlin, Berlin, Germany*

**Discussant:** J. Heckhausen, *University of California, Irvine, Irvine, California*

Personality development is of key interest in life-span developmental researchers. However, the nature of as well as antecedents, correlates, and consequences of stability and change in personality in the second half of life are still not well understood. The present symposium brings together a collection of empirical papers that target these questions at a number of different levels of analyses. Wagner et al. use 13-year

macro-longitudinal data to examine how major personality traits change in advanced age and at the end of life and explore the role of risk and protective factors in the health, cognitive, self-regulatory, and social domains. Mroczek and colleagues make use of 40-year longitudinal data to investigate lead-lag associations between personality traits and physical health. Turiano et al. examine how the predictive effects of personality traits for 14-year mortality hazards change across adulthood and study the moderating role of particular health factors. Finally, Mejia and colleagues use micro-longitudinal daily-life data to address the role of personality traits in shaping everyday goal processes. The discussion by Jutta Heckhausen will integrate the empirical papers and emphasize the importance of looking at both personality structures and processes to understand developmental patterns into very old age. The major aim of the symposium is thus to showcase contemporary approaches to the study of personality development in an aging society and so move towards better understanding its determinants, mechanisms, and consequences.

### PERSONALITY DEVELOPMENT LATE IN LIFE: ANTECEDENTS AND CORRELATES OF STABILITY AND CHANGE

J. Wagner<sup>1</sup>, D. Gerstorf<sup>1,2</sup>, N. Ram<sup>3</sup>, *1. Psychological Methods, Humboldt-University of Berlin, Berlin, Germany, 2. German Institute for Economic Research (DIW), Berlin, Germany, 3. Pennsylvania State University, University Park, Pennsylvania*

Empirical evidence over the past 20 years has documented that key aspects of personality develop across large parts of adulthood. However, it is largely an open question whether and how personality changes late in life and what role key factors in the health, cognitive, self-regulatory, and social domains play. To examine these questions, we applied growth modeling to 13-year longitudinal data obtained from by now deceased participants in the Berlin Aging Study ( $N=462$ ; age 70-103). Results revealed that neuroticism, on average, increases, particularly in advanced ages and at the end of life. In contrast, extraversion and openness on average decline. Over and above expected general positive effects of social inclusion, people with poor health and cognitive functioning were at risk for declines in extraversion and openness. We discuss potential pathways by which risk and resources in the health, cognitive, self-regulatory, and social domains affect personality development late in life.

### DO PERSONALITY AND HEALTH INFLUENCE EACH OTHER OVER TIME? DYNAMIC ASSOCIATIONS BETWEEN TRAITS AND PHYSICAL HEALTH OVER A 4-DECADE LONGITUDINAL FOLLOWUP

D. Mroczek<sup>1</sup>, R. Estabrook<sup>1</sup>, B. Schalet<sup>1</sup>, E. Kranz Graham<sup>1</sup>, N.A. Turiano<sup>2</sup>, A. Spiro<sup>3</sup>, *1. Psychology, Northwestern University, Evanston, Illinois, 2. West Virginia University, Morgantown, West Virginia, 3. Boston VA Health System, Boston, Massachusetts*

Personality traits and physical health are both dynamic over the lifespan, but is this dynamism inter-related? We used multiple waves of measurement over 40 years on 2,002 participants in the VA Normative Aging Study to examine if changes in traits influenced changes in health and vice-versa. Participants had as many as 11 waves of measurement on 2 traits, extraversion and neuroticism, and on 2 physical health dimensions, seriousness of illness ratings and self-rated health. Autoregressive cross-lagged models indicated that four variables became less stable with increasing time lags. Multivariate auto-regressive models further indicated that both personality traits were related both health variables in a complex dynamic manner over time, with some evidence of bidirectionality between personality and health, as well as some evidence that changes in health may lead to changes in personality. Personality and health both change dynamically over time, and their association between them appears dynamic as well.

## THE BIG FIVE PERSONALITY TRAITS AND HEALTH ACROSS THE LIFE COURSE

N.A. Turiano<sup>1</sup>, P.L. Hill<sup>3</sup>, B. Chapman<sup>2</sup>, 1. *West Virginia University, Morgantown, West Virginia*, 2. *University of Rochester Medical Center, Rochester, New York*, 3. *Carleton University, Ottawa, Ontario, Canada*

Personality traits are robust predictors of health and longevity. However, most research assumes that the strength of personality-health association is relatively constant over the entire life course. The current study utilized 14-year mortality data (N=6,000+; age range 25-80) from the Midlife Development in the U.S. Study (MIDUS) to test whether age moderated the effects of the Big 5 personality traits on health and longevity. Employing a proportional hazards modeling framework, significant age-interaction effects emerged for conscientiousness (HR = 1.01; CI = 1.00-1.02), openness (HR = 1.01; CI = 1.00-1.03), and agreeableness (HR = 0.99; CI = 0.98-0.99). The protective effect of conscientiousness decreased with age, the negative effects of agreeableness strongly decreased with age, and openness was a protective factor for those under 65. Sex-specific findings and other health indices will be discussed. This research highlights the importance of examining personality-health trajectories across the full life course.

## DAILY AFFECT AND GOAL APPRAISAL PROCESSES: HITS AND SURPRISING MISSES WITH THE BIG 5 PERSONALITY TRAITS

S. Mejía<sup>1</sup>, S. Choun<sup>1</sup>, T. Pham<sup>2</sup>, R. Metoyer<sup>2</sup>, K. Hooker<sup>1</sup>, 1. *School of Social and Behavioral Health Sciences, Oregon State University, Corvallis, Oregon*, 2. *School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, Oregon*

Personality is important for well-being in part by differentiating appraisals of goal achievement, where positive and negative affect signal individuals' progress towards or away from meaningful goals. In this study, we examine the coupling of positive and negative affect with older adults' daily goal progress in the health and social domains, and the extent to which personality traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness heighten or dampen these associations. We used data from the Personal Understanding of Life and Social Experiences (PULSE) project, a 100-day internet-based microlongitudinal study of self-regulatory processes among older adults. Multilevel models suggest positive affect positively covaries and negative affect negatively covaries with daily health and social goal progress. Neuroticism amplified these associations in the health and social domains, as did agreeableness but only in the social domain. We discuss how personality traits may canalize behaviors that shape daily goal processes and ultimately, our well-being.

## SESSION 2265 (PAPER)

### HEALTH OUTCOMES AND MINORITY POPULATIONS

#### HIV MEDICATION ADHERENCE & AGING IN AFRICAN AMERICANS: ROLES OF HEALTH BELIEFS & SENSATION SEEKING

P. Sayegh<sup>1</sup>, A.D. Thames<sup>1</sup>, N.S. Thaler<sup>1</sup>, A. Arentoft<sup>1</sup>, S.A. Castellon<sup>1,2</sup>, N. Belleste<sup>3</sup>, D. Schonfeld<sup>2</sup>, C.H. Hinkin<sup>1,2</sup>, 1. *University of California, Los Angeles - David Geffen School of Medicine, Los Angeles, California*, 2. *Veterans Administration, Greater Los Angeles Healthcare System, Los Angeles, California*, 3. *Pepperdine University - Graduate School of Education and Psychology, Los Angeles, California*

The influence of aging on antiretroviral therapy (ART) adherence in HIV-positive African Americans (AAs) and potential mechanisms underlying this relation remain greatly understudied. The current study sought to examine how health beliefs and sensation seeking influence

ART adherence in a sample of HIV-positive AAs, and whether these constructs influence the association between aging and adherence. Path analyses revealed that health beliefs, specifically higher levels of perceived utility of treatment, and lower levels of thrill and adventure seeking, a component of sensation seeking, directly predicted optimal ART adherence. In addition, the influence of aging on ART adherence was partially mediated by lower thrill and adventure seeking levels. The role of depression in adherence was fully mediated by both perceived utility of treatment and thrill and adventure seeking, whereas the role of current substance abuse/dependence was fully mediated by thrill and adventure seeking. Finally, global neuropsychological test performance had a direct effect on ART adherence. These findings add to the literature by demonstrating that health beliefs and sensation seeking predict ART adherence in AAs and that age-related declines in thrill and adventure seeking may protect against poor ART adherence. Clinical implications include increasing AA patients' perceptions about the utility of their treatment, particularly among those with higher levels of depression symptoms, in a culturally-responsive fashion to improve adherence. Thrill- and adventure-seeking tendencies can be quickly assessed to identify HIV-positive AAs at risk for poor adherence. Compensatory strategies for medication management may help neurocognitively compromised AAs improve ART adherence.

#### DENTAL CARE UTILIZATION AND UNMET NEEDS: A STUDY WITH OLDER KOREAN AMERICANS

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Purpose: Responding to the need to address oral health disparities in older ethnic minorities, the present study explored predictors of dental care utilization and unmet dental needs in older Korean Americans. Drawing on Andersen's behavioral health model, we examined the predictive roles of predisposing (age, gender, marital status, education, and chronic medical conditions), enabling (dental insurance, acculturation, and family network), and need (self-rated oral health) variables. Methods: Using the data from 209 Korean Americans (aged ≥ 60) surveyed in Central Texas in 2013, multivariate regression models were estimated. Results: Dental care services were more likely to be used by individuals with strong family networks and fair/poor self-ratings of oral health. The likelihood of having unmet dental needs increased when participants had a lower education, no dental insurance, lower levels of acculturation, more limited family networks, fair/poor self-ratings of oral health, and fewer dental care visits. Implications: Findings suggest the vulnerability of older ethnic minorities who are culturally and linguistically isolated and lacking family resources; they highlight the importance of incorporating social and cultural factors in intervention efforts to bridge the gap between dental care needs and services.

#### PERCEIVED NEIGHBORHOOD AND MENTAL HEALTH IN OLDER KOREAN AMERICANS: THE INTERACTIVE ROLE OF HEALTH AND FUNCTION

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Purpose: Drawing on person-environment theories, the purposes of the present study were: (1) to examine how individuals' perceptions of their neighborhood (including perceived ethnic density, safety, social cohesion, and satisfaction) are associated with depressive symptoms among older Korean Americans; and (2) to further explore whether health and function (e.g., chronic medical conditions and functional disability) modify the association between the neighborhood perceptions and depressive symptoms. Method: Data were drawn from 420 older Korean Americans surveyed in the New York metropolitan area in 2010. In regression models, four sets of independent variables were sequentially entered: (1) demographics, (2) health and function, (3) perceived neighborhoods, and (4) interactions between perceived

neighborhoods and health/function. Results: In the direct effects models, chronic conditions, functional disability, perceived neighborhood safety, and satisfaction with neighborhood were found to be significant predictors of depressive symptoms. In addition, significant interactions were found between chronic conditions and social cohesion ( $b = -.64$ ,  $p < .05$ ) and between functional disability and safety ( $b = .27$ ,  $p < .05$ ). That is, the beneficial effects of perceived social cohesion on depressive symptoms were greater for those with more chronic conditions while neighborhood safety had favorable effects for those with less functional disabilities. Implications: Consistent with the premises of person-environment theories, the study demonstrated that neighborhood perceptions affected depressive symptoms both directly and interactively (conditional on individual health conditions). It is noteworthy that the influence of neighborhood characteristics on individual mental health varied according to health conditions, a variation that should be considered in working with older minority immigrants.

#### UTILIZATION OF HEALTH CARE SERVICES AMONG OLDER ADULTS IN GHANA

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Health-seeking behavior studies have found that many older adult Ghanaians delay or do not seek health care services for their health symptoms. Self-rated health studies show that many of them experience poor health and functional disability. Morbidity data also indicate a high incidence of ill health among them. Currently numbered about one million, older adult Ghanaians are expected to increase to almost six million by 2050. Their health situation may be compounded by their increasing numbers, hence the importance of understanding their utilization of health care services. This study examined the factors that mitigate health care usage among older adults in Ghana. The study sample was drawn from the second wave of the Ghana national survey conducted as part of the World Health Organization's SAGE Project. The inclusion criteria for the study yielded an analytic sample of 3947. The analysis showed that older adults who have positive perception of their overall health status, reside in rural areas, and are members of Indigenous religion are less likely to use health care services. It also showed that the risk to health care affordability for older adults comes not from the size of their income, but from their exposure to income irregularity, high household debt, high number of dependents, and lack of health insurance. The projected increase in the Ghanaian older adult population underscores the importance of identifying those who are not using health care services when needed, and designing effective strategies and programs to better serve them.

#### THE GROWING BURDEN OF CHRONIC DISEASE AMONG OLDER GHANAIS

L. Best, *Pan-African Studies & Sociology, University of Louisville, Louisville, Kentucky*

Ghana is currently experiencing shifts in the age structure of its population. Because of considerable gains in life expectancy, Ghana has one of the highest proportions of people over the age 60 in Sub-Saharan Africa. With this growing subgroup comes rising concerns regarding chronic health conditions and subsequent care. Using the Wave 1 (2007-2010) of the World Health Organization's Study on Global AGEing and Adult Health (SAGE), this paper examines the physical chronic health conditions of respondents age 50 and older. Specifically, chronic health conditions examined in the study include diabetes, hypertension, and heart disease. After initially examining descriptive statistics for these conditions, logistic regression analyses are utilized to assess whether socio-demography characteristics can account for possible differences in conditions, particularly as it relates to gender differences. Preliminary findings show that women are more likely to report health conditions, controlling for social factors. Findings suggest that women, particularly in rural areas, may be particularly vulnerable to chronic ailments.

## SESSION 2270 (PAPER)

### TECHNOLOGY AND AGING III

#### A SPATIAL ANALYSIS OF SOCIALLY AND MEDICALLY VULNERABLE POPULATIONS OF OLDER ADULTS IN SOUTH FLORIDA

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Background Older adults age 65 and above are one of the fastest growing populations in the United States. Florida contains the highest state-level percentage of older adults 65 and above (17.3%) and 85 and above (2.3%). The process of defining socially and medically vulnerable populations of any age group is complex and without consensus. Studies targeting these issues in older adults are few in number and rely heavily on self-reported data, and there is limited information on socially and medically vulnerable older adults in the tri-county area of Miami-Dade, Broward, and Palm Beach Counties. In this work, we define, map, and analyze social and medical vulnerability for older adults using spatial analytic techniques. Methods We focus on the tri-county region of Miami-Dade, Broward, and Palm Beach counties at the census tract level and utilize a large set of variables identified as specific indicators of social and medical vulnerability and originally obtained from the US Census, Florida Department of Health, HRSA, and Social Security Administration. We employ principal components analysis (PCA) to determine which factors drive social and medical vulnerability of this population, and analyze the resulting components using Geographic Information Systems (GIS) and spatial statistics. Results We observe substantial intra-county heterogeneity of socio-medical vulnerability across the study area with some spatial clustering of high-vulnerability census tracts along the inland corridor, and spatial outliers in coastal regions. We also derive key indicators from the PCA related to race, ethnicity, and socioeconomic status, and suggest an alternative vulnerability index that is maximally parsimonious. Conclusions The identification of socially and medically vulnerable populations of older adults is vital for healthcare management planning and emergency preparedness in both the public and private sectors. Analysis of geographic patterns in South Florida can improve understanding of the dynamic spatial organization of healthcare, health care needs, access to care and outcomes, and ultimately serve as an input for health care planning across our aging nation.

#### SOCIAL INTERACTIONS IN RETIREMENT COMMUNITIES: RESEARCH RESULTS FOR TECHNOLOGY INTERVENTIONS

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There are different housing options available for older adults including nursing homes, assisted living facilities, continuing care retirement communities, and naturally occurring retirement communities. Independent living retirement facilities are communities that have been designed for people who are functional and can live independently but who need or want some help, mainly with caring for a home. These communities are a viable and affordable option for the majority of older adults especially considering that by 2030, older adults will represent 20% of the



total population, and that by 2050, 50% of older adults who require care will not have children. Yet to date, 2.3% of older adults are housed in independent living retirement facilities that were designed before the population they serve. Social interactions in retirement communities' shared spaces are a key component to preventing social isolation and loneliness among older adults. Given the under- utilization of these spaces, placing technologies to promote utilization of- and socialization in- shared spaces might improve independence and quality of life among older adults. The purpose of this presentation is to describe the design, development, and technology studies conducted for understanding the social interactions of older adults in retirement communities. To understand current use of shared spaces, observational studies were conducted. Moreover, interventions were implemented to evaluate the impact of designed technologies in shared spaces. Results indicate that technology interventions increases the level of traffic 23.2 % and the level of social interaction by 58.1% The technological intervention appears to increase social interaction relative to increased traffic by a factor greater than 2x, and this factor may not depend highly on pre-existing social activities. Furthermore, by providing technology of potential interest within the common area, the intervention increased use of the common areas. The results motivate the need for improving social interactions among older adults via technology interventions in retirement communities' shared common spaces.

**PILOT TESTING AN INNOVATIVE TEACHING TOOL TO IMPROVE DRESSING ASSISTANCE IN NURSING HOMES**  
 P. Tsai<sup>1</sup>, C. Beck<sup>1</sup>, T. Jakobs<sup>2</sup>, M. Rettiganti<sup>1</sup>, K. Jordan<sup>3</sup>, S. Kitch<sup>1</sup>,  
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This pilot study tested the initial effect of an innovative technology intervention on caregivers' level of assistance (LoA) in dressing and demented patients' dressing independence. Nine dyads, assigned to either the experimental or control arms, completed the study. Both arms received a traditional one-hour education module conducted by a research assistant. The experimental arm received an additional two-hour intervention using a newly developed video simulator on a tablet computer that enabled Certified Nursing Assistants (CNAs) to practice their LoA skills. Major outcomes—CNAs' scores on appropriateness of performing dressing LoA and residents' scores on Beck Dressing Performance Scale (BDPS)—were measured before the intervention and 6 weeks after the intervention. The results showed that the two arms were not significantly different in either appropriateness of dressing LoA or BDPS ( $p=.25-.36$ ). Detailed analysis showed that a lack of effort to assist and low statistical powers might explain the insignificant finding. The observed effect sizes of the experimental intervention in appropriateness of dressing LoA and BDPS were .51 and .89, respectively. Future studies should verify CNAs achieve a specific skill level and knowledge after training, and consider incorporating a strategy to improve CNAs' intention to change behavior. In addition, the training program should consider the timing of training to achieve maximum effect.

**INFORMAL CAREGIVERS' WILLINGNESS TO PAY FOR TECHNOLOGY TO SUPPORT CAREGIVING**  
 R. Schulz<sup>1</sup>, S. Beach<sup>1</sup>, J.T. Matthews<sup>1</sup>, K.L. Courtney<sup>2</sup>, A. DeVito Dabbs<sup>1</sup>, 1. *U. of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *U. of Victoria, Victoria, British Columbia, Canada*

We report the results of a study designed to assess whether and how much family caregivers are willing to pay for kitchen and personal care technologies designed to monitor and/or provide assistance to their care recipients. A national web panel of 512 adults caring for a parent (79%), spouse (10%), or other relative (11%) participated in the survey. The primary health problems of the care recipients included Alzheimer's disease (23%), diabetes (13%), heart disease (13%), cancer

(10%), arthritis (10%), and stroke (9%). Survey topics included current use of technology for caregiving, general technology use, general technology attitudes, and general acceptance and willingness to pay for technology systems under development to help monitor and/or provide assistance with kitchen tasks and personal care tasks. Caregivers were willing to pay a median of \$50 per month out-of-pocket for kitchen and personal care technologies. Only 17-22% are not willing to pay anything. Multivariate models showed that those providing more hours of care per week, those with more positive attitudes toward technology in general, and those who use more technology were willing to pay more for kitchen monitoring and help systems. Individuals caring for persons with Alzheimer's disease were willing to pay significantly more than individuals caring for persons with other conditions, even when controlling for hours of care provided. About two-thirds of caregivers believe that the government should pay at least half of the cost of these technologies.

**A FEASIBILITY ASSESSMENT OF AN ELECTRONIC EXPERIENCE SAMPLING TOOL FOR USE WITH OLDER ADULTS**

E.W. Hagoood, T.L. Gruenewald, M.R. Grossman, D. Wang, R. Rashad, K.R. Rusli, S. Kariyawasam, N. Marcione, *University of Southern California, Los Angeles, California*

The feasibility of using electronic devices for surveying the daily experiences of older individuals is an important methodological question for gerontologists seeking to use experience sampling methodologies. The current data derive from a pilot study intended to assess the feasibility of using electronic tablet devices to measure daily generative activities, affect, and cognition among a group of older adults. The present sample ( $n = 36$ ) was 67% female, ranged in age from 54—90, and ranged in educational attainment from 4—20 years. Compliance over the 7-day survey period was high, with an average of 26.1 completed surveys out of 28 total surveys (4 surveys per day). Regression models examining sociodemographic predictors of compliance indicated that survey completion rates were not significantly associated with age, gender, or education, suggesting that the use of electronic tablets to measure daily experiences may be feasible across such groups. Participant responses on a tablet experience survey indicated a favorable experience in completing the electronic surveys. Responses ranked on a 5-point scale (1=definitely disagree; 5=definitely agree) were as follows: *Surveys were easily understood* (mean=4.64; SD=0.54), *enjoyable* (mean=3.86; SD=1.05), *cognitive tasks were enjoyable* (mean=4.22; SD=0.96), *survey length appropriate* (mean=4.36; SD=0.68), *cognitive task length appropriate* (mean=4.22; SD=0.87), *had concerns about privacy of survey data* (mean=1.44; SD=0.88), *willing to participate in a similar protocol in the future* (mean=4.47; SD=0.94), and *would recommend the study to a friend* (mean=4.06; SD=1.01). Together, these findings suggest that electronic sampling of daily experiences may be viable among sociodemographically diverse older adult populations.

## SESSION 2275 (PAPER)

### DISABILITY TRANSITIONS AND TRAJECTORIES

**DISABILITY TRANSITIONS AND PSYCHOLOGICAL RESILIENCE IN LATER LIFE: LONGITUDINAL EVIDENCE FROM OLDER CHINESE**

Y. Yang, *Sociology, University of Utah, Salt Lake City, Utah*

China had more than 109 million people aged 65 or older in 2010 and this number is forecasted to be more than 228 million in 2030 and 333 million in 2050. The ability of older adults to maintain health and independence is clearly of great public health concern. Limited research has explored how positive psychological resources (e.g. locus of control, self-esteem) influence the onset of functional disability in the developed societies. Few studies have examined the reciprocal

aspect of this relationship, however. The purpose of this study is to examine the influence of disability transitions on change in psychological resilience across a 6-year observation period. Longitudinal residual change models are estimated using a sample of 4,162 older adults from two waves of the Chinese Longitudinal Healthy Longevity Survey (CLHLS), 2002-2008/9. Results show that transitions in disability statuses are significantly related to change in psychological resilience (measured by a five-item scale), net of baseline resilience, socio-demographic characteristics, family support, and health. More specifically, stable disability statuses in instrumental activities of daily living (IADL) items and activities of daily living (ADL) items have the effect of decreasing resilience scores by the follow-up, although only the former is statistically significant. The onset of disability in both IADL and ADL items has stronger effects on decrement in resilience scores than the stable disability statuses and the influence of each is statistically significant. In contrast, recovery from IADL disability has the effect of increasing resilience scores although the effect does not reach statistical significance.

#### **DISABILITY TRAJECTORIES AT THE END OF LIFE: A 'COUNTDOWN' MODEL**

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1. *Aging Studies Institute, Syracuse, New York*, 2. *University of Michigan, Ann Arbor, Michigan*, 3. *University of Rochester, Rochester, New York*, 4. *Urban Institute, Washington DC, District of Columbia*

**Objectives** Studies of late-life disablement typically address the role of advancing age as a factor in becoming disabled, and in some cases have pointed out the importance of time to death in explaining changes in functioning. However, few studies have addressed both of these dynamics simultaneously, and none have dealt satisfactorily with the problem of missing data on time to death in panel studies. **Methods** We model remaining lifetime and use it to impute time to death among right censored observations in the Health and Retirement Survey, a prominent panel study of late life functioning. We fit latent-class trajectory models of disablement using the imputed data, and employ multiple-imputation techniques to obtain final parameter estimates and standard errors. **Results** Our best-fitting model has three latent trajectory classes. In each class the probability of having a disability increases with age; however, the three classes reveal three different patterns of dependence on time to death. **Discussion** The model reveals a complex pattern of age- and time-dependent heterogeneity in late-life disablement. The techniques developed here could be applied to other phenomena known to depend on time to death, such as cognitive change, weight loss, and health care spending.

#### **TEMPORAL TRENDS FROM 1991-2010 IN SURVIVAL AMONGST DISABLED AND NON-DISABLED SWEDES AGED 81-99**

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**Objective:** To estimate temporal trends in survival amongst older Swedish adults with and without Activities of Daily Living (ADL) disability from 1991-2010. **Methods:** Older adults aged 81-99 (from two population-based longitudinal studies, consecutively carried out in Stockholm, Sweden: the Kungsholmen Project and the Swedish National study of Aging and Care in Kungsholmen) were assessed on seven different occasions, with varying sample sizes (average 646, range 212-1096). ADL disability was defined as difficulty in one or more of dressing, bathing, eating, transfer, or toileting. Estimates of

three-year mortality and corresponding temporal tests for trend were derived from logistic regression models stratified by ADL status. Median time lived with and without incident disability was estimated using Laplace regression. All analyses were age-stratified and sex-adjusted. **Results:** The proportion of non-disabled persons dying within three years decreased significantly from 1991-2010, and median survival time in those without incident disability during 2001-2007 was 1.3 years longer than for those without incident disability during 1991-96, for the two younger age groups (81-84 and 87) and was steady but suggestive of an increase for those aged 90-99. In contrast, the proportion of disabled persons dying within three years remained stable and high, and survival times after the onset of ADL disability during 1991-96 were unchanged for those with onset during 2001-2007. **Interpretation:** Mortality remained steady among disabled persons but decreased during this period amongst persons without disability, suggesting that increased life expectancy in the last decades may be driven by the longer lives of functionally independent people.

#### **LONGITUDINAL ASSOCIATIONS BETWEEN PHYSICAL AND COGNITIVE FUNCTION AMONG COMMUNITY-DWELLING OLDER ADULTS**

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1. *New York University, New York, New York*, 2. *Washington University, St. Louis, Missouri*

**Background:** Although there is strong empirical evidence for a link between cognitive and physical functionality, their longitudinal association is less clear. The goal of this study was to assess the directionality of this association by comparing rates of decline in physical and cognitive function across groups defined by presence of cognitive and/or functional impairment at baseline. **Methods:** A sample of 766 participants (total of 3,090 observations) in cognitive and aging studies at the Knight Alzheimer's Disease Research Center at Washington University in St. Louis were categorized into cognitively and functionally normal (n=218); functionally impaired but cognitively normal (n=170); cognitively impaired but functionally normal (n=158); and cognitively and functionally impaired (n=220) and compared on rates of functional (PPT score) and cognitive (global, memory, speed, executive function, and language) decline over a period of up to 8 years. **Results:** Rates of decline reached 20% for PPT and varied across cognitive tests. Decline in PPT score was better predicted by baseline impairment in cognition (slope=-1.24, p<0.001), with baseline functional impairment not contributing to further decline in functionality (slope=-0.27, p=0.240). In turn, baseline functional impairment was only marginally associated with rate of cognitive decline. **Conclusion:** The cognitive-functional association is likely to operate in the direction of cognitive impairment to functional decline although functional impairment may also play a role in cognitive decline/dementia. Interventions to prevent further functional decline and development of disability and complete dependence may benefit if targeted to individuals with cognitive impairment who are at increased risk.

#### **MAKING THE TRANSITION: INFLUENCE OF SELF-REPORTED WORK DISABILITY ON LABOR FORCE CAREERS**

M. Stone, J. Kelley-Moore,  
*Case Western Reserve University, Cleveland, Ohio*

This paper examines the relative importance of self-identified work disability, personal resources, and health and employer characteristics on labor force careers. Using five waves (10 years) of the Health and Retirement Study, a nationally-representative panel study of adults ages 50 and older, I accomplish three aims: Aim 1: Construct labor force careers for workers ages 50 to full retirement age and develop a typology of the patterns of labor force transitions. Aim 2: Estimate the likelihood of specific labor force transitions based on degree of self-identified work disability, net of employer characteristics (e.g., work accommodation), personal resources (e.g., employer-based pen-

sion) and health (chronic conditions). Aim 3: Determine if the likelihood of applying for SSDI is associated with self-identified work disability, net of current labor force status, recent labor force transitions, personal resources, health, and employer characteristics.

## SESSION 2280 (SYMPOSIUM)

### INTERDISCIPLINARY MODELS OF GERIATRIC PRIMARY CARE

**Chair:** T. Cortes, *Hartford Institute for Geriatric Nursing, NYU College of Nursing, New York, New York*

**Discusant:** C. Blaum, *New York University School of Medicine, Division of Geriatric Medicine and Palliative Care, New York, New York*

As the prevalence of older adults with multiple chronic conditions increases, so does the need to provide integrated and coordinated health-care through interprofessional models of training. The development of an interprofessional workforce, particularly one focused on primary care, is to provide better care, produce better outcomes and reduce costs requires. These changes require systematic integration of interprofessional competencies in education and practice settings. Realigning care providers who support much-needed modification of standard practice to enhance integrated coordinated care requires the adaptation of interprofessional practice into the core of education. This symposium will highlight different models which educate interprofessional teams in practice and educational settings. One session will present an example of care coordination of chronic disease management, which focuses on reducing the use of acute care services by empowering community-based patients through self-management education. Another session will present an initiative to promote interprofessional collaboration, among nurse practitioners, social workers, and pharmacists, together with students from each profession, involving analyzing and modifying complex medication regimens for older adults. A third session will describe an innovative HRSA-funded Post Master's Certificate Program to increase the capacity of advanced practice nurses to provide interprofessional primary care to older adults with multiple chronic conditions. A final session will discuss Center for Medicare and Medicaid Services-funded interdisciplinary hospital initiative for clinical training education of Advanced Practice Registered Nurses, with a focus on increasing services to rural and medically underserved areas.

### THE COLLABORATIVE, CONTINUOUS CARE (3C'S) MODEL FOR PRIMARY CARE

M. Giuliante, T. Cortes, *Hartford Institute for Geriatric Nursing, New York University, College of Nursing, New York, New York*

Implemented in Fall 2013 as part of a three year HRSA-funded initiative, The Collaborative, Coordinated, Continuous Care (3Cs) Model maximizes the potential of the primary health care team by implementing a geriatric-care based interprofessional model led by advanced practice nurses in community-based health care setting. This education/practice collaborative brings together students and practitioners from advanced practice nursing, pharmacy and social work to work with frail home bound older adults who are dually eligible and have complex medication regimens. The 3Cs model enhances collaboration and coordination in the care of frail homebound older adults through deliberate communication. Among the outcomes being measured are reduction in medication complexity, use of acute care services by the patients, and the professionals' perceptions of the effectiveness of the interprofessional team among health professionals. In this presentation, we will discuss the first year findings.

### INNOVATIVE POST-MASTER'S CERTIFICATE APN GERIATRICS PROGRAM IN INTERPROFESSIONAL PRIMARY CARE

S.A. Greenberg, *New York University, College of Nursing, New York, New York*

As the population ages and the prevalence of those living with multiple chronic conditions increases, there is a crucial need for accessible, coordinated, and collaborative primary care for older adults. In particular, there is a need for adult advanced practice nurses to have evidence-based knowledge and skills in the interdisciplinary team management of community-dwelling older adults. This presentation will discuss an innovative post-master's certificate program for adult nurse practitioners needing gerontological didactic and clinical content in caring for older adults in collaboration with an interprofessional team. This replicable program includes shared learning with primary care medical residents, strategies involving the New York University Teaching, Technology, Teamwork curriculum, didactic, online learning modules/resources, and simulation-based interprofessional curriculum. This HRSA-funded initiative expects to increase the number of adult nurse practitioners with the gerontological competencies to provide comprehensive primary care to vulnerable, underserved older adults with multiple chronic conditions.

### CLINICAL EDUCATION ACROSS THE CONTINUUM: CMS GRADUATE NURSE EDUCATION DEMONSTRATION PROJECT

M. Brewer, *Scottsdale Healthcare, Scottsdale, Arizona*

The Center for Medicare and Medicaid Services awarded a Graduate Nurse Education (GNE) Demonstration Project to five hospitals in July 2012: Hospital of the University of Pennsylvania, Duke University Hospital, Memorial Hermann-Texas Medical Center Hospital, Rush University Medical Center, and Scottsdale Healthcare. This four-year Project provides funding for clinical training education of Advanced Practice Registered Nurses (APRNs), and will increase the supply of APRNs to provide health care to the growing number of Medicare beneficiaries in a complex health care delivery system. In Arizona, the population over age 65 is increasing rapidly, and represents over 40% of hospital admissions. Arizona's GNE Project includes interprofessional clinical training education for primary and chronic care management across the care continuum with a focus on rural and medically underserved areas. Outcomes after completion of two years of the Project include development of effective APRN clinical training models, innovative partnerships, and increased numbers of graduates.

### CHRONIC DISEASE MANAGEMENT FOR OLDER DUALY ELIGIBLE ADULTS: COACH INITIATIVE

T. Smith<sup>2</sup>, T. Cortes<sup>1</sup>, B. Paris<sup>2</sup>, A. Zagorin<sup>2</sup>, S. Saviolis<sup>2</sup>, Y. Bazile<sup>1</sup>, *1. Hartford Institute for Geriatric Nursing, New York University, College of Nursing, New York, New York, 2. Maimonides Medical Center, Brooklyn, New York*

The Patient Protection and Affordable Care Act of 2010 (ACA) has presented an opportunity for states to realign their policies for the care of dual eligibles and placed an emphasis on coordinating and improving their care. The goal of this project is to reduce the use of acute care services by older adults through a primary care practice with an RN trained in Stanford Chronic Disease Self-Management Program. This initiative will analyze the use of Medicare dollars and Medicaid dollars in managed care models mandated for duals and define the role of care co-ordination for older adults with multiple chronic conditions. This proposal represents a partnership between a provider, Maimonides Medical Center, a payor, Healthfirst and the Hartford Institute for Geriatric Nursing.

**TOWARDS THE UNDERSTANDING OF SARCOPENIA: RISK FACTORS AND ASSOCIATION WITH COMMON DISEASES****Chair:** K. Norman, *Charite Research Group on Geriatrics Charite Universitätsmedizin Berlin, Berlin, Germany***Co-Chair:** I. Demuth, *Charite Research Group on Geriatrics Charite Universitätsmedizin Berlin, Berlin, Germany***Discussant:** E. Steinhagen-Thiessen, *Charite Research Group on Geriatrics Charite Universitätsmedizin Berlin, Berlin, Germany*

In the past 25 years, aging research has focused on body composition and muscle mass in particular. Sarcopenia, the age related loss of muscle mass and strength is associated with e.g. impaired physical performance and increased risk of falls. Moreover, reduced muscle mass is related to metabolic disorders including insulin resistance, rendering older adults more vulnerable to the development of diabetes or metabolic syndrome. While the etiology of sarcopenia is considered multifactorial, diagnosis, definition and classification have been the focus of ongoing debate. This symposium will start with three presentations highlighting first results from the Berlin Aging Study II (BASE-II). Meyer and colleagues have studied the relationship between telomere length as potential marker of sarcopenia and reduced appendicular muscle mass in older BASE-II participants. The link between vitamin D insufficiency and muscle mass as well as the association between vitamin D insufficiency and impaired physical performance are the topic of the second presentation by Spira and colleagues. Buchmann and colleagues have investigated the prevalence of sarcopenia in older adults with type II diabetes and/or metabolic syndrome and will discuss the association between different definitions of sarcopenia and functional and metabolic parameters considering both fat mass and fat mass distribution. The paper by Kiel and colleagues will complete the symposium by presenting results from a meta-analysis of genome wide association studies, furthering the understanding of the genetics of lean body mass. Steinhagen-Thiessen will summarize and discuss these new findings on risk factors of sarcopenia and its association with common diseases.

**RELATIVE LEUCOCYTE TELOMERE LENGTH (RLTL) IS NOT A MARKER OF SARCOPENIA: DATA FROM THE BERLIN AGING STUDY (BASE-II)**A. Meyer<sup>1</sup>, B. Salewsky<sup>1</sup>, E. Steinhagen-Thiessen<sup>1</sup>, K. Norman<sup>1</sup>, I. Demuth<sup>1,2</sup>, *1. Charité Research Group on Geriatrics, Charité-Universitätsmedizin Berlin, Berlin, Germany, 2. Institute of Medical and Human Genetics, Charité-Universitätsmedizin, Berlin, Germany*

The age associated loss of muscle mass and function, sarcopenia, has been recognized as an increasing problem in the aging society. Sarcopenia is a characteristic of frailty and associated with other features of this syndrome, such as physical inactivity, decreased mobility and increased risk of falls. The length of the chromosome ends, the telomeres, has been widely accepted as a biomarker of aging. Here we evaluated the relationship between sarcopenia and rLTL as determined by qPCR from samples of 1,245 BASE-II participants (60-83 years, 48% men, 68.09±3.58 years). As expected, rLTL decreased with age and women had on average shorter telomeres than men, which is in line with the literature on rLTL determined by the method used here. There was no association, however, between rLTL and sarcopenia when analysed in the context of different sarcopenia definitions considering muscle mass alone or including measurements of muscle function and physical capacity.

**VITAMIN D AND PARAMETERS OF SARCOPENIA: DATA FROM THE BERLIN AGING STUDY II (BASE-II)**D. Spira<sup>1</sup>, A. Meyer<sup>1,2</sup>, N. Buchmann<sup>1</sup>, I. Demuth<sup>1,2</sup>, E. Steinhagen-Thiessen<sup>1</sup>, R. Eckardt<sup>1</sup>, K. Norman<sup>1</sup>, *1. Charité - Universitätsmedizin Berlin; Research Group on Geriatrics, Berlin, Germany, 2. Charité - Universitätsmedizin Berlin; Institute of Medical and Human Genetics, Berlin, Germany*

Vitamin D insufficiency can have negative effects on muscle tissue and might be linked to sarcopenia. In a sample of 1263 participants from the Berlin Aging Study II (BASE-II) aged 60 years or older, we measured levels of 25-hydroxy-vitamin D and assessed appendicular skeletal muscle mass (ASM) with dual-energy X-ray absorptiometry (DEXA). Parameters of relative (ASM/body weight) and absolute (ASM/height squared) muscle mass were derived. Grip strength and the timed "Up and Go" test (TUG) were used as functional parameters. Vitamin D insufficiency, prevalent with 51.4%, was significantly associated with low ASM% (p=0.004) whereas low function was significantly associated with lower serum levels of vitamin D (p=0.018) independent of age and BMI. Low vitamin D levels may be a contributing factor to sarcopenia. With regard to our findings relative and absolute muscle mass need to be differentiated and muscle function should be considered irrespective of muscle mass.

**SARCOPENIA IN DIABETES AND METABOLIC SYNDROME – DATA FROM THE BERLIN AGING STUDY (BASE-II)**N. Buchmann<sup>1</sup>, D. Spira<sup>1</sup>, J. Nikolov<sup>1</sup>, I. Demuth<sup>1,2</sup>, E. Steinhagen-Thiessen<sup>1</sup>, R. Eckardt<sup>1</sup>, K. Norman<sup>1</sup>, *1. Research Group on Geriatrics, 13347 Berlin, Germany, 2. Institute of Medical and Human Genetics, Charité-Universitätsmedizin, Berlin, 13347, Germany*

Earlier studies have suggested that type 2 Diabetes (T2D) and metabolic syndrome (MetS) are associated with reduced muscle mass or impaired physical function. We analyzed the relationship between T2D, MetS, muscle mass and self-reported mobility in 1043 community-dwelling old subjects (53% female; mean age 68.2 ±3.6 years). The prevalence of T2D was 13%, whereas 19.1% had MetS; sarcopenia was identified in 26.6% of the participants, using the conventional approach with reduced appendicular muscle mass/height<sup>2</sup>. Since absolute appendicular skeletal mass was significantly higher in subjects with T2D (p<0.001) or MetS (p<0.001), the prevalence of sarcopenia was lower in these participants (p = 0.035). However, muscle mass corrected for weight or various fat measures was significantly decreased in participants with MetS or T2D, who also reported a higher degree of limited mobility. Therefore, adjustment of muscle mass for fat mass seems necessary in order to identify sarcopenia in subjects with metabolic disorders.

**DISCOVERY AND REPLICATION OF SEVERAL LOCI SIGNIFICANTLY ASSOCIATED WITH LEAN BODY MASS: A LARGE META-ANALYSIS OF GENOME WIDE ASSOCIATION STUDIES FROM THE CHARGE AND GEFOS CONSORTIA**D.P. Kiel<sup>1,4</sup>, L. Yerges-Armstrong<sup>2</sup>, Y. Hsu<sup>1,4</sup>, D. Karasik<sup>1,5</sup>, T. Harris<sup>6</sup>, C. Ohlsson<sup>7</sup>, S. Demissie<sup>8</sup>, M. Zillikens<sup>3</sup>, *1. Institute for Aging Research & Harvard Medical School, Hebrew SeniorLife, Boston, Massachusetts, 2. University of Maryland School of Medicine, Baltimore, Maryland, 3. Erasmus MC, Rotterdam, Netherlands, 4. Harvard Medical School, Boston, Massachusetts, 5. Bar-Ilan University, Safed, Israel, 6. National Institute on Aging, Bethesda, Maryland, 7. Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden, 8. Boston University School of Public Health, Boston, Massachusetts*

Genetic determinants of lean body mass are not known. We performed a meta-analysis of GWAS for total body (TBLM) (n=38,292)

and appendicular lean mass (ALM) (n=28,330) adjusted for fat mass measured using DXA or bioelectrical impedance analysis. Replication was carried out in 62,880 (46,632 European ancestry) subjects for TBLM and in 44,495 (41,765 European ancestry) subjects for ALM. In Europeans, for TBLM, 5 of 13 genome wide significant ( $P < 5 \times 10^{-8}$ ) or suggestive ( $P < 2.3 \times 10^{-6}$ ) SNPs in five genes (IRS1, HSD17B11, VCAN, ADAMTSL3, and FTO) and for ALM, 3 of 8 SNPs in three genes (ADAMTSL3, IRS1, VCAN) significantly replicated. The FTO locus is known to associate with lean mass while IRS1, HSD17B11, VCAN, and ADAMTSL3 are novel findings. Some non-coding variants had potential functional roles in myoblast cells lines. One locus contained a variant expressed less in old versus young muscle. Our findings provide new insight into the genetics of lean mass.

## SESSION 2290 (PAPER)

### LONG TERM CARE I

#### WHAT MAKES A NURSING HOME A HOME? INSIGHTS FROM FAMILY MEMBERS

L.E. Weeks<sup>1</sup>, J. Keefe<sup>2</sup>, R. Stadyk<sup>3</sup>, 1. *Applied Human Sciences, University of Prince Edward Island, Charlottetown, Prince Edward Island, Canada*, 2. *Mount Saint Vincent University, Halifax, Nova Scotia, Canada*, 3. *Dalhousie University, Halifax, Nova Scotia, Canada*

Identifying factors that enhance the quality of life for older adults living in nursing homes can contribute to transforming health care institutions into person-centered homes offering long-term care services. One component of a federally funded project based in Nova Scotia, Canada, focused on the quality of life in nursing homes from the perspective of the family members of the residents. A total of 397 family members completed a survey containing both open and closed-ended questions focusing on their perspectives on quality of life indicators in a nursing home environment. In addition, family members also participated in focus groups. Multiple regression analysis resulted in the identification of several factors that have a significant influence on the quality of life of nursing home residents, including that a perception of more homelikeness is related to higher resident quality of life. Focus group results provided further insights into how family members of residents felt that homelikeness can be fostered, including focusing on the physical environment (i.e. safety and security, outdoor spaces, privacy, natural light) and care provided (i.e. personalization of care, options for food and scheduling of daily activities). Upon the conclusion of the presentation, attendees will be able to identify key elements in supporting homelikeness and implications of these findings for practice within nursing home settings. Our results are relevant to planners and administrators of nursing homes in other jurisdictions who are facing challenges associated with meeting the care needs of an aging population within various environmental, financial and staffing constraints.

#### CHOOSING A LIVING ENVIRONMENT FOR A RELATIVE WITH DEMENTIA: VALIDATION OF A CAREGIVER DECISION-AID

M. Couture<sup>1,2</sup>, F. Ducharme<sup>2</sup>, 1. *Centre for Research and Expertise in Social Gerontology (CREGÉS), CSSS Cavendish, Montreal, Quebec, Canada*, 2. *Institut universitaire de gériatrie de Montréal, Montréal, Quebec, Canada*

Many family caregivers report a lack of support from health care professionals when choosing a living environment for their relative with dementia. To further support a partnership approach between health care professionals and caregivers, we developed a tool entitled "Decision-Aid for Caregivers: Choosing a Living Environment for a Relative with Dementia (DAC-CLERD)" based on a systematic review of the literature on the decision making process of caregivers. The objective of this study was to validate the content of the decision-aid by

assessing whether the chosen format, items and instructions were clear and acceptable and if the designated themes were relevant. Using open ended-questions, eight caregivers who placed their relative in a long term care institution in the past year and seven case managers having experience in supporting caregivers were interviewed. Qualitative data was analysed using Miles and Huberman's approach. Results showed that participants (caregivers and health care professionals) appreciated the open and partnership format of the tool to stimulate dialogue. The initial version of the tool was judged easy to understand and relevant but participants made suggestions to refine questions and to add new themes to explore with caregivers such as their future role in the new living environment. To have time to reflect on the situation, participants proposed that caregivers receive the decision-aid before a scheduled meeting with the health care professional. The content validation process demonstrated that the items comprised in the decision aid as well as the partnership approach were coherent with the reality of potential users.

#### MEDICARE & MEDICAID EXPENDITURES PRECEDING AND FOLLOWING ENTRY INTO CALIFORNIA'S HCBS PROGRAMS

R. Newcomer, M. Ko, C. Harrington, D. Hulett, P. Chu, T. Kang, A. Bindman, *University of California, San Francisco, California*

**Aims:** The study examined what acute and post-acute use and expenditures are associated with the initiation of home and community based services (HCBS) for Medicare and Medicaid eligible (MME) beneficiaries, and does initiation of HCBS impact subsequent acute and post-acute events and expenditures? **Methods:** California Medicaid and Medicare claims are used to track recipient-specific service use for adult beneficiaries (n=62,614) who initiated HCBS in either 2006 or 2007 and who had not received HCBS in the previous year. Children, adults with developmental disabilities, and those in managed care were excluded. Acute, post-acute and HCBS use and costs were aggregated for the 12 months prior and following HCBS entry. **Findings:** HCBS was often initiated following a rapid increase in mean monthly expenditures for acute and post-acute care services. Total Medicare and Medicaid expenditures rose from a monthly mean of \$4,000 three months prior to HCBS initiation to \$6,000 at entry. Following HCBS initiation there was an equally steep decline in mean monthly total health care expenditures. These typically more than offset the mean monthly HCBS expenditures, but expenditures generally returned only to rates that prevailed three months prior to HCBS entry rather than those from earlier in the pre-entry period. **Implications:** The relatively high use of emergency department and hospital services, preceding and following HCBS entry suggests the need to systematically evaluate the needs of MMEs who are at higher risk for HCBS services in order to prevent avoidable health care use.

## ORGANIZATIONAL CONTEXT FACTORS AND RESEARCH UTILIZATION IN GERMAN NURSING HOMES: PSYCHOMETRIC TESTING OF THREE TRANSLATED RESEARCH TOOLS

M. Hoben<sup>1,2,3</sup>, C.A. Estabrooks<sup>3</sup>, J. Squires<sup>4,5</sup>, A. Kruse<sup>6</sup>, J. Behrens<sup>2</sup>,  
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We lack appropriate research tools in German to study the crucial role of organizational context factors and their association with research use (RU) in German nursing homes (NHs). We thus translated three well-tested Canadian tools and assessed their psychometric properties: the Alberta Context Tool (ACT), Estabrooks' Kinds of RU items, and the Conceptual Research Utilization (CRU) scale. This presentation reports on the methods and results of the psychometric testing. Responses of 273 care aides, 196 registered nurses, 152 allied health providers, 6 clinical specialists, 129 managers and 65 nursing students from 38 German NHs were included. Confirmatory factor analyses (CFAs) confirmed the seven-factor structure of the scaled ACT items and the one-factor structure of the CRU scale. However, our results indicate a six-factor structure of the count-based ACT items rather than the three-factor structure suggested by the Canadian CFA. Reliability scores based on the CFA parameters were  $>0.7$  in all provider groups for 9 of the 13 ACT concepts, and ranged between 0.90 and 0.96 for the CRU scale. Multiple-group CFAs suggested partial strong measurement invariance of the ACT, and partial strict measurement invariance of the CRU scale. Six structural equation models, acceptably fitting the data, revealed significant associations of various ACT concepts with RU. However, some of these associations were unexpectedly negative. Overall, the three translated tools demonstrated acceptable factorial validity, reliability and measurement invariance. More research is needed to understand the reasons for the negative associations between some ACT concepts and RU.

## THE EFFECT OF SWALLOWING TRAINING PROGRAM FOR NURSING HOME RESIDENTS WITH STROKE

H. Bang, *College of Nursing, Seoul National University, Seoul, Seoul, Republic of Korea*

**Background:** Aging, neurologic disorders, functional status and medication are factors affecting the high prevalence of dysphagia in nursing homes. Indirect swallowing therapies such as oromotor exercise and swallowing maneuvers can be administered safely by nurses. An applicable training program for swallowing can improve swallowing capacity and nutritional status. **Aim:** The aim of this study was to develop a training program for swallowing and to test its effect on swallowing capacity and nutritional status in stroke residents at risk for dysphagia. **Methods:** A literature review, content validation by experts and pilot test were done to construct a swallowing training program. A quasi experimental pretest and posttest design was used to evaluate the effectiveness of the developed program. One institution in an urban area was selected. The subjects in the experimental group ( $n=16$ ) received 30 minutes of swallowing training 3 days per week for 8 weeks **Results:** The swallowing training program consisted of oromotor exercise, expiratory muscle strength exercise and effortful swallow. The average age of the subjects was 77.2 years. The swallowing capacity measured by dysphagia risk and swallowing symptoms improved significantly. Tongue pressure increased significantly ( $p=.003$ ). The changes in nutri-

tional status were not significant. **Conclusion:** A swallowing training program was developed and its effectiveness was demonstrated. More studies are needed to identify its effect on nutritional status. It is recommended that nurses conduct a swallowing training program in long term care facilities, especially for stroke residents, to manage and prevent dysphagia and its complications.

## SESSION 2295 (SYMPOSIUM)

### THE AGING AND DISABILITY RESOURCE CENTER PROGRAM: RESULTS OF NATIONAL PROCESS AND OUTCOME EVALUATIONS

**Chair:** R.M. Bertrand, *Health Policy, Abt Associates Inc., Cambridge, Massachusetts*

**Co-Chair:** T. Barretto, *IMPAQ International LLC, Columbia, Maryland*

**Discussant:** S. Kunkel, *Scripps Gerontology Center, Miami University, Oxford, Ohio*

The Administration for Community Living (ACL) was created by the U.S. Department of Health and Human Services to serve as the Federal agency responsible for increasing access to community supports, while focusing on the unique needs of older Americans and persons with disabilities. ACL's mission is to promote the independence, well-being, and health of older adults, all persons with disabilities, and their families and caregivers. Aging and Disability Resource Center (ADRC) grants, originally co-funded by the ACL and Centers for Medicare & Medicaid Services, align with ACL's mission by serving as a coordinated, No-Wrong-Door system with access to a full range of long-term supports and services (LTSS). To assess ADRCs' effectiveness in serving as a No-Wrong-Door system and meeting the LTSS needs of the aging and disability populations, the ACL funded the first national evaluation of the ADRC program. In this symposium we will provide an overview of the evolution of the ADRC program and discuss more recent initiatives such as one-on-one options counseling, person-centered care transitions, and other programs that promote No-Wrong-Door access to LTSS. Presenters will discuss the results of the process evaluation based on data collected via a web-based survey administered to all State and Local ADRC directors and a sample of AAA directors from communities without ADRC coverage. The results of the outcome evaluation in which consumer experiences were collected via a telephone survey will also be presented. Results of the national evaluations will be discussed in terms of best practices and lessons learned.

### OVERVIEW OF THE ADMINISTRATION FOR COMMUNITY LIVING-FUNDED AGING AND DISABILITY RESOURCE CENTER (ADRC) PROGRAM

S. Jenkins, *Center for Disability and Aging Policy, US Department of Health and Human Services, Administration for Community Living, Washington, District of Columbia*

The mission of the Administration for Community Living (ACL) is to support the long-term needs and well-being of older adults, people with disabilities, their families and caregivers. The Aging and Disability Resource Center (ADRC) program is an ACL initiative, originally co-funded with the Centers for Medicaid & Medicare Services (CMS) and other agencies, to offer a full range of long-term supports and services (LTSS) to people of all ages, disabilities and income levels. Since 2003, 54 out of 56 states and territories have received ADRC grants and currently there are a total of 467 active ADRC systems nationwide, covering about 70% of the US population. ADRCs assist older adults with information and referral, one-on-one options counseling, and person-centered care transitions. ADRC programs also serve as the entry point to publicly administered long-term supports, including those funded under Medicaid, the Older Americans Act, Veterans Health Administration, and state revenue programs.

## ACCESS TO LONG-TERM SERVICES AND SUPPORTS: FINDINGS FROM THE NATIONAL PROCESS EVALUATION OF ADRCs

R. Varghese<sup>1</sup>, T. Barretto<sup>1</sup>, R.M. Bertrand<sup>2</sup>, S. Pedersen<sup>1</sup>, K.L. Phillips<sup>1</sup>, S. Toor<sup>1</sup>, S. Jenkins<sup>3</sup>, 1. *IMPAQ International, LLC, Columbia, Maryland*, 2. *Health Policy, Abt Associates Inc, Cambridge, Massachusetts*, 3. *Administration for Community Living, Washington, DC, District of Columbia*

The process evaluation of the Aging and Disability Resource Centers (ADRC) explores the range of long-term care services and supports (LTSS) provided by ADRCs, and whether ADRCs are fulfilling their mission of providing streamlined access. Data were collected via a web-based survey that received response rates of 91% (48 of 53) and 84% (472 of 559) from state- and local-level ADRCs, respectively. Ninety-five percent of ADRCs indicated an improvement in ability to provide integrated, comprehensive LTSS access after receiving an ADRC grant. Seventy-six percent provide options counseling, 68% assist clients with Medicaid LTSS financial eligibility application, and 37% provide care transition services. Nearly 78% view partnerships as the most important factor influencing their ability to provide LTSS access. These findings indicate the extent to which ADRCs provide the full range of LTSS, implement the ADRC mission of streamlined access, and utilize strategies that facilitate effective and efficient LTSS provision.

## DO ADRCs MEET CONSUMER'S NEEDS FOR NO-WRONG-DOOR ACCESS TO LONG-TERM SERVICES & SUPPORTS? A NATIONAL EVALUATION

R.M. Bertrand<sup>1</sup>, L. Goodman<sup>1</sup>, R. Varghese<sup>2</sup>, S. Jenkins<sup>3</sup>, L. Buatti<sup>1</sup>, T. Barretto<sup>2</sup>, S. Pedersen<sup>2</sup>, 1. *Health Policy, Abt Associates Inc., Cambridge, Massachusetts*, 2. *IMPAQ International, LLC, Columbia, Maryland*, 3. *Administration for Community Living, Washington, District of Columbia*

A national evaluation was conducted to assess the efficacy of Aging and Disability Resource Centers (ADRCs) as No-Wrong-Door systems. Preliminary analyses of 496 consumers (73.5% older adults) were conducted using data from a survey developed for this project and revised based on cognitive and pilot testing. Results indicate that most consumers contacted ADRCs for personal care assistance (19%), Medicare (16%) and Medicaid (13%) questions. Nearly 80% said that they spoke with a representative on their first call, and found most representatives very knowledgeable about LTSS (75%). Fifty-six percent received services directly. Of those not receiving services directly, 52% reported receiving ADRC referral help; 43% of those said they successfully received services, and 38% reported it was too soon to tell. Results suggest that ADRCs may be achieving their goal of no-wrong-door access. Additional analyses among ADRC consumers compared to consumers in communities not served by an ADRC will be explored.

## SESSION 2300 (SYMPOSIUM)

### THE NEIGHBORHOOD AND PHYSICAL ACTIVITY IN OLDER PERSONS

**Chair:** K. Diaz Moore, *University of Kansas, Lawrence, Kansas*  
**Discussant:** W. Satariano, *University of California, Berkeley, California*

With the World Health Organization's creation of the Age-friendly environments program, there have been increased efforts to understand the characteristics of environments to promote healthy and independent lifestyles for older adults. This symposium presents current research from three different countries exploring the role physical characteristics of neighborhood play in physical activity and mobility in older persons. The first presentation focuses on the development of a user-led neighbourhood environmental audit tool for older adults, "Seniors Walkability Audit in Neighbourhoods" (SWAN). The second presentation

focuses on almost 600 older adults in Frankfurt, Germany, stratified by age, household composition and neighborhood, their mobility and its impact on neighborhood belonging. The third presentation offers a pilot retrospective analysis of the impact objective measures, such as integration and connectivity, of neighborhood walkability have on sedentary behavior and subsequent biometric (Gluteal circumference, insulin levels), physical performance (e.g. chair rise time, walking speed), and attention measures. The discussants will frame the state of the art in terms of methodology, empirical understandings and theoretical development pertaining to neighborhood, activity and older persons with and without cognitive impairments. Attendees will be able to explain the characteristics of neighborhood likely to impact independent physical activity and how that activity impacts quality of life factors such as sense of belonging.

### DEVELOPMENT OF A USER-LED BUILT ENVIRONMENTAL AUDIT TOOL - SENIORS' WALKABILITY AUDIT IN NEIGHBORHOODS (SWAN): ASSESSMENT OF NEIGHBOURHOOD DISTRICTS FOR PHYSICAL ACTIVITY IN OLDER ADULTS

A. Mahmood<sup>1</sup>, H. Chaudhury<sup>1</sup>, F. Oswald<sup>2</sup>, N. Konopik<sup>2</sup>, T. Pfeiffer<sup>2</sup>, S. Stott<sup>1</sup>, 1. *Gerontology, Simon Fraser University, Vancouver, British Columbia, Canada*, 2. *Goethe University, Frankfurt, Germany*

Identification of the barriers and facilitators of physical activity and mobility in the neighbourhood built environment by older adults themselves can assist them to vocalize and advocate their needs. This paper presents the development of a user-led neighbourhood environmental audit tool for older adults, "Seniors Walkability Audit in Neighbourhoods" (SWAN). This tool has been developed to collect objective built environmental data related to mobility, functionality, access and services across five domains: functionality, safety, destinations, aesthetics and social quality. The objectives of the project were: a) to develop a user-led neighbourhood environmental audit tool; b) to pilot test the tool with older adults in three districts in Frankfurt, Germany to assess the tool's usability and relevance; and c) to generate pilot data collected by older adults on micro-environmental features (e.g., width of sidewalk, street lighting, furniture) that are supportive or deterrent in mobility of older adults living in those districts.

### BEING OUT AND ABOUT – ON THE RELATIONSHIP BETWEEN OUT-OF-HOME ACTIVITY, OUTDOOR MOBILITY AND NEIGHBORHOOD BELONGING IN THREE URBAN DISTRICTS

R. Kaspar<sup>1,2</sup>, F. Oswald<sup>1</sup>, 1. *Goethe University Frankfurt, Frankfurt, Germany*, 2. *German Institute for International Educational Research (DIPF), Frankfurt, Germany*

This study assesses the relative importance of two major concepts of Environmental Agency (i.e. activity vs. mobility) for processes of Environmental Belonging. We assume older persons' attachment to their outdoor home environment (i.e. urban-related identity) to be positively related to out-of-home activity and negatively to outdoor mobility, but expect no such inverse pattern with more general neighborhood perceptions (i.e. cohesion, informal control). Data are drawn from a study with 595 community-dwelling elders from three urban districts (Frankfurt, Germany) stratified by age (70-79, 80-89) and household composition (living alone, with partner). We combine survey, mobility diary and GIS-coded map information to estimate individuals' propensities for out-of-home activity and mobility. Multi-Group-SEM consistently shows urban-related identity to be strongly and inversely impacted by mobility (-.59\*\*\*) and activity (.51\*\*\*), but also points to diverging patterns of influence on neighborhood perception in different districts. Implications for active aging and aging in place will be highlighted.

## NEIGHBORHOOD CHARACTERISTICS PREDICT HEALTH AND COGNITION IN OLDER ADULTS WITH AND WITHOUT AD

A. Watts<sup>1,2</sup>, F. Ferdous<sup>1</sup>, K. Diaz Moore<sup>1</sup>, J.M. Burns<sup>2</sup>, *1. Lifespan Institute, University of Kansas, Lawrence, Kansas, 2. KU Alzheimer's Disease Center, Kansas City, Kansas*

Older adults are highly sedentary, thus at risk of disease and cognitive decline. Neighborhood walkability is important for physical activity, but little research has focused on older adults. We evaluated the role of neighborhood walkability on physical activity, cognitive performance, and health biomarkers. We hypothesized that individuals whose neighborhoods were more integrated would engage in more physical activity, have better health and cognitive performance. In 26 older adults with and without mild AD, we evaluated neighborhood walkability using GIS data. Although neighborhood integration did not predict self-reported physical activity, it predicted BMI ( $\beta=-.57$ ,  $p=.04$ ), insulin ( $\beta=-.66$ ,  $p=.04$ ), walking speed ( $\beta=-.60$ ,  $p=.05$ ), chair rise time ( $\beta=-.72$ ,  $p=.01$ ), and attention ( $\beta=.64$ ,  $p=.03$ ). Neighborhood walkability may be an important determinant of physical and cognitive health outcomes. This has implications for design and maintenance of living spaces for older adults and may be helpful in eliminating barriers to physical activity in sedentary older adults.

## SESSION 2305 (SYMPOSIUM)

### INTEGRATED CARE FOR OLDER ADULTS – THE POLICY LANDSCAPE

**Chair:** K. Zivin, *Psychiatry, University of Michigan, Ann Arbor, Michigan, Department of Veterans Affairs, Ann Arbor, Michigan*

**Discussant:** T. Cortes, *Hartford Institute for Geriatric Nursing, New York City, New York*

Federal legislation, including but not limited to the Affordable Care Act, has provided opportunities, guidance, and incentives to improve the overall quality of health care and well-being for older adults. Policy has been focused on person- and family-centered care, including integration of health and social service needs. Policies have an impact not only on the traditional healthcare setting, but are being developed to create a robust community-based healthcare system to promote wellness and maintain function in the increasing number of community dwelling older adults. Policies aim to expand consumer-driven health care, give individuals and their caregivers greater access to their health care information and empower self-management of chronic disease. Policies are also increasingly focusing on care coordination between multiple types of care providers to assure integration of services for holistic care of the aging population. Finally, policies aimed at preventive services need to be incorporated into care plans for older adults. This session led by Health and Aging Policy Fellows will identify several elements essential to the implementation of high-quality, integrated care for older adults. Presenters will address community and long-term care services for older adults, the importance of developing an electronic health information system that can be available to patients and their caregivers, the benefits and challenges for integrating behavioral health services into primary care, and preventive healthcare services for older adults. Presenters will explore differences between policies and identify challenges and opportunities for successful care integration from an interdisciplinary perspective, including geriatrics, nursing, and health services research.

### CONNECTIONS AND DISCONNECTIONS IN LONG-TERM SERVICES AND SUPPORTS FOR OLDER ADULTS

H.L. Menne, *Margaret Blenkner Research Institute, Benjamin Rose Institute on Aging, Cleveland, Ohio*

1965 was an important year for federal legislation related to older adults: Medicare and Medicaid were created under the Social Security Act, and the Older Americans Act (OAA) was signed into law. While

Medicare and Medicaid were created as health insurance programs, OAA was created to provide a range of community-based programs and services to older adults. In 2014, there are 9 million 'dual eligible' people who receive Medicare and Medicaid, and approximately 59 million Americans eligible for OAA funded services. In Congress there is a great focus on health care reform and spending, but relatively little attention is paid to the OAA services and programs which keep older adults healthy and independent in the community. This session will explore the connections and disconnections between community-based services and programs through the OAA and long-term services and supports through Medicare and Medicaid.

### BRIDGING THE DIGITAL DIVIDE: FAMILY CAREGIVERS AND HEALTH INFORMATION TECHNOLOGY

J. Wolff, *JHU/APL, Baltimore, Maryland*

Consumer e-health encompasses electronic technologies that are primarily oriented toward individuals, but that intersect with health information technology that is more conventionally used in health care delivery, such as the electronic health record. By expanding access to personal health information, consumer e-health enables individuals to actively engage in their care, and may benefit chronic disease management, coordination of health information, and health outcomes. However, not all individuals are equipped to manage their health information. Ambiguity in policies to ensure the privacy and security of individual health information and variability in how policies are implemented may restrict information access by family members or trusted friends as desired by individuals. This session will discuss the challenges of implementing an integrated consumer e-health system that enables individuals and designated others to access electronic health information. Potential solutions and benefits of clarifying policies and their implementation will be discussed.

### INTEGRATING PREVENTIVE HEALTH CARE FOR OLDER ADULTS INTO PRIMARY CARE SETTINGS

F. Kobylarz, *Rutgers Robert Wood Johnson Medical School, New Brunswick, New Jersey*

The Affordable Care Act established the Medicare Annual Wellness Visit (AWV) to provide personalized preventive plan services in addition to the existing Welcome to Medicare Visit (initial preventive physical exam). Older adults know little about this new benefit and healthcare providers underutilize it. Currently, most care provided to older adults is focused on the treatment of acute and chronic illnesses. The AWV is a comprehensive tool aimed at prevention and or to address existing chronic illnesses. This session will discuss this current policy and highlight the differences between the Welcome to Medicare Visit and the Subsequent Annual Wellness Visit. Challenges and opportunities to implement this policy will be discussed.

### INTEGRATING BEHAVIORAL HEALTH CARE FOR OLDER ADULTS INTO PRIMARY CARE SETTINGS

K. Zivin, *1. Psychiatry, University of Michigan, Ann Arbor, Michigan, 2. Department of Veterans Affairs, Ann Arbor, Michigan*

Older adults are more often under-diagnosed and under-treated for mental disorders than any other population, and to the extent that they receive services, treatment usually takes place in primary care settings. Although traditionally treatments for mental and physical disorders have been obtained from separate providers and treatment settings from one another, accumulating evidence has demonstrated that integrated care and overall care coordination is associated with improved patient outcomes and ultimately decreased costs and improved quality of care. Medicare is the largest insurance provider of mental health services for older adults, and as such, it plays a key role in determining which providers can be reimbursed, for which services, and in which settings. This session will discuss current policy initiatives designed to facilitate integrating mental health care into primary care settings, as well



as challenges and opportunities for practices and providers seeking to make this type of care transformation.

## SESSION 2310 (SYMPOSIUM)

### DISABILITY AND BEHAVIORAL RISK FACTORS ASSOCIATED WITH MORTALITY, NURSING HOME USE AND MEDICARE COST

**Chair:** W.L. Anderson, *RTI International, Research Triangle Park, North Carolina*

**Co-Chair:** B.S. Armour, *Centers for Disease Control and Prevention, Atlanta, Georgia*

**Discussant:** B. Spillman, *Urban Institute, Washington, District of Columbia*

Disability has been long associated with poor health outcomes as well as extended and expensive health care service use. Much less is known about its association with behavioral risk factors such as obesity, smoking, and drinking, and the subsequent effects on health outcomes and health care service use. This symposium presents the results of four studies sponsored by the Centers for Disease Control and Prevention to better understand these associations. The first study uses the National Health Interview Survey and mortality data over more than a decade to estimate the differential effects of different types of disability on mortality after controlling for obesity and other factors. A second study examines the relationship between disability and obesity and vice versa, finding that although disability may nominally cause obesity, comparatively, the risk of obesity causing disability is larger. The third study examines the effects of obesity and smoking on nursing home use, finding that, after controlling for disability, persons with extreme obesity or who had ever smoked had a higher nursing home risk. The final study estimates the effects of obesity, smoking, and drinking in conjunction with disability on Medicare expenditures, finding differential effects across these behavioral risks. Although smoking always leads to higher Medicare expenditures, the results are mixed for varying weight and drinking status. Brenda Spillman of the Urban Institute will be the discussant.

### EFFECTS OF OBESITY AND SMOKING ON THE RISK FOR NURSING HOME USE

J. Wiener<sup>2</sup>, W.L. Anderson<sup>1</sup>, L. Coots<sup>3</sup>, B.S. Armour<sup>4</sup>, *1. Aging, Long-Term Care and Disability, RTI International, Research Triangle Park, North Carolina, 2. RTI International, Washington, District of Columbia, 3. RTI International, Waltham, Massachusetts, 4. Centers for Disease Control and Prevention, Atlanta, Georgia*

This study estimates the effects of smoking and obesity on nursing home use. Descriptive and multivariate statistics were used to analyze data from survey respondents originally living in the community age 50 years or older from the 1996-2008 Health and Retirement Study. Smoking increased nursing home use by 18%. Using three binary measures to denote obesity class, we found that the most obese respondents (Body Mass Index of 40 or higher) had 31% higher nursing home use, while less obese persons, as well as persons who were overweight but not obese, had a lower risk of nursing home use. Being underweight resulted in 43% higher nursing home use. Each additional two-year period that respondents experienced obesity resulted in 10% higher nursing home use. Understanding behavioral risk factors association with nursing home use is important for identifying ways to reduce nursing home use.

### UNDERSTANDING THE CAUSAL RELATIONSHIP BETWEEN OBESITY AND DISABILITY

W.L. Anderson<sup>1</sup>, J. Wiener<sup>2</sup>, L. Coots<sup>3</sup>, B.S. Armour<sup>4</sup>, *1. Aging, Long-Term Care and Disability, RTI International, Research Triangle Park, North Carolina, 2. RTI International, Washington, District of Columbia, 3. RTI International, Waltham, Massachusetts, 4. Centers for Disease Control and Prevention, Atlanta, Georgia*

Obesity may cause disability, and vice versa. Understanding the association between obesity and disability is necessary for focusing public health initiatives. Random effects estimation was performed on 1994-2008 Health and Retirement Study data on respondents age 50 and older. A two-stage least squares approach used spousal Body Mass Index (BMI) and cognition score as instruments for obesity and disability, respectively. A one unit increase in BMI increased disability risk by 3.5 percent. Conversely, higher disability prevalence resulted in lower obesity rates when controlling for endogeneity, and no effect when not controlling for endogeneity. Each additional two-year period that respondents experienced obesity increased disability by about 11.3 percent. In descriptive statistics, the obesity rate is growing faster among people with disability than people without disability. Although disability may nominally cause obesity, comparatively, the risk of obesity causing disability is larger. Public health measures should be focused on reducing obesity.

### EFFECTS OF UNHEALTHY LIFESTYLES ON MEDICARE EXPENDITURES

W.L. Anderson<sup>1</sup>, J. Wiener<sup>2</sup>, L. Coots<sup>3</sup>, E.A. Courtney-Long<sup>4</sup>, B.S. Armour<sup>4</sup>, *1. Aging, Long-Term Care and Disability, RTI International, Research Triangle Park, North Carolina, 2. RTI International, Washington, District of Columbia, 3. RTI International, Waltham, Massachusetts, 4. Centers for Disease Control and Prevention, Atlanta, Georgia*

Unhealthy lifestyle behaviors (obesity, smoking, and excessive drinking) may lead to poor health and higher health care expenditures. The effects of unhealthy lifestyle behaviors by people with disabilities on health outcomes and health care expenditures are unknown because of opposing theories of morbidity compression near the end of life. People with healthy lifestyles may live longer, healthier lives and then die quickly due to natural aging without an extensive period of disease and disability. On the other hand, people could live longer lives and experience more disability and more expensive medical care over a longer period of time. This study estimated the effects of unhealthy lifestyle behaviors on health care expenditures over a 17-year period using the 1994-2010 Health and Retirement Study linked to Medicare claims data. Disability was interacted with each of the unhealthy lifestyle behaviors. Differential effects on expenditures were found across the unhealthy lifestyle behaviors.

### DISABILITY STATUS, MORTALITY, AND LEADING CAUSES OF DEATH IN THE UNITED STATES COMMUNITY POPULATION

V.L. Forman-Hoffman<sup>2</sup>, K.L. Ault<sup>2</sup>, W.L. Anderson<sup>2</sup>, J. Wiener<sup>3</sup>, A. Stevens<sup>1</sup>, V.A. Campbell<sup>1</sup>, B.S. Armour<sup>1</sup>, *1. Centers for Disease Control and Prevention, Atlanta, Georgia, 2. RTI International, Research Triangle Park, North Carolina, 3. RTI International, Washington, District of Columbia*

This study examines the effect of different types of functional disability on all-cause mortality and cause-specific deaths over more than a decade among community-dwelling adults. Understanding mortality by disability type is necessary because different groups may need tailored interventions to reduce their mortality risk. We used Cox proportional hazard regression models to estimate the likelihood of mortality and leading causes of death for adults with and without a disability in NHIS data. Adults with any disability were more likely to die than adults without disability (19.9% vs. 10.9%). This association was statistically

significant for most causes of death and for most types of disability studied. The leading cause of death for adults with and without disability differed (heart disease and malignant neoplasms, respectively). Heart disease may be the leading cause of death in the United States partly because of the high prevalence of adults with disability who die from this disease.

## SESSION 2315 (SYMPOSIUM)

### FILM'S ROLES IN EXPLORING ARTS ENGAGEMENT OF COGNITIVELY IMPAIRED ELDERLS

**Chair:** H.Q. Kivnick, *School of Social Work, University of Minnesota, Saint Paul, Minnesota*

**Co-Chair:** R.J. Scheidt, *Kansas State University, Manhattan, Kansas*

An increasing body of research documents multiple positive outcomes (e.g., developmental; physical and cognitive function; emotional well-being) of elders' engagement in a variety of structured arts activities. Associated with this work, the GSA has long introduced the arts and humanities into Society Committee Work (e.g., Standing Committee on Humanities and the Arts), and Annual Meetings (e.g., scientific sessions on humanities and arts; showing of full-length films). Most recently, *The Gerontologist* has added a Humanities and Arts section and a collection, in each issue, of reviews of films on issues of aging. Leaders in these various Society endeavors present this symposium to: 1) Consider the emerging gerontological practice of arts engagement, as implemented with elders living with a wide array of cognitive impairments; and 2) Begin to explicate the unique role of film (in this case, documentary and educational film) in describing, informing, and teaching about these forms of practice. The session opens with a collection of rich film clips illustrating the medium's multiple possibilities for exploration of arts participation among cognitively impaired elders. The first presentation explicitly considers the role of film in teaching, promoting, and documenting self-expression in elders with dementia. The second refers to specific film clips to discuss developmental theory as it underlies positive outcomes of arts involvement for cognitively impaired elders and for their relationships with caregivers and families. The third uses the clips to consider artists' observations of the impact of their arts-involvement interventions with cognitively impaired elders..

### VITAL INVOLVEMENT THROUGH ARTS ENGAGEMENT: PATHS TO/FROM THE "SELF" OF COGNITIVELY IMPAIRED ELDERLS

H.Q. Kivnick, *School of Social Work, University of Minnesota, Saint Paul, Minnesota*

Erikson's principle of vital involvement holds that healthy psychosocial development in older adulthood rests on elders' meaningful, reciprocal engagement with the world outside the "self". While cognitively impaired elders may find "ordinary" conversation increasingly difficult, they can often participate in sensory engagement with arts materials (e.g., paint; clay; sound; movement) that open paths satisfying to themselves and meaningful to caregivers and other co-actors. The arts provide a medium for the give-and-take reciprocity that constitutes vital involvement. After summarizing the vital involvement principle, this presentation refers to selected film clips that illustrate how otherwise inaccessible aspects of elders' inner and outer expressions of "self" may be discovered and sustained through their active participation in making and appreciating the arts. It then clarifies how the same vital involvement that underlies these elders' arts participation can also enrich relations with caregivers and family members.

### IMPROVISATION AND PEOPLE WITH DEMENTIA: RECONSIDERING THE POSSIBILITIES OF ENGAGEMENT

K. de Medeiros, *Sociology and Gerontology, Miami University, Oxford, Ohio*

Although there is a growing body of literature pointing to benefits of the use of arts-based interventions with people with dementia, there is a lack of work that specifically explores why and how. This paper draws from the Dementia Arts Research Ensemble (DARE) research retreat attended by artists and social scientists to consider artists' perspectives on the power of the arts. An analysis of field notes from the proceedings revealed that the concept of "improvisation" — or the ability to use a newly introduced idea as a springboard for new creation — was a critical component that can be applied to traditional participatory arts as well as engagement with film clips. Considering existing literature, this paper will apply the key finding from the artist retreat to clips presented during the symposium to offer new ways to consider engaging people with dementia.

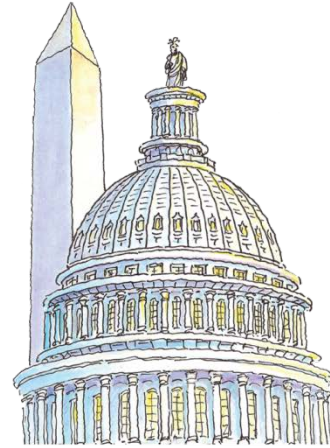
### MORE THAN WORDS: USING FILM TO EXPLORE A NEW LANGUAGE OF DEMENTIA

J. Vanden Bosch, *Terra Nova Films, Chicago, Illinois*

Self expression and meaningful engagement can be challenging for persons living with cognitive impairment. Living in an environment where memory, word-speak and linear thought are the normative channels of communication makes self expression and engagement even more challenging for them. For persons living with dementia, familiar channels of cognition becoming increasingly impaired. They need help in finding new ways of social engagement and self expression. For many, being guided into more right-brain avenues of engagement provides alternative ways of expressing themselves and maintaining a sense of value, identity and belonging. As richly illustrated by the film clips shown as the first part of this symposium, this presentation will reflect on the unique ability of film/video to document and demonstrate the effectiveness of these kinds of creative engagements for persons living with dementia.

GSA 2014 ANNUAL  
SCIENTIFIC MEETING

NOVEMBER 5–9, 2014  
WASHINGTON, DC



# 2014 Late Breaker Poster Sessions

**Organized by the Behavioral and Social Sciences, Biological Sciences,  
Health Sciences, and Social Research, Policy & Practice Sections**

## **GSA 2014 Late Breaking Posters**

The Late Breaker Poster Sessions are jointly sponsored by GSA's Behavioral and Social Sciences, Biological Sciences, Health Sciences, and Social Research, Policy & Practice Sections. These sessions are a forum for the presentation of the newest, most pressing, and previously unreported results in aging research.

Participating posters will be grouped together in a special Late Breaker section of Exhibit Hall D of the Walter E. Washington Convention Center. The poster number on each board corresponds to the number in front of an abstract in this program. Posters will be displayed during the times listed below.

\*Presenters will be at their boards during the Face-to-Face Time for each session.

### **Wednesday, November 5**

6:00 PM to 8:00 PM

Face-to-Face Time: 6:00 PM - 7:00 PM

### **Thursday, November 6**

11:45 AM to 2:45 PM

Face-to-Face Time: 11:45 AM – 12:45 PM

### **Friday, November 7**

10:00 AM to 1:00 PM

Face-to-Face Time: 10:00 AM - 11:00 AM

### **Saturday, November 8**

11:45 AM to 2:45 PM

Face-to-Face Time: 11:45 AM – 12:45 PM

\*Presenters: Set-up times for poster sessions are 5:00 pm on Wednesday and upon opening of the Exhibit Hall at 9:30 am on Thursday, Friday, and Saturday. All poster presenters are responsible for the removal of their materials by the end of their presentation time.

Wednesday, November 5

6:00 PM-8:00 PM | Exhibit Hall D (CC)

**264. ‘How’ and ‘Why’ Wise People Reflect on the Past: Relations Among Wisdom, Adverse Life Experience, and Self-Reflective Processing,** *Nic Weststrate, University of Toronto; Judith Glück, Alpen-Adria-Universität Klagenfurt*

**Objectives:** To identify characteristic ways through which wise people make meaning of personal hardship in autobiographical memories.

**Abstract Body:** The idea that individuals accumulate wisdom through adversity is pervasive (Ardelt, 2005; Glück & Bluck, 2011). But, what makes the ‘hard road to the good life’ possible? This study investigates self-reflective processes that encourage growth in wisdom following personal hardship (Glück & Bluck, 2013; Staudinger, 2001). We propose that wisdom depends on ‘how’ and ‘why’ individuals reflect on the past. We hypothesize that when narrating a difficult life event, wise individuals adopt an exploratory, analytical, and growth-oriented perspective on the past, viewing the life event as an occasion to gain self- or life-insight. In contrast, we expect wisdom to be unrelated to forms of self-reflection aimed at positive emotional transformation and resolution of the event, which may instead be predictive of psychological well-being. A lifespan sample of 94 participants were interviewed about their most difficult life experience. Autobiographical memories were reliably coded for 4 self-reflective processes that loaded onto 2 uncorrelated dimensions: (1) exploratory processing (meaning-making, personal growth), and (2) redemptive processing (emotional processing, resolution). Participants completed self-report and performance measures of wisdom, a difficult life event inventory, and a measure of psychological well-being. As expected, wisdom was positively associated with exploratory processing, whereas redemptive processing was positively associated with well-being. We conclude that wise people reflect on significant life events in characteristic ways. Rather than pursue a positive ending, wise people look for deeper meaning in the past. This self-reflective tendency may play a role in the development of wisdom through adversity, whereas redemptive processing may lead to enhanced well-being.

**265. “All the World’s a Stage” – Bridging the Generational Gap through Theatre,** *Neda Norouzi, Virginia Tech; Sarah Lyon-Hill, Virginia Tech*

**Objectives:** To introduce alternative approaches to fostering intergenerational bonds; Creative ways of altering preconceptions of one cohort toward other generational cohorts;

**Abstract Body:** The use of intergenerational theatre in forming relationships is a growing scholarly field. It offers opportunities for all generations to participate in various ways as mutual experts. Intergenerational theatre empowers participants through the process of teaching and learning new skills and knowledge from other generations. This project explored the effects of theatre on intergenerational connection among participants by studying two programs with different approaches to the goal of encouraging intergenerational engagement. The Intergenerational Learning Center (ILC) program welcomes different age groups from the St. Paul metropolitan area to collaborate in producing an annual play. Mind the Gap (MtG) in NYC invites select applicants to a scriptwriting process during which youth and elders are partnered one-on-one. For each program, we interviewed program directors and staffs, and collected over 30 participants’ surveys. Results revealed theatre’s ability to alter participant perceptions, encouraging intergenerational bonds. Interviewees described how participants changed their stereotypes about other cohorts by embracing a deeper understanding of each generation’s unique experiences. In surveys, young respondents circled words to describe their perceptions of older adults before and after the programs. The use of positive words doubled in post-perception responses, while the use of negative words such as “boring” and “old-fashioned” decreased from 87 to 29 total responses. We noted a similar trend from older adult perceptions toward youth. Anecdotal evidence from interviews and surveys described participants learning from one another and engaging outside both programs. Interviewee and participant responses from MtG, however, referenced “self-discovery” and “reflexivity” more than those from ILC.

**266. “He Said, She Said”: Do Older Adults Remember Their Doctors’ Advice For Lifestyle Change?,** *Shoshana Bardach, Lexington VAMC; Nancy Schoenberg, University of Kentucky; Britteny Howell, University of Kentucky*

**Objectives:** To better understand older patients’ recall for dietary and physical activity discussions in primary care.; To develop strategies for healthcare providers that might enhance older patients’ recall for health consultations.;

**Abstract Body:** Background: Despite the known benefits of engaging in healthy diet and physical activity across the lifespan, suboptimal diet and physical inactivity are pervasive among older adults. While healthcare providers can influence patients’ health behaviors, patient recall that such advice took place during a medical consultation, let alone the nature of that advice, tends to be imperfect. Moreover, providers often feel that such efforts are futile with older adults; therefore healthcare often forego such discussions. Purpose: This study sought to better understand older adults’ recall of dietary and physical activity discussions in primary care. Methods: 115 adults ages 65 and older were interviewed immediately following a routine primary care visit about the interaction that had just taken place. Interview questions focused on recall of discussion pertaining to diet and physical activity. All interviews were recorded, transcribed, and analyzed with a grounded theory approach involving a constant comparison method. Findings: Most patients accurately recalled whether or not they discussed diet and physical activity. Moreover, the content of these discussions was accurate. Patients were more likely to remember

discussions involving recommendations than discussions that addressed diet or physical activity but did not involve any behavioral suggestions. For dietary discussions, patients were also more likely to recall discussions of longer duration. Implications: These findings suggest that specific recommendations and an extra minute of discussion, at least for dietary recommendations, increase the likelihood of patient recall that the discussion occurred.

**267. Gender Differences in Longitudinal Trajectories of Change in Physical, Social, and Cognitive Leisure Activities,** *Deborah Finkel, Indiana University Southeast; Ross Andel, University of South Florida; Nancy Pedersen, Karolinska Institutet*

**Objectives:** To identify and interpret gender differences in trajectories of change across three domains of leisure activities: physical, social, and cognitive.

**Abstract Body:** Leisure activities in multiple domains have been investigated as precursors of physical and cognitive changes associated with aging, but often in isolation. Moreover, possible gender differences in both mean leisure activity and rate of change have been largely overlooked. 1398 participants in the Swedish Adoption/Twin Study of Aging completed a brief leisure activity questionnaire up to 4 times over 17 years. Mean age at first leisure assessment was 64.9 (range = 35 to 93); 59% of the sample was female. Factor analysis of the leisure activity items identified physical, social, and cognitive factors with inter-factor correlations ranging from .12 to .15. Age-based latent growth curve models including both linear and accelerating decline were used to identify gender differences in aging trajectories in each domain of activity. Results indicated significant gender differences in both fixed effects (mean parameters) and random effects (variance around parameter estimates). Men and women reported approximately the same level of social activity until age 65, when social activity remained stable for women and declined for men. Women reported higher mean levels of cognitive leisure activity, but no gender differences in change trajectories were evident. Both men and women showed dramatic declines in physical leisure activity, with somewhat faster rates of decline for women. Variance in leisure activities increased with age; women demonstrated more variance in social activities, whereas men showed more variance in physical activities. Gender differences in social roles and physical aging likely explain differences in patterns of changes in leisure activity with age.

**268. A Life Course Approach: Childhood Adversity and Age Trajectories of Frailty for the Chinese Elderly,** *Zhenhua (Jessica) Xu, The Department of Sociology, University of North Carolina at Chapel Hill;*

**Objectives:** This paper examines whether childhood adversity is associated with age trajectories of frailty.; This paper also examines whether the associations between childhood adversity and age trajectories of frailty vary by birth cohorts over the life course.

**Abstract Body:** Objective: This paper examines whether childhood adversity is associated with age trajectories of frailty and how it varies by birth cohorts over the life course. Methods: Using data from the Chinese Longitudinal Healthy Longevity Survey (CLHLS), 7,382 Chinese elderly age 80 and older are observed over five waves from 1998 to 2008. Childhood adversity is measured by four indicators: inadequate access to health care, lowest quartile arm length, no schooling, and birth in rural areas during childhood. Growth curve models are employed to analyze intercohort variations of childhood adversity in age trajectories of frailty. Results: We find that Chinese elderly with inadequate access to health care, lowest quartile arm length, and no schooling during childhood are associated with high frailty, however, those born in rural areas are associated with low frailty in late life. Among four indicators of childhood adversity, the effects of no schooling and birth in rural areas on age trajectories of frailty differ by cohorts. The education-based gap in frailty trajectories converges in successive birth cohorts. Birth in rural areas is associated with low frailty for early cohorts born before 1910, however, after 1910, birth in rural areas is more likely to have a high frailty. Discussions: Significant rural-urban divide in China has created various socioeconomic conditions across cohort groups that affect individuals' life course trajectories over the twentieth century. Life course approaches significantly improve the understanding of the association between childhood adversity and age trajectories of frailty in China.

**269. Acceptability of an Online Intervention to Motivate Adults Aged 50+ to be More Physically Active: a Pilot Study,** *Elske Stolte, VU University Amsterdam; Theo van Tilburg, VU University Amsterdam; Marja Aartsen, VU University*

**Objectives:** Assess the acceptability of a six week online motivational program for people aged 50 and over.

**Abstract Body:** Goal A six week online intervention program was developed for people aged 50 and over. The goal is to motivate participants to be more physically active (PA) and to study the effect and mechanisms of e-mail prompts and cognitive antecedents of PA. Aim of the pilot is to assess the acceptability of the program. Methods Participants are randomly assigned to two groups. The first group receives an online PA plan, a PA diary, two brochures sent by mail and PA tips in the form of texts and animated video's (n = 19). The second group receives the same information (n = 14), however the PA tips are supplied using prompts, i.e. short e-mail messages, sent three times a week during four weeks. Of the participants 73% are female, the mean age is 63 years. Nineteen (58%) participants filled out the post measurement questionnaire. Results Appreciation of the program is high. Most participants (74%) report that they got more active during the program and that the program helped them to achieve this (79%). Half or more of the PA tips were viewed by 75% of the first group and 57% of the prompting group. Discussion The program is acceptable for most users who completed the

program. Some participants expect more personal feedback. Usage of PA tips is lower than expected. As a result PA tips and prompts were adjusted for a new version of the program that has just been conducted.

**270. Adaptive sleep and activity patterns in free-living older Icelandic men and women,** *Erlingur Johannsson, Center of Sport and health Sciences, Iceland University of Education, Laugarvatn, Iceland; Robert Brychta, 2National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda Maryland, USA; Nanna Arnarsdottir, Research Center of Movement Science, University of Iceland, Reykjavík, Iceland; Vilmundur Gudnasson, Icelandic Heart Association, Kópavogur, Iceland and Faculty of Medicine, University of Iceland, Reykjavík, Iceland; Gudny Eiriksdottir, Icelandic Heart Association, Kópavogur, Iceland and Faculty of Medicine, University of Iceland, Reykjavík, Iceland; Tamara Harris, Icelandic Heart Association, Kópavogur, Iceland and Faculty of Medicine, University of Iceland, Reykjavík, Iceland; Kong Chen, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda Maryland, USA*

**Objectives:** Aging is often associated with sleep qualities and physical activity declines. Ambient lighting also influences sleep patterns.; To identify cross-sectional and seasonal sleeping and physical activity patterns in a healthy, community-dwelling, aging, Icelandic population using accelerometers.; Physical activity and sleep are thought to be inter-related and both are known to play an important role in health and wellness.

**Abstract Body:** Objective: Aging is often associated with sleep qualities and physical activity (PA) declines. Ambient lighting also influences sleep patterns. We investigated cross-sectional and seasonal sleeping and PA patterns in a community-dwelling Icelandic healthy aging population using accelerometers. Methods: Participants (n=244, male/female 110/134, age 79.7±4.9 years, BMI 26.9±4.8 kg/m<sup>2</sup>) wore an Actiwatch Spectrum on the non-dominant wrist to assess sleep and an Actigraph GT3X on the right hip to assess PA for one week during free living. A subpopulation (n=72) performed two 7-day measurements during seasonal periods with long and short daylight (13.4±1.4 vs. 7.7±1.8 hours). Results: Cross-sectionally, the length of daylight was a statistically significant predictor of sleep duration, onset latency, and rise time (all p<0.05); however, the actual within-individual differences in the repeated studies were rather subtle (< 20 minutes/day). Men had a shorter sleep duration than women (462±80 vs. 487±68 minutes, p=0.008) mainly because men had an earlier rise time and a higher number of awakenings per night (46.5±18.3 vs. 40.2±15.7, p=0.007). Daily PA was similar between men and women (134±70 and 127±62 counts/wear-time minute) and between long and short daylight (125±67 and 118±73 counts/wear-time minute). BMI, age, gender, overall PA, grip strength, and normal 6-meter walking time all predicted the variations in sleep parameters using multiple regressions. Conclusions: The sleep and PA characteristics of this unique population revealed some gender differences, but the lack of variation in response to significant daylight changes may be due to long-term physiological and/or environmental adaptations.

**271. Age Differences in the Influence of Affective versus Deliberative Processes on Decision Making.,** *Neika Sharifian, North Carolina State University; Thomas Hess, North Carolina State University*

**Objectives:** To examine age differences in the impact of general affective information versus more specific numeric information on decision making

**Abstract Body:** Previous research with younger adults demonstrated an undue influence of affect on decision-making processes (e.g., Hsee & Rottenstreich, 2004): when decision-relevant information was presented in an emotionally evocative manner, the use of numeric information (i.e., scope) in making quantitative decisions was greatly attenuated. Our study examined whether this interaction between affective and deliberative processing changes with age, as predicted by suggestions that aging-related declines in deliberate functions will result in greater reliance on affective information (Peters, Hess, Västfjäll, & Auman, 2007). Based on this, we predicted that either the impact of numeric information would be reduced and/or the impact of affective information increased in older adults relative to younger and middle-aged adults. To test this, we replicated the methods of two of the experiments from Hsee and Rottenstreich (2004) with a sample recruited using Amazon Mechanical Turk (N=312) and community residents (N=27). Scenarios were presented examining the influence of low versus high numerical information on donating money or sentencing criminals in the presence or absence of affective information. Contrary to our hypotheses, older adults (N=101, M=69.91, SD=4.78) were not influenced by the presence of affective components, whereas young adults (N=124, M=29.65, SD=5.73) exhibited the expected scope by affect interaction, replicating the interfering effects of affect on use of quantitative information seen in Hsee and Rottenstreich (2004). Interestingly, middle-aged adults (N=114, M=52.71, SD=5.43) also demonstrated minimal influences of affect. The results suggest that specific decision contexts may interact with age in determining the impact of affective versus deliberative processes on decision-making.

**272. Age group comparisons in cognitive aging: Do visual acuity criteria matter?,** *James Houston, The University of Akron*

**Objectives:** Provide evidence for the impact of visual acuity exclusionary criteria across a substantial number of cross-sectional cognitive aging studies that employ visual stimulus presentation.; Ascertain what potential visual criteria allows for an optimal combination of participant inclusion (given that normative declines in visual acuity is experienced through the aging process) and precision (via the minimization of age-related effects that are the result of the general poorer visual acuity of older adult samples relative to paired younger adult samples).;

**Abstract Body:** The influence of visual capacities on cognitive performance in older adults has been frequently posited as being a driving force behind age group differences in task performance. This review of the cognitive aging literature explored the relationship between specific visual acuity criteria commonly utilized by aging researchers in order to assess the validity of concerns that a lack of consensus regarding visual acuity inclusionary criteria has had an effect on the interpretation of age comparisons. Age group comparisons in 462 studies were recorded across a wide array of cognitive domains including attention, executive function, explicit memory, language, perception, and processing speed. Resulting main effects for each study were transformed into effect sizes & age group comparisons by cognitive domain were compared across several inclusionary criteria. Across all domains of cognitive function, no planned comparisons of age differences in performance across visual acuity criterias reached significance. Results indicated that inclusionary criteria vexations in the cross-sectional aging literature is unsubstantiated based upon a significant number of articles across a variety of cognitive domains. Further efforts are needed to determine if visual functioning other than acuity (e.g. contrast sensitivity, luminance) have a more substantial impact on age differences in cognitive functioning.

**273. Age Moderation of Genetic and Environmental Influences on Depressive Symptoms, Andrew Petkus, University of Southern California; Wendy Johnson, University of Edinburgh; Chandra Reynolds, University of California, Riverside; Jenae Neiderhise, Pennsylvania State University; Nancy Pedersen, Karolinska Institutet; Margaret Gatz, Karolinska Institutet**

**Objectives:** Examine how the genetic and environmental influences on depressive symptoms change with age across the adult lifespan

**Abstract Body:** While the links between depressive symptoms and age have been well-studied, it is not yet clear how genetic and environmental contributions to individual differences in depressive symptoms vary across the lifespan. This question is important for understanding the underlying factors contributing to depression at different ages. This study is part of the IGEMS consortium, aggregating data from nine twin studies across three countries (three U.S. studies, four Swedish, and two Danish). Depressive symptom data from 16,831 individuals (including 6,437 complete twin pairs) were available. The age range of participants was 25 to 102 years ( $M = 63.5$ ;  $SD = 13.4$ ) and 51.9% were female. Depressive symptoms were measured in the different studies by self-reports on either the CESD scale or the CAMDEX. A harmonized score was derived to pool data across all participants. A biometrical model of depressive symptoms with linear and quadratic age moderation of the Additive Genetic, Shared Environmental, and Unique Environmental variance components was fitted. Genetic and environmental variance components differed between males and females but not among countries. For both sexes, total variance as well as unique environmental variance was greater at older ages. Males showed, quadratic age moderation, with greater genetic influences and fewer shared environmental influences with greater age. Females showed linear age moderation with magnitude of genetic influences similar over age but greater unique environmental influences. Overall these cross-sectional findings suggested that genetic and environmental contributions are not constant across the lifespan and differ by sex. [For the IGEMS Consortium, Grant No. R01 AG037985.]

**274. Age, period and cohort patterns in all-cause mortality in Sweden, Kozma Ahacic, Institute of Gerontology, School of Health Sciences, Jönköping University, Sweden/ Centre for Epidemiology and Community Medicine; Stefan Fors, Aging Research Centre (ARC), Karolinska Institutet and Stockholm University; Anton Lager, 2 Centre for Epidemiology and Community Medicine, Health Care Services**

**Objectives:** How one finds out whether any cohort effect is obscuring the latest overtime trend in mortality

**Abstract Body:** While life expectancies increased throughout the last decades, the observed health trends in old age morbidity are more ambiguous. The prevalence of certain health problems even increased. These findings are peculiar as the birth cohorts that make up the oldest segments of the population today exhibited better health in mid-life than prior generations did. These patterns imply that the later cohorts have experienced higher rates of morbidity onset during old age than previous cohorts. Sweden went through an economic crisis during the 1990s which had substantial public health consequences, particularly for the psychic health of young adults. It is possible that the crisis also had long-term consequences for another vulnerable age segment, namely the oldest old. In this study, we examine age, period, and cohort patterns in all-cause mortality in Sweden between 1900 and 2012. The analysis consists of graphical depictions of cross-tabulations between age groups, birth cohorts, and periods. Results show a substantial rectangularization of the survival curve. Moreover, with one exception, all birth cohorts experienced continuous reductions in mortality at all ages throughout the period. There were no indications of any effect of the economic crisis among the elderly. However, among the young (i.e., the generation born during 1980s) no reduction in mortality was observed during age 20-30, when compared to the cohorts born in the 1970s. This finding is striking as all other cohorts, without exceptions, showed continuous mortality reductions at all ages throughout the whole of the last century, including the great depression.

**275. Aging and the Processing of Emotional Words, an Event-Related Potential Approach, James Houston, The University of Akron**

**Objectives:** Contribute to the research literature on age-related differences in word recognition as they relate to processing commonly and infrequently experienced words by using a lexical decision paradigm and controlling for additional word



characteristics such as; Identify differences in emotional processing at time frames that are representative of exogenous emotional processing and cognitive appraisal (early and late emotional effects, respectively) in a younger and older adult sample.; Identify behavioral and electrophysiological trends as they correspond to emotional valence and word frequency effect interactions in a younger and older adult sample.

**Abstract Body:** Current knowledge of human attention with emotional material suggests distinct patterns of behavior in younger and older adults regarding emotional arousal and cognitive appraisal of emotional stimuli. In the domain of written word recognition, past research has identified emotional valence effects and word frequency effects at early and late stages that are believed to correspond to pre-lexical and post-lexical processing in younger adult samples. The current study sought to identify word frequency and emotional valence effects in a lexical decision task across a sample of younger and older adults in order to reveal distinct age-related patterns in the processing of written language with an emotional connotation. Behavioral and electrophysiological data were recorded from a sample of younger and older adults while completing a lexical decision task in which emotional words and phonologically correct nonwords were presented. In younger and older adult age groups, positive words were identified more rapidly than nonwords and common words were recognized faster and more accurately than uncommon words. Event-related potential data indicated no effects involving emotional valence at pre-lexical or post-lexical stages. However, an age group by emotional valence interaction suggested greater neurophysiological activation at the post-lexical stage (400-600 ms) in the younger adult sample for high frequency relative to low frequency words with no word frequency differentiation in the older adult sample. These findings suggest an age-related difference in word recognition at a post-lexical stage and have implications for both word recognition and emotional attention literatures.

**276. An Eye-Tracking Analysis of Four Female Older Adults with Normal Cognition to Identify Changes in Wayfinding Strategies in a Virtual Environment, Brandy Alexander, Grand Valley State University; Rebecca Davis, Grand Valley State University**

**Objectives:** Describe how fixations on salient cues are related to wayfinding performance in older adults.; Discuss how salient cue fixations change over days of learning.;

**Abstract Body:** Individuals' ability to find their way, called wayfinding, has been shown to decline with normal aging. Caduff and Timpf's (2008) conceptual model suggests that salient cues capture an individual's attention which can improve wayfinding. The purpose of this study is to describe how fixations on cues influence wayfinding initially and over time in both cued and un-cued environments. Four older women (aged 68-83) were asked to find their way in two cue conditions in a virtual reality simulation of a senior residence; one environment had no salient cues (CC1) and one had multiple salient cues (CC2). Participants underwent ten trials on both day 1 and day 2 for 80 total trials. The number of fixations on cues and environmental features, the number of successful trials, as well as the latency and distance traveled for each trial were analyzed. Study results showed that the four participants had improved wayfinding in CC2 (cued) than CC1 and had improved wayfinding on day 2 of the study from day 1. Salient cue fixations decreased between day 1 and 2 in CC2, which may indicate that once the environment is learned, less attention to cues is needed for successful wayfinding. These findings give beginning support that older women fixate on salient environmental cues which help them find their way in new environments and that this learning improves over time. Through the presence of salient cues, individuals wayfinding abilities can be enhanced to improve quality of life through the maintenance of independence and greater environmental safety.

**277. Analysis of lifestyle related variables to cognitive functioning in older adults, Elizabeth Handing, University of South Florida; Brent Small, University of South Florida**

**Objectives:** Using an exploratory factor analysis approach, this study investigates how lifestyle factors influence cognitive functioning in older adults

**Abstract Body:** Research has indicated that lifestyle factors such as diet, physical activity, and health status largely contribute to risk for disease in older age, however it is unclear how these factors relate to cognitive functioning. This study examines the relationship between diet, physical activity, health status, and biomarkers (serum cholesterol, LDL, HDL, triglycerides, CRP, ferritin, fibrinogen, iron, and albumin) as they relate to cognitive functioning in 258 older adults from the National Health and Nutrition Examination Survey (Wave 2001-2002). An exploratory factor analysis was conducted, five factors were identified, and three were moderately correlated with Digit Symbol Substitution Task performance: Factor 1 (micronutrients; vitamin B12, vitamin D, vitamin E, folate, and homocysteine), Factor 2 (macronutrients; intake of protein, fat, carbohydrates, vitamin C and beta carotene) and Factor 3 (health and inflammation; self-reported health, serum iron, CRP, fibrinogen, and albumin). Inflammation and poorer health status were related to poorer cognitive performance ( $r = -.165, p = .008$ ), while higher intake of micronutrients and macronutrients were associated with better cognitive performance ( $r = .157, p = .001$ ;  $r = .192, p = .002$ , respectively). When these factors were examined using multiple regression controlling for gender, education, ethnicity, and total calories, macronutrients and health/inflammation factors remained statistically significant. Information from this provides a holistic view of lifestyle factors, particularly nutrition, health status, and inflammatory markers as they relate to cognitive functioning in older adults. Future research should target these mechanisms and may offer insight into ways to preserve cognitive functioning.

**278. Assessing Emotional Intelligence in Older Adults: A Pilot Study**, Leehu Zysberg, Graduate School, Gordon College of Education; Anna Dr. Zisberg, The Cheryl Spencer Department of Nursing, University of Haifa; Ron Dr. Ben-Itzhak, Margoletz Psychogeriatric Center, Tel Aviv Sourasky MC; Odelyah Saad, Department of Nursing, Lev Academic Center-JCT; Jeremia Prof. Heinik, Margoletz Psychogeriatric Center, Tel Aviv Sourasky MC

**Objectives:** After reading the poster conference attendees should be able to understand the concept of EI and its potential applicability in testing studying various health outcomes.; After reading the poster conference attendees should be able to consider using measures of EI in their research or interventions with older adults.

**Abstract Body:** Objectives: Emotional Intelligence is a concept pertaining to individuals' ability to identify emotions, integrate emotions in thought and reasoning, process complex emotions and manage emotions effectively. The concept has been associated in the literature with a broad range of health outcomes. Despite the promising evidence, the concept is yet to be assessed for its potential applications among older adults. This pilot study examined the applicability of the Audio Visual test of Emotional Intelligence (AVEI), developed and validated in college student samples, for use in older-adults. The AVEI was chosen for its intuitive interface, web-based, brief format. Method: Three pilot samples consisting of 75 undergraduate nursing students (mean age 21.57±2.39), 80 working adults (41.69±6.94) and 31 older adults (73.00±11.91) took the on-line AVEI test and filled-out basic demographics (age, gender, education level, etc). The AVEI test is a 27-item computer-based audiovisual test that represents the ability-testing approach to EI. It focuses on emotion-recognition and the emotional processing aspects of EI. Results: AVEI scores showed close to normal distribution in all 3 groups (students 15.69±4.16; adults 14.33±3.45 and older adults 14.69±3.59). No significant differences were found in the AVEI scores between the study groups ( $F(df=2)=0.45$ ,  $p=0.67$ ). Moreover, ANCOVA analysis adjusted to years of education yielded similar results. Conclusions: The pilot results suggest the AVEI can be applicable for the measurement of EI among older adults. A test utilizing perceptual modalities rather than self-report may have multiple methodological and applied benefits in future studies and interventions aimed at this specific target population. Emotional intelligence is a relatively new concept introduced to the empirical research arena. Its associations with health outcomes are promising but empirical evidence have started appearing only very recently and are scarce. To date we do not know of any study focusing on EI in older adults. We aim to add to this growing body of evidence by pilot-testing the applicability of a test of EI in older adults. Our findings suggest that the AVEI test may be applicable for both future research and intervention with the target population.

**279. Association Between Care Environments and Apathy in Long-Term Care Residents with Dementia**, Ying-Ling Jao, Pennsylvania State University; Donna Algase, University of Michigan; Janet Specht, University of Iowa; Kristine Williams, University of Iowa

**Objectives:** To describe the significant environmental factors associated with apathy in long-term care residents with dementia

**Abstract Body:** Background Apathy is prevalent in dementia but often overlooked. Environment-based interventions have demonstrated positive effects on apathy in persons with dementia. However, influential components of the environment are largely understudied. This study examined the relationship between care environments and apathy in long-term care residents with dementia. Methods A sample of 40 was selected from a parent study with 185 participants from 23 facilities. Three videos from each participant were coded using the Person-Environment Apathy Rating scale to measure apathy and environmental stimulation. Data on ambiance, crowding, staff familiarity, light, and sound were extracted from the parent study. Generalized linear mixed models were used for analysis. Results and Discussion Clarity and strength of the environmental stimulation were significantly associated with a lower apathy level. An increase of 1 point on stimulation clarity corresponded to a decrease of 1.3 points on apathy score ( $p<.0001$ ). Similarly, an increase of 1 point on stimulation strength corresponded to a decrease of 1.9 points on apathy score ( $p<.001$ ). In contrast, crowding within 2 feet showed some effect on higher apathy level and the effect approached statistical significance ( $p=.06$ ). Environmental ambiance, staff familiarity, light and sound levels did not show significant effect on apathy. This is the very first study explicitly exploring influential environmental factors on apathy. Findings suggest that care environments that contain clear and sufficiently strong environmental stimulation are significantly associated with lower resident apathy levels in persons with dementia. Findings will provide guidance for environmental design, activity programs, and individualized interventions for dementia care.

**280. Can a Convenience Sample Produce Generalizable Results?**, Elizabeth Zelinski, Davis School of Gerontology University of Southern California; Ross Jacobucci, University of Southern California; Robert Kennison, California State University Long Beach; Deanah Zak, University of Southern California

**Objectives:** To compare Long Beach Longitudinal Study sample participants over age 50 with the nationally representative HRS 2006 longitudinal sample on demographic characteristics using decision tree analysis and to develop sampling weights for LBLs anchored to HRS c; To analyze findings of 2006 HRS list recall and physical function measures completed by LBLs participants with and without sampling weights to compare generalizable with convenience effects.;

**Abstract Body:** A major limitation of longitudinal studies based on convenience samples is generalizability to the population, but which can be accomplished if population-appropriate sample weights can be identified. Long Beach Longitudinal Study participants completed the 2006 HRS cognitive and physical function measures for comparison with the HRS population sample. There were 423 LBLs and 18,469 HRS participants. Classification and Regression Trees (CART)

was used to predict group association for the two studies. The rpart package in the R statistical environment was used to determine how well age, gender, race, ethnicity, and education predicted study assignment, as well as to create sample weights. Results of the analysis showed that the model explained approximately 18% of the variance. To determine whether the LBLs sample demographics were similar with and without sampling weights, a MANOVA was conducted (Wilks's Lambda = 0.874,  $F_{5,744} = 21.55$ ,  $p < .001$ ). Individual contrasts as well as logistic regression indicated that the most significant predictor of study membership was years of education. The sample weights were used to predict list recall from demographics and physical health measurements, with these results being compared to those without the use of sample weights. Using CART with no weights produced an R-Squared of 0.30, while entering the weights dropped the R-squared to 0.18. A similar impact was demonstrated with linear regression; 0.08 without sample weights, 0.065 with weights. These findings suggests that a convenience sample, despite biases towards higher education, can be adjusted for generalizability.

**281. Change in Sitting and Stepping Behavior Across the Day After a Sedentary Behavior Intervention**, Nancy Gell, University of Vermont; Salene Jones, Group Health Research Institute; Dori Rosenberg, Group Health Research Institute

**Objectives:** After attending this session participants will be able to describe changes in sitting behavior over the course of the day in response to a sedentary behavior reduction intervention in a sample of older, obese adults.; After attending this poster participants will be able to describe changes in step counts at the hourly level in a sample of older, obese adults after participation in an 8 week sedentary reduction intervention.

**Abstract Body:** Sedentary time increases with age and is associated with chronic health conditions. However, little is known about behavior change around sedentary behavior. We examined how sitting and stepping behavior changed across the day in overweight and obese older adults during a sedentary behavior intervention. Twenty-three participants (Age 65-85, 62% female, mean BMI: 34.1) completed an 8-week, telephone-delivered sedentary behavior reduction intervention. Time spent sitting and stepping was measured at baseline and post-intervention for 5-7 days with ActivPal inclinometers. We examined change in average minutes spent sitting and stepping across each hour of the day with start times for each participant centered to begin at Hour 1. Paired t-tests compared baseline to post-intervention sitting and stepping. At baseline, minutes spent sitting each hour gradually increased over the course of the day (37 minutes at Hour 1 to 49 minutes at Hour 15). Post-intervention, participants spent fewer minutes sitting at every hour of the day (range: 0.5-5 minute decrease) with significant decreases at Hours 3, 8, and 14 (all p-values < 0.05). At baseline, minutes stepping were highest at Hour 1 (7.6 min.) and decreased across most hours of the day. Post-intervention, participants showed a higher number of minutes stepping for Hours 8-15 compared to baseline, with significant increases at Hours 8 and 9 (p-values < 0.05). In this pilot study overweight and obese older adults were able to implement a significant change in sitting behavior across different hours of the day. Post intervention, time spent stepping increased significantly later in the day.

**282. Childhood Adversity and Self-Rated Health: What Are the Mechanisms Throughout the Life Course?**, Abigail Howard, Purdue University

**Objectives:** The present study seeks to understand how early life disadvantages impact individuals' perceptions of their health in later life and what mechanisms early life adversity may work through

**Abstract Body:** Childhood adversity can have long-term negative consequences for one's health throughout the life course. However, it is unclear what mechanisms exacerbate or alleviate these negative outcomes over the life course. Drawing from cumulative inequality theory, the present study seeks to understand how early life disadvantages impact individuals' perceptions of their health in later life and what mechanisms early life adversity may work through. Results reveal that the cumulative effects of early life adversity contribute to more negative views of both previous and future health. Physical abuse by mother, poor physical health at age 16, and poor mental health at 16 had the largest negative impact on self-rated health. Further, these negative views of previous and future health had detrimental effects on less subjective health measures seven years later. Smoking and Body Mass Index (BMI) over 30 also added to poorer self-rated health. The findings highlight the limits of human agency, particularly when early adversity constrains choices and opportunities.

**283. Cognitive Screening and Vascular Burden among Older African American Adults in a Primary Care Setting**, Ishan Williams, University of Virginia, School of Nursing; Scott Sperling, University of Virginia, Department of Neurology; Carol Manning, University of Virginia, Department of Neurology

**Objectives:** Describe a novel computerized cognitive screening tool that was used in a primary care setting among older African American adults.; Discuss the analyses of cognitive impairment among African Americans who have vascular risk factors.; Describe the policy implications for early detection of cognitive decline among older African American adults in primary care settings using computerized cognitive assessments.

**Abstract Body:** Despite evidence that early identification of dementia is of growing policy concern and clinical significance, limited work has been done evaluating the utility of cognitive screening measures in primary care settings. Additionally, little work has been done on understanding the systematic barriers to timely dementia diagnoses among minority older adults. The aim of this research study was to provide primary care physicians with a clinically informed dementia screening of minority patients with high vascular risk factors. The study used a novel computerized measure of cognitive functioning using a tablet, the Computerized Assessment of Memory and Cognitive Impairment (CAMCI), and the Mini Mental Status

Exam (MMSE). In a sample of 96 African American older adults, there was evidence that African American older adults coming to see their primary care providers for reasons unrelated to cognition were experiencing significant cognitive problems ( $p < .01$ ) and that men were more likely than women to exhibit memory problems ( $p < .05$ ). Of note, primary care providers were largely unaware of the existence or the extent of the problems. The perception that memory problems are a normal part of aging; lack of screening tools in primary care; and stigma associated with memory loss could have accounted for these findings. The complexity of vascular conditions among this minority sample may have contributed to the high levels of memory decline. Our results suggest that interventions should be developed that are aimed at facilitating timely dementia diagnoses, particularly among the minority population who is at high risk for developing dementia.

**284. College Students' Retirement Expectations: A Cross-Cultural Comparison,** *Janet Kopusko, Oklahoma State University; Douglas Hershey, Oklahoma State University; Martha Zapata, Universidad Autónoma de Yucatán; Antonio Brito, Universidad Autónoma de Yucatán*

**Objectives:** After attending this session, participants will be able to identify key psychological dimensions that underlie college students' expectations of future financial planning for retirement.; After attending this session, participants will have an appreciation for the way in which childhood and adolescent learning experiences influence the likelihood of future planning and saving.; After attending this session, participants will be able to identify similarities and differences between college student attitudes toward financial planning in the United States and in Mexico.

**Abstract Body:** Cross-cultural studies of retirement planning are limited, and most investigations focus on working adult populations. It has been argued that college students represent an important yet understudied segment of the population, given that they will soon face significant long-range financial decisions that have consequences for quality of life in old age. Indeed, little is known about how college students perceive the task of financial planning for retirement, and how those perceptions differ across cultures. Participants were 346 American and 345 Mexican college students between 18-52 years of age ( $M=20.61$ ;  $SD=2.89$ ). An established psychomotivational model of financial planning (Hershey, Henkens, & Van Dalen, 2010) was tested separately for each sample. Path analysis models revealed that among students in both countries, a striking amount of variance (approximately 40%) was accounted for in expectations of future financial planning activities. However, key predictors of the outcome variable (expected planning activities) differed cross-culturally. For Americans, financial knowledge had a dominant influence on the criterion, whereas for Mexicans, future time perspective was found to be more influential. Moreover, in both countries financial lessons learned from one's parents were found to be positively related to the development of a longer future time perspective. Results reveal that despite differences in culturally-linked financial values and national retirement systems, psychological variables (e.g., goals, knowledge, personality indicators) exert a strong influence on anticipated financial planning practices, but in different ways. These findings have implications for intervention specialists who seek to understand how cultural differences shape major life planning decisions.

**285. Combat exposure predicts re-occurrence and new onset of PTSD over ten years in middle and older aged males from the National Comorbidity Survey,** *Natalie Sachs-Ericsson, Scientist Department of Psychology Florida State University; Thomas Joiner, Distinguished Professor, Department of Psychology, Florida State University; Jesse Cougle, Assistant Professor, Department of Psychology, Florida State University; Ian Stanley, PhD Student, Department of Psychology, Florida State University; Julia Sheffler, PhD Student, Department of Psychology, Florida State University*

**Objectives:** To describe the effect of early combat exposure on the persistence or development of new onset post-traumatic stress disorder (PTSD) in older adulthood

**Abstract Body:** Background: Combat is a risk factor for post-traumatic stress disorder (PTSD); however, little is known about how early-life exposure to combat may contribute to the re-emergence or new onset of PTSD in later life. The 'sensitization' hypothesis posits that prior exposure to trauma sensitizes people to respond more intensely to subsequent stressors. Further, aging initiates new challenges that may undermine previous coping strategies. Thus, over the life course combat-exposed veterans may be more reactive to new stressors and thus more vulnerable to PTSD. Methods: The current study draws on the National Comorbidity Survey Wave 1 and Wave 2 (10-year follow-up). Participants were male (Non-Combat  $N=620$  and Combat  $N=107$ ) and age 50-65 years at Wave 2. At baseline, participant's exposure to wartime combat was assessed and DSM-III diagnoses, including PTSD, were obtained. At follow-up, PTSD (re-occurrence or new onset) was determined. A measure of recent stressors (12-months) was also obtained. Results: Using logistic regression analyses, baseline combat predicted PTSD at follow-up (controlling for demographics, baseline DSM diagnoses, and PTSD). Recent stressors at follow-up were associated with PTSD. Whereas there was no difference in the number of recent stressors by combat status, the effect of recent stressors on the development of PTSD was greater for those who experienced combat. Conclusion: Veterans who have experienced combat may be more reactive to new stressors, and in turn be more vulnerable to the re-occurrence or new onset of PTSD. Older veterans who have experienced combat should be regularly assessed for current stressors and PTSD.

**286. Community-dwelling Older Adults' Adherence to Fall Prevention Recommendations,** *Suzanne Taylor, Virginia Commonwealth University Medical Center; E. Ayn Welleford, Virginia Commonwealth University; J. James Cotter, Virginia Commonwealth University; Constance Coogle, Virginia Commonwealth University; Al Copolillo, Virginia Commonwealth*

**Objectives:** Participants will understand the difference between personalized education and generalized education for fall prevention recommendations. Participants will understand how to incorporate three learning avenues to provide fall prevention recommendations for older adults.

**Abstract Body:** Twenty-two community-dwelling older adults participated in a randomized control group study that took place across three home visits. Participants were interviewed regarding their recent falls and perceived susceptibility to future falls and a home environmental evaluation was conducted. Treatment group participants were provided personalized education while control group participants were provided generalized education with regards to recommendations to reduce environmental fall hazards. Participants who received personalized education were more likely to follow recommendations than those who received generalized education. No statistically significant relationship was found between an individual's recent falls, nor their perceived susceptibility to future falls, with their extent of adherence with environmental fall prevention recommendations. This study suggests that providing personalized education for environmental fall prevention recommendations increases adherence with such recommendations.

**287. Comparison of Staff Caregiver Burden in Two Types of Care Facilities in Japan, Mika Kunisada, Prefectural University of Hiroshima; Yuki Sawada, Nihon Fukushi University; Hiroshi Ishida, J. F. Oberlin University; Kana Kageyama, Kyushu University**

**Objectives:** After attending this session participants will be able to compare the levels of staff caregiver burden between two different types of care delivery models; After attending this session participants will be able to identify 3 most commonly reported burdensome nursing activities in Japan; After attending this session participants will be able to explain a factor affecting the level of staff caregiver burden

**Abstract Body:** Despite research in recent years has focused on the association between care delivery models and residents' quality of life, little is known about the associations between care delivery models and staff caregiver burden. This study aims to examine and compare caregiver burden in staff caregivers of newly adopted unit-based care facilities (UBCFs) and conventional non-unit-based care facilities (NUBCFs) in Japan. Participants were 83 nursing staff members (UBCFs: n=42; NUBCFs: n=41), who were asked to rate the level of burden on a 5-point rating scale (1=no burden and 5=extremely burdensome) for each of their nursing activities, which were coded and grouped into 10 categories using "Care-Codes" created by the national government of Japan. Results indicated that the mean level of caregiver burden was significantly lower in UBCF participants ( $M=2.3\pm 0.7$ ,  $p<0.001$ ) than NUBCF participants ( $M=2.9\pm 0.8$ ,  $p<0.001$ ), and UBCFs had the 3 lowest, while NUBCFs had the 3 highest levels of caregiver burden. A comparison between the types of nursing activities indicated that UBCF participants had a significantly lower mean level of burden than NUBCF participants in providing assistance with bathing and personal hygiene (respectively UBCFs:  $2.4\pm 0.9$ , NUBCFs:  $3.3\pm 1.1$ ;  $p<0.001$ ), eating ( $2.1\pm 0.9$ ,  $2.8\pm 0.9$ ;  $p<0.001$ ), toileting ( $2.7\pm 0.7$ ,  $3.3\pm 0.9$ ;  $p<0.003$ ), position change and transfer ( $2.5\pm 0.9$ ,  $3.0\pm 0.9$ ;  $p<0.008$ ), and providing indirect care ( $1.9\pm 0.9$ ,  $2.8\pm 0.9$ ;  $p<0.001$ ), social services and activities ( $1.6\pm 0.9$ ,  $2.4\pm 1.0$ ;  $p<0.032$ ), independent support services ( $1.7\pm 1.0$ ,  $2.2\pm 1.0$ ;  $p<0.071$ ), and medical care ( $1.9\pm 1.0$ ,  $2.7\pm 1.0$ ;  $p<0.027$ ). The results suggest that the new unit-based care delivery model is associated with lower staff caregiver burden levels.

**288. Control Beliefs Moderate the Longitudinal Impact of Multimorbidity on Functional Impairments and Negative Affect, Beth LeBreton, Purdue University; Elliot Friedman, Purdue University**

**Objectives:** Do control beliefs moderate the relationship between multimorbidity and functional impairment?; Do control beliefs moderate the relationship between multimorbidity and psychological well-being (i.e., positive and negative affect)?;

**Abstract Body:** The number of adults living with multimorbidity (i.e. two or more chronic medical conditions) is estimated to rise from 60 million in 2000 to 81 million by the year 2020, an increase that is expected to result in reduced quality of life (both mental and physical) for older adults. Using data from the national longitudinal Survey of Midlife in the United States (MIDUS), this study tested the hypothesis that control beliefs (personal mastery and perceived constraints) would moderate the degree to which baseline multimorbidity was associated with two key subsequent outcomes: physical functioning and subjective well-being. The sample consisted of adults ages 28-84 years (mean age 55, n = 4020). Physical and psychological functioning were assessed by basic activities of daily living (BADLs) and positive and negative affect, respectively. Baseline multimorbidity was positively related to BADL scores and negative affect, and inversely related to positive affect 9-10 years later. Importantly, significant interaction effects showed that individuals with multimorbidity and high control beliefs had similar BADL scores as those with no chronic conditions; however, those with multimorbidity and low control beliefs had higher BADL scores. Additionally control beliefs moderated the relationship between multimorbidity and negative affect (but, not positive affect), such that those with low control beliefs and multimorbidity had increased negative affect, while those with high control beliefs and multimorbidity did not. These results highlight how psychological resources such as control beliefs may provide a buffer against diverse negative outcomes associated with chronic medical conditions in aging adults. 1Fortin, 2007

**289. Creating Homelike Care Environments: The Perspective of Formal Carers, Ryan Woolrych, Simon Fraser University; Sarah Canham, Simon Fraser University; Caitlin O'Reilly, Simon Fraser University; Mei Fan Lang, Simon Fraser University; Judith Sixsmith, Simon Fraser University; Andrew Sixsmith, Simon Fraser University**

**Objectives:** To identify the perceptions of long-term care staff transitioning into a home-like care setting; To discuss the implications of home-like care settings on care practices and personalised care delivery.;

**Abstract Body:** Increasingly, long-term care (LTC) is being organized in 'homelike' care settings to support independence, autonomy, and choice for older adults. Despite the benefits homelike care settings have on older adults' health and well being, particularly those living with cognitive difficulties, relatively little is known about how these environments are viewed and experienced by LTC staff. To address this gap, we report preliminary findings from a study evaluating the impact of transitioning from a traditional care facility into a homelike care setting in Victoria, BC, Canada. Qualitative 'pre-move' data from 4 focus groups and 30 semi-structured interviews with LTC staff (care aides, nurses, administration, and management) were analyzed using a thematic approach. LTC staff perceived homelike care environments (e.g. those with personalized, private spaces) as likely to enhance resident health and well-being. Care staff also identified a number of factors that may facilitate or constrain care delivery in a homelike care setting, impacting resident wellness, quality of care and staff workplace wellness. Factors identified by staff as either contributing to or detracting from a successful homelike care environment included: the design of the physical environment; culture of care; care efficiency; carer-staff relationships; and freedom of decision-making. Homelike care environments represent a shift from the care facility as an institutional setting to a therapeutic environment, designed around normalized living. As we strive to develop successful homelike care environments, the needs and insights of LTC staff need to be thoroughly considered and integrated into the design of such settings.

**290. Depressive Symptoms, Cognition, and Everyday Function among Community-Residing Older Adults, Glenna Brewster, University of South Florida, College of Nursing, School of Aging Studies; Lindsay Peterson, University of South Florida, School of Aging Studies; Rosalyn Roker, University of South Florida, School of Aging Studies; Michelle Ellis, University of South Florida, School of Aging Studies; Jerri D. Edwards, University of South Florida, School of Aging Studies**

**Objectives:** The objective of this study was to understand the relationships among depressive symptoms, cognitive performance, and functional performance in a community-based sample of older adults

**Abstract Body:** Background: Depression can negatively affect cognitive performance (Raji, Reyes-Ortiz, Kuo, Markides, & Ottenbacher, 2007) and functional performance (dos Santos Gomes et al., 2014). It is unclear, however, which particular cognitive domains are more influenced by depressive symptoms and whether these domains mediate the relationship between depressive symptoms and functional performance. Method: Older adults (N=885) between 62-96 years of age from the Staying Keen in Later Life (SKILL) study completed tests of executive function, memory, and speed of processing (Clay et al., 2009; Edwards, Wadley, Myers, et al., 2005). The Center for Epidemiological Depression Scale assessed depressive symptoms (CES-D). The Timed Instrumental Activities of Daily Living Test (TIADL), a performance-based measure, was used to assess participants' accuracy and speed in completing different visual tasks. Results: Depressive symptoms had statistically significant, but small, associations with performance across domains of executive function ( $p < .001$ ), speed of processing ( $p < .001$ ), and some indices of memory (Hopkins Verbal Learning Test,  $p < .001$ , Spatial Span Forward,  $p < .001$ ). There was no significant association between depressive symptoms and instrumental functional performance ( $p = .12$ ). Conclusion: Depressive symptoms in a community-based sample similarly affect cognition in multiple domains, but do not significantly impair efficiency and accuracy of functional performance.

**291. Differences in Leukocyte Telomere Length across Cultural and Ethnic Groups in a Multiethnic Sample in Hawaii, Grant Edmonds, Oregon Research Institute; Hélène Côté, University of British Columbia; Sarah Hampson, Oregon Research Institute; Joan Dubanoski, Kaiser Permanente Center for Health Research, Hawaii**

**Objectives:** Identify cultural and ethnic group differences in leukocyte telomere length.; Evaluate social environmental and behavioral factors linked to differences in leukocyte telomere length across cultural and ethnic groups;

**Abstract Body:** Large health disparities across cultural and ethnic groups in Hawaii are well documented. Identifying surrogate endpoints has diagnostic value, in that these are observable prior to morbidity and mortality. Telomeres are protein structures at the ends of chromosomes and tend to shorten with age. Leukocyte telomere length (LTL) has been proposed as biomarker of cellular aging. Differences in LTL may offer observable markers of health, and thus allow for the evaluation of behavioral and social-environmental factors that contribute to health disparities. Using data from a multiethnic sample of adults assessed in Hawaii we investigated differences in LTL across participants' self-identified cultural and ethnic groups, and evaluated explanatory variables including BMI, smoking, and educational attainment. LTL was assessed using qPCR on DNA derived from dried blood spots collected from a venous arm draw during a half day clinic visit. Comparing means of LTL adjusted for age and gender, we found evidence for differences in LTL across ethnic and cultural groups  $F(7,685) = 2.90, p = .01$ . Participants identifying as Chinese American had the longest average LTL; those identifying as Latino had the shortest LTL. These two groups differed by one standard deviation. Post hoc analyses revealed significant differences in six of the 21 possible pairwise comparisons. Smoking did not account for differences across groups in LTL. BMI and educational attainment partially accounted for group differences in LTL. These data suggest behavioral and social-environmental factors that partially account for disparities in health across cultural and ethnic groups.

**292. Directly Assessed and Self Rated Memory among Older Adults: A Comparison between China and the US based on Nationally Representative Surveys, Qiong Wu, Peking University**

**Objectives:** Compare the average levels of memory functions between Chinese and US older adults aged 50+; Examine whether the association between self rated memory and directly assessed memory scores is similar across two countries; Explore whether the association between memory function and a number of key predictors including demographics and depressive symptoms is the same across countries

**Abstract Body:** Purpose: The current study compares memory functions of Chinese and US adults aged 50+ in three aspects: 1) average level of directly assessed (objective) and self rated (subjective) memory; 2) association between objective and subjective memory; 3) factors associated with memory scores. Method: Data were from the latest wave of the Chinese Health and Retirement Longitudinal Study (CHARLS, Year 2011) and the US Health and Retirement Study (HRS, Year 2010). Results: Chinese older adults (n=11,709) scored much worse on the 10-word immediate (mean=3.14 vs 5.43 for the US) and delayed (mean=2.36 vs. 4.41 for the US) recall tests than the US older adults (n=12,865), and the Chinese also had lower self ratings (1.92 vs 3.01 for the US on a 1-5 scale). Gaps persisted after accounting for age, gender, education, marital status and depressive symptoms. Despite the wide gap, in both countries, objective memory scores accounted for only 5% of the total variance in subjective memory. Furthermore, the two countries showed similar patterns in the association between objective memory and age, gender, education, and depressive symptoms. Quite notably, the US data revealed an interesting pattern of differentiating effects of marital status, i.e., despite higher scores in objective memory of married respondents, they had levels of subjective memory. This pattern is also consistent with the China data. Conclusion: In both China and the US, objective and subjective memory scores are weakly correlated. China may face a greater challenge in fighting against cognitive impairment among older adults than the US.

**293. Disease Knowledge and Coping Behaviors of Knee Osteoarthritis for Rural Community-dwelling Older Adults, Stephanie Yu-ching Chen, Dept. of Adult and Continuing Education, National Chung Cheng University**

**Objectives:** to learn the disease knowledge and coping behaviors of knee OA for community-dwelling older adults; to learn the factors which affecting the disease knowledge and coping behaviors of knee OA for community-dwelling older adults;

**Abstract Body:** Older patients with low literacy lacked full awareness of knee osteoarthritis (OA) and always underestimated the disease severity. This study measure disease knowledge, coping behaviors and their impact factors of knee OA for community-dwelling older adults as a basis for the subsequent development of community care model. The object of study include 210 older adults are over 55 years old, there were pain symptoms on knee in the last year, cluster randomly sampled from 20 community senior centers at Taiwan south rural area. Research tools include knee OA knowledge scale and coping scale for the older adult. It collects data by group interview at the community senior centers. The results show that over 75% education level are under primary school, average age is 74.4 years old, 66.2% had visited the doctors and 71.9% had been diagnosed as knee OA. Older adults more understand clearly about disease causes and symptoms than diagnosis and treatment. The significant impact factors of knowledge, including age, gender, education level and inhabiting situation. Most of the active coping behaviors include not standing or squatting for a long time, having a rest in the right time, having regular exercise, and not getting on and going downstairs frequently. It is necessary to care about the older adults' negative emotional coping behaviors, include feeling sad from knee pain, being afraid of disability and becoming family burden. The significant impact factor of coping behaviors just only pain awareness. Finally, this study provides recommendations for educational intervention in the future.

**294. Do Neighborhood Characteristics Explain the Association Between Childhood Socioeconomic Status and Adult BMI?, Gregory Pavela, University of Alabama, Birmingham**

**Objectives:** After reviewing this research, participants will be able to identify evidence of sex-specific longitudinal associations between childhood conditions and adult weight

**Abstract Body:** There is evidence that childhood conditions exert an influence on adult weight. Whether the influence of childhood conditions on later weight is best described using a critical period model or an accumulation of risk model is not yet settled. This research tests whether neighborhood characteristics explain the association between childhood socioeconomic status and adult body mass index (BMI). The association between childhood conditions and adult body mass index is modeled using a two and three-level hierarchical linear model framework. Data on individual childhood and adult characteristics come from waves 2000 through 2008 of the Health and Retirement Study. Data on neighborhood characteristics come from the RAND Center for Population Health and Health Disparities Data Core. Results suggest that among males, childhood conditions are not associated with adult BMI after adjustment for individual characteristics. However, among females, paternal education remains associated with adult BMI after adjustment for individual and neighborhood characteristics. Past research has typically relied on paternal occupation as an indicator for childhood socioeconomic status, but results from these analyses demonstrate the importance of including a broader range of childhood SES measures when feasible.

**295. Do Social Relationships Mediate Relationships between Age and Positive Emotion?: ; A Test of Socio-emotional Selectivity Theory in Japan and the U.S., Jun Nakahara, Japan Society for the Promotion of Science; Mayumi Karasawa, Tokyo Woman's Christian University; Carol Ryff, University of Wisconsin-Madison**

**Objectives:** To test the prediction that the age-related difference of the quality of social relationships (social support and strain) would mediate improvement with age in emotional experience in two different cultural contexts

**Abstract Body:** That positive affect improves with age, while negative affect declines with age (known as the positivity effect) has been empirically demonstrated in Japan and the U.S. This trend has been interpreted within the framework of socio-emotional selectivity theory (SST) created by L. L. Carstensen. She claims that perceived constraints on time, namely impending death, lead to an emphasis in older adults on maintaining smaller, but more emotionally satisfying, social networks and avoiding interpersonal conflict. Drawing on SST, the present study tested the prediction that the age-related difference of the quality of social relationships (social support and strain) would mediate improvement with age in emotional experience in two different cultural contexts. We use data from MIDUS II in the U.S. and a parallel survey from Japan (MIDJA). MIDUS II was conducted in 2004-2006 as 2nd wave of a national survey of Americans and MIDJA was conducted in 2008-2010 with respondents randomly selected from the Tokyo metropolitan area. We selected MIDUS II respondents (n = 1,805) available to compare to MIDJA (n = 1,027). Result of the mediation analyses using bootstrapping showed that social strain mediated the negative association between age and negative affect in both countries. Additionally, social support and strain from family members were mediators of age-related improvement of positive affect, but only in the U.S. These results supported SST in case of negative affect in both countries, whereas imply it might be difficult to interpret the age-related improvement of positive affect from the perspective of SST in Japan.

**296. Effects of Individual and Workplace Factors on Person-Centered Approaches to Dementia Care, Paulette Hunter, University of Saskatchewan; Thomas Hadjistavropoulos, University of Regina; Lilian Thorpe, University of Saskatchewan; David C. Malloy, University of Regina**

**Objectives:** To determine how much variance in self-reported person-centred care is accounted for by organizational factors, after controlling for demographic variables.; 2.To determine whether personal factors, including beliefs about personhood in dementia and burnout, explained additional variance in self-reported person-centred care after controlling for demographic variables and organizational factors.

**Abstract Body:** Very few studies have empirically assessed variables that contribute to person-centred care. To contribute to an understanding of these variables, we used hierarchical regression to analyse results from a correlational descriptive survey of 109 long-term residential care employees. Scores on five subscales of the Person-Directed Care scale (PDC; Autonomy, Knowing the Resident, Personhood, Comfort Care, and Supporting Relationships) were regressed on measures of demographic factors, organizational-environmental factors, beliefs about personhood in dementia, and burnout. After controlling for demographic variables, organizational-environmental factors explained a statistically significant increase in variance for all five PDC subscale scores:  $\Delta R^2 = .278$ ,  $\Delta F(3, 87) = 12.51$ ,  $p < .001$ ;  $\Delta R^2 = .168$ ,  $\Delta F(3, 89) = 6.21$ ,  $p < .01$ ;  $\Delta R^2 = .196$ ,  $\Delta F(3, 88) = 7.79$ ,  $p < .001$ ;  $\Delta R^2 = .352$ ,  $\Delta F(3, 87) = 8.41$ ,  $p < .001$ ;  $\Delta R^2 = .342$ ,  $\Delta F(3, 86) = 17.01$ ,  $p < .001$ . After controlling for demographic and organizational-environmental factors, beliefs about personhood in dementia also explained a statistically significant increase in variance (Personhood subscale of the PDC only,  $\Delta R^2 = .08$ ,  $\Delta F(1, 88) = 10.02$ ,  $p < .01$ ). Finally, burnout explained a statistically significant increase in variance (Personhood and Comfort Care subscales only,  $\Delta R^2 = .08$ ,  $\Delta F(2, 86) = 5.52$ ,  $p < .01$ ;  $\Delta R^2 = .05$  and  $\Delta F(2, 84) = 3.83$ ,  $p < .05$ , respectively) after controlling for all other variables. These findings suggest that organizational-environmental factors are important to person-centered dementia care. Beliefs about personhood and burnout may also be important for some kinds of person-centered care.

**297. Emotions and Alzheimer's Disease: Preliminary Efforts to Develop Emotional Staging for Alzheimer's Disease, Sean Halpin, Geriatric Research, Education, and Clinical Center, Department of Veterans Affairs; Rebecca Dillard, Emory University Center for Health in Aging; Carolyn Clevenger, Emory University School of Nursing; Bill Puentes, Emory University School of Nursing; Roxanna Chicas, Perimeter College;**

**Objectives:** Identify common themes regarding internal and external stimuli and their effects on emotional status and/or behavior of AD/MCI patients; Enhance our understanding as to whether various emotional responses may (or may not) coincide with specific stages in AD/MCI progression;

**Abstract Body:** The emotional reactions to the progression of Alzheimer's disease (AD) oftentimes present as cognitive or behavioral changes, leading to misguided interventions by caregivers. Yet, despite a rich body of literature identifying cognitive and behavioral staging of AD, the emotional changes that accompany AD have been largely ignored. Here we present preliminary findings of a study which seeks to fill this gap through one hour, unstructured interviews, with seventeen caregiver-patient dyads; patients were in various stages of mild cognitive impairment and AD. An interdisciplinary team employed grounded theory methods to detect emotional characteristics of the participants with AD. Emotional experiences were classified into depression/sadness, apathy, concern/fear, anger/frustration, and acceptance. However, the experiences did not necessarily present linearly, and instead were entwined within a set of binary (positive/negative) categories including; relationship with the informal caregiver (e.g., teamwork versus infantilization), relationship with the formal caregiver (e.g., patient versus disengaged), coping (e.g., adaptive versus non-adaptive), and perceived control (e.g., internal versus external



locus of control). An example is a person who has poor caregiver support and external locus of control may become depressed, a condition which is known to negatively affect cognitive status. Future work will further explore the emotional experiences as they relate to demographic characteristics and to the currently established cognitive and behavioral Functional Assessment Staging Tool (FAST). Understanding the emotional reactions of individuals diagnosed with AD will provide clinicians with the information needed to develop treatment modalities best suited to the emotional needs and stage of the patient.

**298. Empty Nest Status of Midlife Parents: Associations with Marital Functioning and Health, Lauren Papp, University of Wisconsin-Madison;**

**Objectives:** To document associations between family transitions, namely empty nest status, and midlife parents' marriage functioning and health outcomes

**Abstract Body:** Establishing how spouses and marriages fare during the highly normative "empty nest," when couples live with no children after having raised one or more children together, is important because midlife functioning is a robust predictor of aging outcomes, including physical, psychological, and financial health, and mortality. This study employed secondary analysis of the Wisconsin Longitudinal Study to examine marital adjustment and personal health of adults in the empty nest as compared to adults living with grown children in the home. Findings based on 6,140 married midlife individuals indicated that empty nest status, or living without grown children, was positively associated with marital quality levels ( $b = .063$ ,  $t = 5.44$ ,  $p < .001$ ) and negatively associated with depression symptoms ( $b = -1.082$ ,  $t = -2.53$ ,  $p = .011$ ); empty nest status was not reliably associated with physical health ratings ( $b = .035$ ,  $t = 1.70$ ,  $p = .09$ ). Moderator tests further revealed that the findings did not significantly differ for men versus women or for first- versus later-marriages.

**299. Monocyte chemoattractant protein-1 (MCP-1): A pro-inflammatory cytokine elevated in sarcopenic obesity (SO), Mei Sian Chong, Institute of Geriatrics and Active Ageing. Tan Tock Seng Hospital; Yew Yoong Ding, Institute of Geriatrics and Active Ageing. Tan Tock Seng Hospital; Laura Tay, Institute of Geriatrics and Active Ageing. Tan Tock Seng Hospital; Ismail NH, Institute of Geriatrics and Active Ageing. Tan Tock Seng Hospital; Audrey Yeo, Institute of Geriatrics and Active Ageing. Tan Tock Seng Hospital; Suzanne Yew, Institute of Geriatrics and Active Ageing. Tan Tock Seng Hospital; Bernard Leung, Department of Rheumatology, Allergy and Immunology. Tan Tock Seng Hospital**

**Objectives:** To understand the differences between sarcopenia and sarcopenic obesity and the functional implications; To understand the role of pro-inflammatory biomarker in sarcopenic obesity;

**Abstract Body:** Objectives: Skeletal muscle may be negatively influenced by the pro-inflammatory milieu associated with visceral fat, while the loading effect of obesity may enhance muscle anabolism. We set out to examine the association of MCP-1 with SO compared with pure sarcopenia and obesity phenotypes. Methods: We studied 151 community-dwelling, cognitively-intact, well older adults. Clinical data, physical performance measures (short physical performance battery (SPPB)) and muscle mass measurements were collected. Blood biomarker and MCP-1 levels were performed. Asian Working Group for Sarcopenia criteria and NCEP-obesity definitions were used. Multiple group comparisons and correlation analysis were performed. Results: 25.8% subjects of study subjects were normal, 13.4% sarcopenic, 48.3% obese and 11.9% SO respectively. Significant differences in age, gender and stroke disease prevalence between subgroups noted. There was an incremental increase in body fat with the 4 clinical phenotypes while appendicular lean mass was lowest with poorest physical performance on SPPB in SO. MCP-1 level was significantly different ( $104.9+34.8$  for normal,  $96.4+21.5$  for sarcopenia,  $118.0+50.1$  for obese and  $147.6+71.8$  for SO subjects respectively, pg/ml,  $p < 0.05$ ). Modest correlation of MCP-1 was noted with body fat (Spearman's correlation coefficient 0.16,  $p = 0.05$ ) with no significant correlation between MCP-1 and appendicular lean mass (correlation coefficient 0.06,  $p = 0.49$ ). Conclusion: SO represents a distinct phenotype ('obesity paradox') in older adults with performance limitations beyond sarcopenia-related lean mass alone. MCP-1 is significantly raised, suggesting a potential role of inflammatory cytokines in the pathogenic mechanism of SO. These interesting results require further confirmation in longitudinal study with potential therapeutic implications.

**300. Heterochronic Parabiosis: Allowing the Dissection of the Aged Immune System, John Davies, Department of Immunobiology and the Arizona Center on Aging, College of Medicine, University of Arizona; Heather Thompson, Department of Immunobiology and the Arizona Center on Aging, College of Medicine, University of Arizona; Vesna Pulko, Department of Immunobiology and the Arizona Center on Aging, College of Medicine, University of Arizona; Janko Nikolich-Zugich, Department of Immunobiology and the Arizona Center on Aging, College of Medicine, University of Arizona**

**Objectives:** Tissue mapping of the immune system in heterochronic parabiosis.; Rejuvenation of the aged immune system.;

**Abstract Body:** Parabiosis is the surgical union of two organisms resulting in the development of a single, shared circulatory system. When animals of different ages are conjoined (i.e. heterochronic parabiosis), investigators have shown that blood-borne factors from the younger animal beneficially affect the older animal and recapitulate the youthful phenotype and function in their target tissues. However, the effect of heterochronic parabiosis on the aged immune system remain unexplored. An important question to be answered is whether the cellular defects involved in the aged immune system are due to intrinsic defects or if they can be rescued by extrinsic factors. This experimental technique is ideal to test cellular

migration patterns, interrogate the mechanisms driving migration defects that occur with aging, if these defects can be rejuvenated and which molecules are targets for intervention. Finally, T cell ontogenesis is known to diminish drastically with age due to thymic involution, but there are also defects in lymphopoiesis that affect early T cell precursors. The heterochronic parabiosis model allows one to test the contributions of the aged thymus, the aged pre-T cells (thymic seeding progenitor cells) or the aged systemic environment are involved in the defect in thymic output with age. Thus far, the preliminary data hint at differential migration patterns of T cells, B cells and neutrophils. Of interest, while young pre-T cells can adequately seed the old thymus and undergo thymopoiesis, the opposite is not true, indicating that there may be a defect in old pre-T cell generation or migration to the thymus.

**301. Effect of Aging and Exercise on Irisin and BAIBA in Humans,** *Sangeeta Ghosh, University of Texas Health Science Center San Antonio; Hanyu Liang, University of Texas Health Science Center San Antonio; Helen Lum, The University of Texas Health Science Center San Antonio; Jose De Jesus Garduno Garcia, The University of Texas Health Science Center San Antonio; Raweewan Lertwattanarak, The University of Texas Health Science Center San Antonio; Nicolas Musi, The University of Texas Health Science Center San Antonio*

**Objectives:** To Examine the Effect of Aging and Exercise on Plasma Irisin and  $\beta$ -aminoisobutyric acid (BAIBA) Levels in Humans

**Abstract Body:** Rodent studies suggest that skeletal muscle functions as an endocrine organ that releases substances that act on target tissues (e.g. adipose). One of these substances is irisin, a protein encoded by FNDC5 which expression is controlled by PGC1 $\alpha$ . Another substance secreted by rodent muscle is BAIBA, a by-product of thymine catabolism. In vitro, irisin and BAIBA induce conversion of white to brown adipose tissue which is highly metabolically active. Thus, it has been hypothesized that exercise increases energy expenditure and improves glucose metabolism by contraction-induced release of irisin and BAIBA that promote “browning” of white fat. Here, vastus lateralis muscle biopsies were performed in 24 healthy young (age=26 $\pm$ 3 y), lean (BMI=24.1 $\pm$ 0.5 kg/m<sup>2</sup>), and 48 healthy older (age=73 $\pm$ 7), lean (BMI=24.4 $\pm$ 0.4) subjects, before and after 16 weeks of aerobic exercise. Baseline PGC1 $\alpha$  (50%) and FNDC5 (24%) mRNA levels were lower in older subjects. Basal plasma irisin and BAIBA also were reduced in older subjects (both by ~12%). Exercise increased PGC1 $\alpha$  (40%) and FNDC5 (30%) expression in older and younger (50% for both genes) subjects, accompanied by improvements in insulin sensitivity and Vo<sub>2</sub>max. Exercise also increased plasma irisin (44%) and BAIBA (23%) in older subjects. In younger subjects, exercise increased BAIBA (28%), whereas irisin did not change. Conclusions: 1) Human aging is associated with decreased muscle PGC1 $\alpha$  and FNDC5 expression, and lower plasma irisin and BAIBA concentrations, changes that could be involved in the metabolic alterations of aging; 2) Exercise reverses these alterations, effects that may contribute to its beneficial metabolic effects.

**302. Age-Associated Declines in Power and Contractile Velocity Increased Under Heavily Loaded Conditions,** *Ted Graber, University of Minnesota Medical School Dept. of Physical Medicine and Rehabilitation; Jong-Hee Kim, University of Houston, Dept. of Health and Human Performance; Robert Grange, Virginia Tech University, Dept. of Human Nutrition, Foods, and Exercise; Linda McLoon, University of Minnesota Medical School, Dept. of Ophthalmology and Visual Neurosciences; LaDora Thompson, University of Minnesota Medical School, Dept. of Physical Medicine and Rehabilitation, Program in Physical Therapy*

**Objectives:** Those who view our poster will learn how age effects peak force, contractile velocity, and power production in the EDL and soleus muscles of the common aging model C57BL/6 mouse.; For the first time, we present data that shows that age has an increased effect on both contractile velocity and power production during concentric contraction against loads above 50% of peak force.; The observer will walk away from our poster with understanding that future research into using power and velocity training to improve functional ability may greatly benefit the elderly., rather than just strength training alone.

**Abstract Body:** Defining the fundamentals of skeletal muscle physiology in animal models of aging is required, pre-clinically, to assess treatment strategies designed to improve age-related conditions such as sarcopenia or frailty. Power production by skeletal muscle is critical for dynamic movement, but has not been fully investigated across the mouse lifespan. In this study, we determined the effect of age on power production, and its determinants, contractile velocity and force output, in male C57BL/6 mice. We hypothesized that both velocity and force would decline with age, therefore reducing power. We also predicted age would diminish power more during concentric contractions against loads above 50% of peak isometric force (P<sub>0</sub>). P<sub>0</sub> and contractile velocities at loads from 10-90%P<sub>0</sub> were determined in vitro in the soleus and EDL muscles of adult, old and elderly mice, representing 100, 75 and 50% survival, respectively. Power curves were then derived from the force-velocity relationships. We found that power, velocity, and force all declined in an age-associated manner. Furthermore, there was an increased age-effect on both velocity and power during heavily loaded contractions. Thus, age-associated movement challenges during more difficult tasks in the elderly may be due, in part, to an accelerated deterioration of power production and contractile velocity under heavy loads, not just from reduced force output. Training regimens to improve contractile velocity throughout the load range in the elderly may synergistically benefit power output beyond simple strength training alone.

**303. mTOR Regulates PGC-1 $\alpha$  Turnover and Activity Through GSK3 $\beta$  in Mouse Adipocytes**, Porsha Howell, University of Wisconsin- Madison Department of Nutritional Sciences; Karl Miller, University of Wisconsin- Madison; Tapas Nayak, University of Wisconsin- Madison; Stephen Martin, University of Wisconsin-Madison; Maggie Burhans, University of Wisconsin-Madison; Michael Polewski, University of Wisconsin-Madison; Rozalyn Anderson, University of Wisconsin-Madison

**Objectives:** 1)After attending this session participants will be able to synthesize previous knowledge regarding regulation of GSK3 $\beta$  in the presence of oxidative stress and CR with new knowledge of mTOR.; 2)Participants will also be able to compare the effect of rapamycin and lithium on adipocyte lipid metabolism in differentiating adipocytes from mature adipocytes and in vivo adipose tissue.;

**Abstract Body:** Caloric restriction (CR) is a dietary regimen that extends lifespan. In white adipose tissue, CR positively regulates peroxisome proliferator-activated receptor gamma coactivator 1 $\alpha$  (PGC-1 $\alpha$ ), a master regulator of mitochondrial metabolism, and negatively regulates glycogen synthase kinase 3 $\beta$  (GSK3 $\beta$ ), which targets PGC-1 $\alpha$  for proteasomal degradation. Lifespan is also extended by rapamycin, an inhibitor of the mechanistic target of rapamycin (mTOR). Here we show that under conditions of oxidative stress rapamycin treatment increased inhibitory phosphorylation of GSK3 $\beta$  and blocked GSK3 $\beta$ -mediated turnover of PGC-1 $\alpha$ . The PGC-1 $\alpha$  transcriptional program in response to oxidative stress was also blocked by rapamycin. In cultured adipocytes rapamycin treatment increased GSK3 $\beta$  inhibitory phosphorylation but now promoted PGC-1 $\alpha$  nuclear localization within one hour of treatment and increased the mitochondrial transcriptional program and mitochondrial activity. In differentiating adipocytes rapamycin prevented lipid accumulation as cells transition to mature adipocytes. GSK3 $\beta$  inhibition using lithium chloride produced a similar response where cells failed to accumulate lipids following adipogenic stimulus. In mature adipocytes three days of rapamycin treatment did not affect lipid mobilization but GSK3 $\beta$  inhibition using lithium chloride caused a reduction in lipid stores. Similarly in rapamycin fed mice, adipocytes are not smaller and while GSK3 $\beta$  is inhibited there is no evidence of a difference in PGC-1 $\alpha$  levels or activity. In lithium carbonate treated mice, adipocytes were reduced in size and adiposity was substantially reduced. These data show that GSK3 $\beta$  is downstream of mTOR signaling but that the impact of this axis on PGC-1 $\alpha$  is specific to cell type and duration of inhibitory stimulus.

**304. A Validated Mouse Frailty Index: Impact of Factors That Affect Lifespan**, Alice Kane, University of Sydney; Sarah N Hilmer, University of Sydney and Royal North Shore Hospital; Susan E Howlett, Dalhousie University; Rafael de Cabo, National Institute on Aging; Sarah J Mitchell, National Institute on Aging

**Objectives:** We aimed to investigate the effect on the mouse frailty index, of factors known to influence lifespan and healthspan in mice: mouse strain (short lived DBA2/J mice versus long-lived C57BL/6 mice), calorie restriction and resveratrol treatment

**Abstract Body:** A clinical frailty index (FI) scale based on deficit accumulations has been validated in C57BL/6 mice (Whitehead et al., 2014). We aimed to investigate the effect on the mouse FI, of factors known to influence lifespan and healthspan in mice: mouse strain (short lived DBA2/J mice versus long-lived C57BL/6 mice), calorie restriction (CR) and resveratrol treatment. FI scores were measured on male aged (18 month) ad-lib fed and CR DBA2/J and C57BL/6 mice, as well as male aged (24 month) C57BL/6 mice ad lib or resveratrol-diet fed. Mean scores of 2 raters were used. There was a trend towards higher FI scores in the ad-lib DBA2/J mice compared to the C57BL/6 mice (FI=0.25 $\pm$ 0.09 DBA2/J, 0.20 $\pm$ 0.08 C57BL/6,  $p > 0.05$ ). CR reduced FI in C57BL/6 mice (FI=0.13 $\pm$ 0.03 CR, 0.20 $\pm$ 0.08 ad-lib,  $p = 0.04$ ) but not in DBA2/J mice. Aged mice with chronic resveratrol treatment had a lower FI than ad-lib fed mice (FI=0.18 $\pm$ 0.01 resveratrol, 0.22 $\pm$ 0.01 ad-lib,  $p = 0.01$ ). The 2 raters had excellent inter-rater reliability (ICC = 0.88, 95% CI [0.80, 0.92]). CR and resveratrol were shown to decrease FI in male C57BL/6 mice, compared to age matched controls. Furthermore the DBA2/J mice had a trend towards higher FI scores than the C57BL/6 mice, and had no change in FI with CR. This study further validates the mouse FI developed by Whitehead et al. (2014) in a different mouse colony with dietary and pharmaceutical interventions. It provides preclinical evidence to support testing the effects of these interventions on frailty index in humans.

**305. Development of a Microfluidic Experimental System for the Study of Dietary Influences on C. elegans Life History Traits**, Michael Kiflezghi, Virginia Commonwealth University; Stephen Banse, University of Oregon; Nadine Timmermeyer, University of Oregon; Benjamin Blue, University of Oregon; Patrick Phillips, University of Oregon

**Objectives:** Determine the proper flow rate for channels in a microfluidic device designed to measure life history traits of a population of nematodes.; Determine the proper channel width for a microfluidic device that allows for isolation and visualization of a single nematode.;

**Abstract Body:** The soil dwelling bacterivore *Caenorhabditis elegans* exhibits variance in life history traits, even after experimental standardization of genetics, environment, and diet. What is the basis of this variance? One possibility is that different food preferences and rates of consumption undo attempts to standardize diet, creating variable life history outcomes. Can a pattern be elucidated from the behavior of individuals to allow for meaningful life history predictions? Can reporters for dietary input detect behaviorally generated differences among individuals in the same food environment? The adoption of microfluidic technologies may provide the needed level of environmental and dietary control to answer these questions. Here we will present an experimental system based on three microfluidic devices to answer these questions. (1) The "Imaging

Chip” allows for trapping of individual worms for a lifetime. While trapped the worm is unable to leave food, unlike traditional experiments, and the experimenter has complete control of their diet as a bacterial suspension flowing through the device. (2) The “Arena Chip” allows the experimenter to create controlled, yet more complex, food environments in which a small population of worms are free to behave. Worms are monitored as they act on any preferences they may have by swimming into different fluid flows. (3) The “Sorter Chip” that enables high throughput visual phenotyping of animals expressing a previously published dietary sensor, *Pacdh-1::gfp*, to determine the relationship between behavior and dietary input. These devices form a microfluidic experimental system for the study of dietary influences on *C. elegans* life history traits.

**306. PDGF/FGF Mediates Rejuvenation Effects of Mouse ESC Conditioned Media on Cellular Senescence, Jae-Ryong Kim, Department of Biochemistry and Molecular Biology, College of Medicine Yeungnam University;**

**Objectives:** To elucidate whether conditioned media from embryonic stem cells exert inhibitory activity on cellular senescence.; To elucidate what factors in conditioned media from embryonic stem cells play an important role in the rejuvenation of cellular senescence.

**Abstract Body:** Cellular senescence, an irreversible state of growth arrest, underlies organismal aging and age-related diseases. Recent evidence suggests that aging intervention based on inhibition of cellular senescence or rejuvenation of senescent cells might be a promising strategy for treatment of aging itself as well as age-related diseases. Embryonic stem cells (ESCs) and ESCs-conditioned medium (ESCs-CM) have been suggested to be desirable source in regenerative medicine. However, effects of ESCs-CM on cellular senescence were not determined yet. Here, we showed that treatment of senescent human dermal fibroblasts (HDFs) with CM from mouse ESCs (mESCs) (mESCs-CM) decreases senescence phenotypes, which is confirmed by decreases in senescence-associated beta-galactosidase activity and the levels of p53 and p21 proteins, and an increase in cell proliferation. We further determined that platelet-derived growth factor-BB (PDGF-BB) is a key molecule for rejuvenating activity of mESC-CM through up-regulation of fibroblast growth factor-2 (FGF-2). Finally, we confirmed that mESCs-CM accelerates wound-healing process by reducing dermal p53 expression and increasing epithelial proliferation in vivo models. Taken together, our results suggest that mESCs-CM has rejuvenating capacity to revert senescent cells to young cell-like phenotypes and might emerge as a novel therapeutic strategy for age-related diseases.

**307. Births Cohorts, Age, and Sex Are Strong Modulators of the Effects of Lipid Risk Alleles Identified in Genome-Wide Association Studies, Alexander Kulminski, Duke University; Irina Culminkaya, Duke University; Konstantin Arbeev, Duke University; Liubov Arbeeva, Duke University; Svetlana Ukraintseva, Duke University; Eric Stallard, Duke University; Anatoli Yashin, Duke University**

**Objectives:** To provide evidences of complex role of genes in polygenic health traits which is often overlooked in genome-wide association studies; To discuss more appropriate strategies for addressing complex role of genes.;

**Abstract Body:** Insights into genetic origin of diseases could substantially impact strategies for improving human health. GWAS results are often positioned as discoveries of unconditional risk alleles of complex health traits. We re-analyzed the associations of SNPs discovered as correlates of total cholesterol (TC) in a large-scale GWAS meta-analysis. We focused on three generations of 9,167 participants of the Framingham Heart Study (FHS) which was a part of that meta-analysis. We show that the effects of all 10 available SNPs, without exception, were clustered in different FHS generations and/or birth cohorts in sex-specific or sex-unspecific manner. The sample size and procedure-therapeutic issues play at most minor role in this clustering. A striking result was clustering of significant associations with the strongest effects in the youngest 3rd Generation cohort. These results imply that an assumption of unconditional connections of SNPs with TC is generally implausible and that demographic perspective can seriously improve GWAS efficiency. The analyses of genetic effects in age-matched samples suggest predominant role of qualitatively different environmental and age-related mechanisms in the associations of different SNPs with TC. Analysis of literature supports systemic roles and differences in these roles for genes for SNPs from the age-related and environmental sets. The results suggest antagonistic effects of rs2479409 from PCSK9 gene that cautions strategies aimed to target this gene in the next generation lipid drugs. Our results suggest that standard GWAS strategies need to be advanced to appropriately address the problem of genetic susceptibility to complex traits that is imperative for clinical translation.

**308. The light at the end of the tunnel: Long-lived naked mole-rat resistance to UV-induced skin tumorigenesis, Kaitlyn Lewis, University of Texas Health Science Center at San Antonio; Thomas Slaga, University of Texas Health Science Center at San Antonio; Rochelle Buffenstein, University of Texas Health Science Center at San Antonio/Barshop Institute for Longevity and Aging Studies**

**Objectives:** To determine if the strictly subterranean, cancer resistant naked mole-rat is sensitive to UV radiation-induced skin tumorigenesis and to identify genomic response to this treatment.; To utilize the naturally long-lived naked mole-rat and identify a relationship between cancer resistance and prolonged healthspan and lifespan.;

**Abstract Body:** The long-lived naked mole-rat is resistant to spontaneous neoplasia, chemical-induced tumorigenesis, and to an array of carcinogenic and DNA-damaging compounds. We attributed its resistance to chemical-induced tumorigenesis to having evolved to lead a strictly subterranean lifestyle in soils riddled with heavy metals and other toxins. We therefore

speculated that while resistant to toxins these underground dwelling rodents may be exquisitely sensitive to ultraviolet radiation induced skin carcinogenesis. In vitro data revealed that skin fibroblasts showed increased susceptibility to UV exposure. We therefore hypothesized that naked mole-rats would develop tumors at a faster or similar rate to that of hairless SKH1 mice. Surprisingly, we found that naked mole-rats were extremely resistant to UV-induced skin tumorigenesis. Even after 6 months of UV irradiation, no mole-rat developed tumors whereas all mice had tumors by 18 weeks. We attribute species differences in response to UV to pronounced differences in DNA repair and cell turnover. Current studies explore interspecific differences in molecular response to UV irradiation with our long term goal to identify potentially novel and translatable mechanisms that may play a role in skin cancer prevention and highlight mechanistic relationships between cancer resistance and longevity.

**309. Quality of Life among Stroke Patients in the Russian Federation,** *Victoria Adams, University of West Florida; Daniel Durkin, University of West Florida*

**Objectives:** After attending this session, participants will be able to discuss the effectiveness of treatment with stroke patients in the Russian Federation

**Abstract Body:** Research shows that quality of life for stroke patients who have difficulties with activities of daily living can be improved through treatment. Although there is a significant amount of literature on the effects of stroke on daily function and quality of life, most of the published research is based on Western populations. Very little is known about treatment outcomes in non-Western countries. Using secondary data from the World Health Organization's Study on Global Aging and Adult Health (SAGE) from the Russian Federation we examined the relation between difficulties with activities of daily living (ADL) and quality of life (QOL) in 239 stroke patients when controlling for sex, age, income, and whether or not they had treatment in the last 12 months. Regression analysis revealed that difficulties with ADLs significantly predicted subjective QOL; however, treatment was not significant. Participants with higher ADL difficulty scores reported lower QOL. Income and age were also significant in that higher income and higher age were associated with higher appraisals of quality of life. Results suggest that participants who reported greater difficulty with ADLs appraised their QOL as lower than those with less difficulty, regardless of whether or not they received treatment in the last 12 months. This suggests that treatment in the Russian Federation may not be effective in improving the QOL of stroke patients. Interestingly, participants who were older reported higher QOL. This matches research using socioemotional selectivity theory that suggests that older adults are more likely to focus on the positive.

**310. Age, postoperative interleukin-6, and perfusion time predicted hospital length of stay among cardiac surgery patients,** *Amy Ai, Florida State University*

**Objectives:** To educate health related gerontologists about an important function of an aging related biomarker in relation to a common procedure in late life

**Abstract Body:** Background: Interleukin-6(IL-6) is a multi-function, pro-inflammatory cytokine that is chronically elevated in heart diseases. Research suggested that IL-6 may play an important role in the development of systemic inflammatory response syndrome(SIRS) following cardiopulmonary bypass(CPB) used in major open-heart surgery. The present study capitalized on a previous report that used non-laboratory preoperative data of 235 patients undergoing open-heart surgery to predict their hospitalization(LOH) LOH following open-heart surgery. Methods: All patients underwent cardiac surgery (e.g., CABG, valve repair/replacement surgery), requiring CBP. Two weeks prior to their scheduled operation, trained research assistants blinded to cardiac indices and lab data recruited patients for a psychosocial study and conducted interviews. Key cardiac indices were obtained from a national database: the Society of Thoracic Surgeons' Adult Cardiac Database at the hospital. Blood samples were collected three days postoperatively for biomarker assays. Plasma was stored within 30 minutes of acquisition. Plasma IL-6 was measured using a sandwich enzyme immunoassay kit, Quantikine High-Sensitivity IL-6(R&D Systems, Minneapolis MN) with no modification of the manufacturer protocol. Results: Univariate analysis shows that significantly correlated with LOH were age, more medical comorbidities, perfusion time and postoperative IL-6. Results from the regression model predicting LOH[F(10,N=215)=8.042,p<.001,R<sup>2</sup>=.282], showed that, among known predictors in the previous report and other STS cardiac indices, only age, perfusion time and postoperative IL-6 were significantly associated with LOH(p<.01). Conclusion: Advancing the previous finding that linked postoperative IL-6 and perfusion time, this study associated IL-6 with LOH, which might mediate the impact of age and medical comorbidities shown in bivariate analyses.

**311. Readiness for Interprofessional Learning in the Innovative Community-Based Richmond Health and Wellness Program (RHWP) for Community Dwelling Older Adults,** *Sierra Alewine, Virginia Commonwealth University, School of Nursing; Antoinette Coe, Virginia Commonwealth University, School of Pharmacy; Pamela Parsons, Virginia Commonwealth University, School of Nursing; Elizabeth Pohoreskey, Virginia Commonwealth University, School of Nursing; Fay Parpart, Virginia Commonwealth University, School of Nursing; Kelechi C. Ogbonna, Virginia Commonwealth University, School of Nursing; Arzo Hamidi, Virginia Commonwealth University, School of Pharmacy*

**Objectives:** Examine students' attitudes towards interprofessional, team-based learning in a collaborative clinical practice setting

**Abstract Body:** The Richmond Health and Wellness Program (RHWP) is an innovative, interprofessional, student-led, care coordination and wellness clinic located in a Section-8 apartment building serving low-income health disparate older adults in Richmond, Virginia. Interprofessional student teams provide care coordination and chronic illness education during visits. At completion of the visit, students debrief with clinical faculty to discuss resident care plans. Student attitudes toward interprofessional learning were assessed prior to the experience with the 23-item Readiness for Interprofessional Learning Scale (RIPLS). Higher scores on the RIPLS indicate a more positive attitude towards interprofessional learning. Fifty-nine students completed the questionnaire for the Spring and Summer of 2014. The majority of students were under 30 years (70.7%), female (81.0%), and had at least some healthcare experience prior to starting their program (63.9%). Students disciplines included: nursing (BSN: n=18 (31.6%), NP: n=17 (29.8%)), pharmacy (n=6 (10.5%), medicine (n=7 (12.3%)), social work (n=4 (7.0%)), and other (n=5 (8.8%)) programs. The students had high mean values on the three RIPLS subscales indicating a readiness for interprofessional learning: teamwork and collaboration (M=4.4 (SD: 0.53); Cronbach's alpha=0.93), patient-centeredness (M=4.7 (SD: 0.62); Cronbach's alpha=0.94), and sense of professional identity (M=3.9 (SD: 0.72); Cronbach's alpha=0.80). There were no significant differences in the three subscales based on gender, age, prior healthcare experience, or program of study. Understanding students' readiness for interprofessional learning is important for faculty program development and evaluation. We will continue to evaluate student groups on these measures to ensure discipline specific congruency in their interprofessional learning attitudes.

**312. Examining the Role of Confounding Factors in Meta-analysis of Observational Cohorts of Aging Populations: Artificially-Sweetened Beverages and Type 2 Diabetes as an Example, Michelle Althuis, *EpiContext*; Michelle Althuis, *EpiContext*; Cara Frankenfeld, George Mason University, Department of Global and Community Health; Dominik Alexander, Epidstat Institute**

**Objectives:** 1. To examine the role of confounding factors in a meta-analysis of observational studies of a chronic disease of aging.; 2. To suggest a simple measure that quantifies the degree of measured confounding across studies included in the meta-analysis.; 3. To develop an approach to the evaluation and reporting of confounding factors in meta-analyses of observational studies that may be used by other investigators.

**Abstract Body:** Background: Interpretation of meta-analysis of aging cohorts that have decades of follow-up is complicated when exposure-disease relationships are weak/modest (i.e. relative risks < 1.4) and many potential confounding factors are present. An example of this challenge is nutritional epidemiology studies of chronic diseases, for which it is often unclear whether the association is attributable to a specific food item or collinear relationships with other diet and lifestyle factors. Methods: We examine this issue by evaluating the role of confounding factors in a meta-analysis of prospective studies of artificially-sweetened beverage (ASB) intake and type 2 diabetes (T2D). We present a structured approach, including a priori identification of confounders, assessment of control for confounding in the primary studies, and summary relative risk estimates (SRREs) for meta-analytic models with different levels of adjustment. Results: We synthesized data from 7 observational studies, noting considerable design heterogeneity overall, but particularly across statistical modeling approaches which included up to 17 co-variables. The pooled estimate for extreme categories of ASB intake across fully adjusted models (including body size, SRRE = 1.12, 95% CI 1.03 – 1.22; I<sup>2</sup> =39%) relative to the age-adjusted models (SRRE = 1.79) resulted in a large (83%) attenuation in T2D risk. Conclusion: Examining the influence of confounding factors is critically important for interpreting meta-analyses of observational cohorts of diseases of aging. The observed weak ASB-T2D association, which decreased considerably with adjustment for known/measured co-variables, suggests the use of caution is appropriate when interpreting the summary risk estimate.

**313. Getting Into the Mouth: The Effect of the EBMC-D Intervention on Refusals and Rejection of Mouth Care by LTC Residents with Dementia, S. Danielle Baker, University of Alabama at Birmingham SON; Rita Jablonski-Jaudon, University of Alabama at Birmingham; Vicki Winstead, University of Birmingham; Cortez Jones-Townsend, University of Alabama at Birmingham**

**Objectives:** To compare the effect of an evidence-based mouth care program (EBMC) to one that combines evidence-based mouth care practices with dementia-centric communication strategies (EBMC-D) on refusals and rejection of mouth care by LTC residents with dementia

**Abstract Body:** Background: Persons with dementia in long-term care (LTC) often refuse and reject mouth care. We compared an evidence-based mouth care program (EBMC) to one that integrated dementia-centric communication strategies (EBMC-D) in 7 LTC facilities on mouth care refusals and rejection. Methods: LTC residents with dementia who exhibited care-rejection behaviors during mouth care were randomized to experimental or control groups. Both groups received twice daily mouth care for three weeks from the research team. Care-rejection behavior was quantified during each mouth care interaction using a modified Resistiveness to Care Scale. Data were analyzed to capture overall refusals and amount of completed mouth care. Results: Sixty-eight residents participated: 34 in both the experimental and control groups. Mean age was 81 years; 76% were female and 80% were white. All had moderate to severe dementia (mean Global Deterioration Score, 6.0). Both groups were similar on all variables except for two. The experimental group had resided in LTC longer (26 months versus 14.5 months, p<0.01) and was more resistant to care (5.3 versus 3.0, p<0.01). The EBMC-D intervention reduced overall mouth care refusals (13% experimental versus 21% control, p<0.01) and improved completion rates (71.1%

experimental, 67.6% control, not statistically significant). Conclusion: Mouth care can only be delivered if LTC residents with dementia accept it. EBMC-D reduced refusals and rejection of mouth care. Although the difference in completion rates between the two did not approach significance, the difference may have been affected by the use of an active control.

**314. Facilitators and Barriers to Self-Management of Nursing Home Residents: Perspectives of Health Care Professionals in Korean Nursing Homes**, Hwal Lan Bang, *College of Nursing, and The Research Institute of Nursing Science, Seoul National University*; Hwal Lan Bang, *The Research Institute of Nursing Science, Seoul National University*; Ga Hye Kim, *College of Nursing, Seoul National University*; Ji Yeon Ha, *College of Nursing, Seoul National University*

**Objectives:** To explore facilitators and barriers of self-management from the viewpoint of staffs taking care of nursing home residents with multiple chronic diseases in South Korea

**Abstract Body:** Purpose: To explore facilitators and barriers of self-management from the viewpoint of staffs taking care of nursing home residents with multiple chronic diseases in South Korea. Methods: : A qualitative content analysis using the focus group interview method was used. Total of 23 health care professionals (16 nurses and 7 social workers) from three urban nursing homes with more than 100 beds were interviewed. Results: 5 facilitators were identified: grouping of the residents, awareness of the resident, willingness of the resident, residing in the facility, and support from the staffs. 7 barriers were identified: deterioration of health status of the resident, dependency of the resident, hesitant to ask for help, discrepancy of expectancy between the staffs and the resident and their family, deficient staffing and time, lack of standardized guidelines, and defensive attitude of the staff due to the rigid policy. Conclusion: The findings from this study should help nurses to recognize the factors that influence self-management and provide direction for nurses and other health professionals involved in supporting self-management programs for nursing home residents. Keywords: self-management, self-care, aged, focus group, geriatric nursing \*This study was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology.

**315. Comparison Of The MNA-SF, NRS-2002 And MUST Adequacy To Assess Malnutrition In Hip Fracture Operated Elderly Patients**, Yichayaou Beloosesky, *Department of Geriatrics, Rabin Medical Center, Petach Tikva, Sackler School of Medicine, Tel Aviv University, Israel*; Avraham Weiss, *Department of Geriatrics, Rabin Medical Center, Petach Tikva, Sackler School of Medicine, Tel Aviv University, Israel*; Avital Hershkovitz, *Beit Rivka, Geriatric Rehabilitation Hospital, Petach Tikva, Sackler School of Medicine, Tel Aviv University, Israel*; Irena Otzrateni, *Department of Geriatrics, Rabin Medical Center, Petach Tikva*; Ronit Anbar, *Nutrition unit , Rabin Medical Center, Petach Tikva, Sackler School of Medicine, Tel Aviv University, Israel*; Moshe Salai, *Nutrition unit , Rabin Medical Center, Petach Tikva, Sackler School of Medicine, Tel Aviv University, Israel*; Tamar Koren-Hakim, *Nutrition unit , Rabin Medical Center, Petach Tikva, Israel*

**Objectives:** To compare the adequacy of 3 nutritional screening tools, in hip fracture operated elderly patients.; To assess malnutrition and predict outcome in hip fracture operated elderly patients.

**Abstract Body:** Objectives: To compare the adequacy of 3 nutritional screening tools, to assess malnutrition and predict outcome in hip fracture operated elderly patients. Methods: Mini Nutrition Assessment Short Form (MNA-SF), Malnutrition Universal Screening Tool (MUST), Nutrition Risk Screening 2002 (NRS-2002) were prospectively determined. Length of stay (LOS), complications, 6 months readmissions, up-to 36 months mortality were recorded. Results: 215 patients (mean age  $83.5 \pm 6.09$  years) were included. According to the: MNA-SF; 95 patients were at risk of malnutrition, 25 were malnourished. MUST; 31 patients were at medium risk of malnutrition, 13 at high risk. NRS-2002; 70 patients were at medium risk of malnutrition, 11 at high risk. There was a significant relationship between the nutritional groups of the 3 scores ( $p < 0.001$ ). In all screening tools; BMI, weight loss and food intake prior to admission, were related to the patients' nutritional status ( $p < 0.001$ ). No differences in LOS & complications were found between the nutritional statuses of each screening tool. Only the MNA-SF could predict that well-nourished patients had less readmissions in a 6 months follow-up ( $p = 0.024$ ). During a 36 month follow-up, 79 patients died. Mortality was lower in the well-nourished patients of the MNA-SF vs. the malnourished ( $p = 0.001$ ) & at risk of malnutrition patients ( $p = 0.01$ ). Less significant association was found between the NRS-2002 patients' nutritional status and mortality ( $p = 0.048$ ). No such relationship was found using the MUST. Conclusions: All screening tools were adequate in assessing malnutrition parameters in hip fracture operated elderly patients. However, only the MNA-SF could also predict readmissions and mortality.

**316. Changes In Health In Older Adults: Comparing The Health Retirement Study And The English Longitudinal Study**, Rebecca Bendayan, *MRC Unit for Lifelong Health and Ageing University College London*; Andrea Piccinin, *Department of Psychology University of Victoria*; Scott M. Hofer, *Department of Psychology University of Victoria*; Scott M. Hofer, *Department of Psychology University of Victoria*; Graciela Muniz, *MRC Unit for Lifelong Health and Ageing*; , *MRC Unit for Lifelong Health and Ageing*

**Objectives:** The main aim of this study was to compare change in health over eight years in the Health Retirement Study (HRS) and the English Longitudinal Study of Ageing (ELSA). Comparing international studies of ageing through the same statistical analysis provides

**Abstract Body:** We compared change in health over 8 years in the Health Retirement Study (HRS) and the English Longitudinal Study of Ageing (ELSA). Nine measures of health were compared: self-reported health, activities of daily

living, fine motor skills, large muscles index and difficulties with activities as getting up from a chair, walking across a room, managing money, walking a block and climbing one or several flights of stairs. All variables were standardized to a 100-point scale, using self-rated health as standard, and rates of change for each individual computed. Within each study, all the variables declined with age but at significantly different rates. Similar patterns were found in both studies: large muscles index (49.45 points in HRS and 42.25 points in ELSA); climbing several flights of stairs (33.42 points in HRS and 30.01 points in ELSA); and, getting up from a chair (31.90 points in HRS and 23.51 points in ELSA) declined the most whilst managing money (6.21 points in HRS and 2.59 points in ELSA) and walking across the room (6.73 points in HRS and 2.37 points in ELSA) declined the least. Across studies, significant differences in all variables were found, with HRS indices declining the fastest compared to ELSA, except for the activities of daily living and the fine motor skills index. Having difficulties with climbing several flights of stairs, getting up from a chair, sitting during 2 hours, kneeling or pushing/pulling an object may be the most sensitive indicators of age-related decline in older adults.

**317. An Evaluation of a Geriatric Day Hospital and Outcomes at Four Months Post Discharge**, *Anna Berall, Baycrest; Paul Katz, Baycrest; Jurgis Karuza, Baycrest; Terumi Izukawa, Baycrest; Olivia Meggetto, Baycrest; David Jo, Baycrest*

**Objectives:** To describe functional and psychosocial characteristics of patients attending a geriatric day hospital, which offers interprofessional risk management and rehabilitation for older adults living in the community, and to follow up a cohort of patients to de

**Abstract Body:** Purpose: To describe functional and psychosocial characteristics of patients attending a geriatric day hospital, which offers interprofessional risk management and rehabilitation for older adults living in the community, and to follow up a cohort of patients to determine their status four months post discharge. Methods: A retrospective chart review and four month post discharge telephone calls were conducted for 39 patients. Findings: Mean age was 82.5 (5.8), 74.4% were female, 44.7% were married, 42.1% were widowed and 13.2% were divorced. On admission, 12% of patients had moderate to severe cognitive impairment (MMSE < 20). 10.5% had severe depression, Geriatric Depression Scale (GDS) >11, and 57.9% had mild depression GDS 5-10. 62.1 % of patients had medium to high risk for falls with a Berg Balance Scale of  $\leq 40$ . 90% of patients used a mobility aid with 74% using a walker. Clinical Frailty Scale (1-9) revealed 75% were mild to moderately frail and 14.3% were severely frail. Post discharge follow up calls indicated 24% of patients were hospitalized, a 14% decrease in reported falls, no significant difference in mobility aids, assistance with activities of daily living (ADL) and in living location, and only one death. Conclusion: This was an initial step in understanding the characteristics of the patient population and the processes of care. Even though patients had moderate to severe impairment and frailty, the geriatric day hospital appeared to have helped them successfully maintain their mobility, ADLs and remain in the community four months post discharge.

**318. Health Benefits of Dog Walking for Older Adults**, *Jessica Bibbo, University of Missouri; Angela Curl, University of Missouri; Rebecca Johnson, University of Missouri*

**Objectives:** Attendees will learn how dog walking is associated with physical health of older adults.; These findings will suggest to attendees that health interventions for older adults could be strengthened by including recommendations that encourage dog walking activities.;

**Abstract Body:** Pet ownership has been recognized as being instrumental in positively influencing one's health (e.g., petting a dog reduces blood pressure and cholesterol while increasing oxytocin and decrease cortisol; Friedmann et al., 1983; Odendaal & Meintjes, 2003). This study utilized recently released data from the 2012 wave of the Health and Retirement Study to explore the extent to which the physical activity and physical health of older adults is influenced by dog walking. Sample selection criteria included responding to the HRS in 2012 and being randomly selected for the Human-Animal Interaction Module (N=696). We tested the hypothesis that older adults who walk their dog would have better physical health and health behaviors than people who do not engage in dog walking. Five weighted regression models were conducted with dog walking as a key predictor of BMI status, number of ADL limitations, number of chronic conditions, frequency of moderate exercise, and frequency of vigorous exercise. All models controlled for age, gender, marital status, years of education, race, Hispanic ethnicity, and household income. We found that dog walking was associated with a half point lower body mass index ( $\beta = -.06$ ), fewer ADL limitations ( $\beta = -.08$ ), fewer chronic conditions ( $\beta = -.10$ ), and fewer doctor visits ( $\beta = -.08$ ). It was also associated with more frequent moderate exercise ( $\beta = 0.11$ ) and vigorous exercise ( $\beta = 0.13$ ). These findings suggest that health interventions for older adults could be strengthened by including recommendations that encourage dog walking activities.

**319. Bridging the Gap Between Aging and Disability: A Scoping Review**, *Kristen Bishop, Western University; Lynn Shaw, Pacific Coast University For Workplace Health Science; Sandra Hobson, Western University*

**Objectives:** To understand the scope of the theoretical and methodological approaches used in empirical research on the topic of Aging with Disability (AWD)

**Abstract Body:** Background: People aging with long-term disability are living longer than ever before, and presenting a number of new and unique challenges. 'Bridging the Gap' between aging and disability has drawn international attention, however successful partnerships have been hindered. In order to address these challenges this population presents, we must



first understand the state of the knowledge base and how the topic of aging with disability (AWD) is being approached in the literature. Purpose: The purpose of this scoping review was to understand the scope of the theoretical and methodological approaches used in empirical research on the topic of Aging with Disability. Methods: A scoping review was completed using Arksey & O'Malley's (2005) framework. Twenty-two articles met selection assessment criteria. Results: The AWD knowledge base is fragmented. Terminology is not consistently defined, methodologies are not always clearly articulated, authors are not grounding their work theoretically, and few articles make distinctions between AWD and aging 'into' disability (AID). On the other hand there is a trend toward pluralism within the knowledge base as a number of disciplines are interested in, and are collaborating on AWD work. Discussion/Conclusion: There is a need for increased interdisciplinary collaboration and a clearly defined framework to extend future pluralism in AWD. A central venue is needed to publish and access AWD literature. Future research should explore male experience of AWD and role of finances in AWD. There is a need to improve consistent use of terminology, clearly define populations, theoretically ground research and ensure coherence in methodologies.

**320. The Natural Course of Later Life Disability in Older Persons.,** *Nienke Bleijenberg, University Medical Center Utrecht, department Julius Center for Health Sciences and Primary Care.; Peter Zuithoff, Julius Center for Health Sciences and Primary Care, department of Biostatistics, University Medical Center Utrecht.; Niek de Wit, . Julius Center for Health Sciences and Primary Care, department of General Practice; Marieke Schuurmans, Department of Rehabilitation, Nursing Science and Sports Medicine, University Medical Center Utrecht*

**Objectives:** After attending this session, participants will be able to: (1) discuss the course of ADL and IADL disability and the influence of specific characteristics on this disabling process;; and (2), have a better understanding of the prevalence per specific ADL/IADL disability and why this is important for the development of interventions aimed at preventing disability in older people.

**Abstract Body:** Maintaining independence as long as possible is an important goal for older people. However, each year 10% of non-disabled older persons develop disability, i.e. the need for assistance in activities of daily living (ADL) such as bathing and dressing. Moreover even a higher percentage develops disability in instrumental ADL (IADL). Until now, community-based interventions aimed at preventing disability in older people have shown conflicting results or modest effects. To enable the design of successful interventions an in-depth understanding of the course of disability is needed. The aim of this study is to examine the course of disability on (I)ADL in a community-based population (n=830) aged 60-95 years and examine the influence of personal characteristics and chronic conditions. Disability was measured with the modified Katz-15 index. Generalized linear mixed models were applied. The mean age was 74.6 (SD: 8.8), 54.6% were woman and the average number of chronic conditions was 1.91 (SD: 1.4). Disabilities with the highest prevalence over time were shopping, traveling, and household tasks (prevalence range between 25-47% for an older person aged 75 years). Disabilities with the lowest prevalence were using the telephone, managing finances, medication, and transfer (prevalence range between 2-6% for a 75 years old). The prevalence of bathing and preparing a meal showed a similar pattern over time. Females, older persons with a low education and more chronic conditions showed greater levels of dependence compared to their counterparts. The results inform and facilitate the design of future personalized interventions aimed at preventing disability.

**321. Hearing Assessment and Personal Amplifier Use in a Multidisciplinary Geriatric Evaluation and Management (GEM) Clinic,** *Becky Brott Powers, Veterans Affairs Pittsburgh Healthcare System Geriatric Research Education and Clinical Center; Marcia Homer, Veterans Affairs Pittsburgh Healthcare System Geriatric Research Education and Clinical Center; Michelle Rossi, Veterans Affairs Pittsburgh Healthcare System Geriatrics Research Education and Clinical Center*

**Objectives:** To report on the addition of audiology to a multidisciplinary Geriatric Evaluation and Management (GEM) Clinic. Quality improvement efforts focused on hearing testing for all patients and personal amplification use during clinic visits

**Abstract Body:** Background: Hearing loss affects approximately two-thirds of adults in their seventies with only a small percentage ever wearing hearing aids. Age related hearing loss is associated with several geriatric syndromes including functional decline, depression, dementia, and increased hospitalizations. Hearing loss is frequently unrecognized by healthcare providers and may lead to communication breakdowns in the healthcare setting. Clinic Development: The Geriatric Evaluation and Management (GEM) Clinic in the Pittsburgh VA is a consultative comprehensive geriatric assessment clinic previously consisting of eight disciplines including: geriatricians, geriatric psychiatrists, geropsychologists, pharmacists, social workers, physical therapists, occupational therapists, and speech therapists. To address patient needs, audiologists were recently added to the GEM team. Audiologists see all patients first to perform audiometric testing, to check existing hearing aids, and to fit patients for hearing aids if needed. If a previously unknown hearing loss is detected, the patient is loaned a personal amplifier to use while meeting with the other GEM Clinic consultants. These consultants were then asked what percentage of the conversation they thought the patient could hear. Findings: Of the first 14 patients to complete a full GEM evaluation with audiology, 10 had hearing loss. Four of those were new diagnoses, and of the remaining 6 only 2 wore their hearing aids. Not all patients wore personal amplifiers when suggested. This was found to be

due to provider education issues and a Plan-Do-Study-Act model was initiated to remediate this. When personal amplifiers were worn, provider ratings of patient speech understanding rose from 80% to 96%.

**322. Do Older Home Care Clients Need Help To Get Up After Falling?**, *Elissa Burton, Curtin University and Silver Chain; Gill Lewin, Curtin University and Silver Chain*

**Objectives:** This study aimed to determine the proportion of home care clients who had fallen over 12 months and to identify whether they used an ambulance to help them up

**Abstract Body:** One in three older Australians have at least one fall each year and if they are receiving home care services they are likely to fall more frequently [1]. Many who fall are uninjured, but have difficulty in getting themselves up off the floor. In the United Kingdom they found 293,000 ambulance call-outs were made over a year by older people who needed assistance to get up from where they had fallen, at a cost of £75.5 million pounds. Yet in Australia little is known as to whether this is an issue or not. A sample of 11,080 clients from two health and community care organisations was invited to complete a survey. Survey data were summarised using descriptive statistics. Response rate was 32.5% with the majority of respondents being female (52.7%) and aged between 70-89 years (58.3%). Over 40% of respondents had had a fall during the previous year and of these, 30.1% had called an ambulance to just help them get up. As the minimum cost of an ambulance in Western Australia is \$847, approximately \$376,915 would have been spent on this group who required no medical assistance. A relatively high proportion of home care clients who fall cannot get up off the floor and are calling an ambulance for assistance. As the population ages the numbers of older people in this situation can be expected to increase. Further research is required to ascertain the size of this problem across Australia and to identify cost effective strategies to address it. References: 1.Smith J, Lewin G. Home care clients' participation in fall prevention activities. *Australasian Journal of Ageing*. 2008;27(1):38-42.

**323. Prevalence and Risk Factors of Atrial Fibrillation in Chinese Elderly: Results from the Chinese Longitudinal Healthy Longevity Survey**, *Choy-Lye Chei, Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore, Singapore; Prassanna Raman, Health Services and Systems Research, Duke-NUS Graduate Medical School Singapore, Singapore; Zhao-Xue Yin, Division of Non-Communicable Disease Control and Community Health, Chinese Center for Disease Control and Prevention, Beijing, China; Xiao-Ming Shi, Division of Non-Communicable Disease Control and Community Health, Chinese Center for Disease Control and Prevention, Beijing, China; Yi Zeng, Center for Study of Healthy Aging and Development Studies, Peking University; David Matchar, Center for Study of Healthy Aging and Development Studies, Peking University*

**Objectives:** To recognize population-specific differences in AF prevalence; To understand the specific AF risk factors for an elderly Chinese population;

**Abstract Body:** Prevalence of atrial fibrillation (AF) is increasing as the world ages. AF is associated with higher risk of mortality and disease, including stroke, heart failure, and dementia. Prevalence of AF differs with each population studied, and research on non-Western populations and the oldest old is scarce. We used data from the 2012 wave in the Chinese Longitudinal Healthy Longevity Survey, a community-based study in eight longevity areas in China, to estimate AF prevalence in an elderly Chinese population (N=1418, mean age= 85.6 years) and to identify risk factors. We determined presence of AF in our participants using single-lead echocardiograms. The weighted prevalence and 95% confidence intervals of AF were estimated in subjects stratified according to age groups (65-74, 75-84, 85-94, 95 years and above) and gender. We used logistic regressions to determine the potential risk factors of AF. We found that the prevalence of AF was 3.5%; 2.4% of men and 4.5% of women had AF ( $p>0.05$ ). The overall prevalence rate in our study was higher compared to prevalence in other Asian populations. This was the first study to report an association between AF and being underweight, in addition to being overweight/obese. We also found that advanced age (85-94 years), history of stroke or heart disease, low triglyceride levels, and no regular physical activity were associated with AF. In urban elderly, AF prevalence increased with age ( $p<0.05$ ), and in rural elderly, women had higher AF prevalence ( $p<0.05$ ). Further exploration of population-specific risk factors is needed to address the AF epidemic

**324. Geographic Disparities of Dementia Risk in Older Women: Evidence from the WHI Memory Study**, *Jiu-Chiuan Chen, 1Department of Preventive Medicine, University of Southern California, Keck School of Medicine; Xinhui Wang, 1Department of Preventive Medicine, University of Southern California, Keck School of Medicine.; Steven Cen, Department of Neurology, University of Southern California, Keck School of Medicine; Julia Robertson, 5Department of Biostatistical Sciences, Division of Public Health Sciences, Wake Forest University School of Medicine; Jack McArdle, Department of Psychology, University of Southern California; Mark Espeland, Department of Psychology University of Southern California*

**Objectives:** To describe the geographic differences in the risk for dementia in older women in the US; To determine the population and individual characteristics contributing to the observed geographic disparities;

**Abstract Body:** Geographic disparities of stroke in the US have been documented for decades, but examining geographic difference in dementia incidence has been difficult in multi-site populations with only few studies using identical design and measurements. We conducted a prospective (1996-2010), population-based study on 7479 community-dwelling, cognitively-intact older women (aged 65-80 years) from the Women's Health Initiative Memory Study (WHIMS) across 40+ centers in

24 states. Identical WHIMS protocols (based on central adjudication with detailed cognitive screening, neuropsychiatric evaluation, and clinical examinations) were used to ascertain dementia by the DSM-IV criteria. Baseline geographic indicators were determined according to US-census and NHLBI-defined Stroke-Belt regions. Cox models were constructed to examine the geographic differences in dementia and Alzheimer's disease (AD) incidences. Of 318 (157 AD) incident dementia, 52 (28 AD) were among Stroke-Belt residents (n=748). We found significant regional differences in dementia and AD risk (p=0.01). Comparing Stroke-Belt residents to non-Belt residents, the adjusted hazard ratios (HRs, 95% confidence intervals) were 1.75 (1.29-2.38) for dementia and 1.96 (1.29-2.97) for AD, adjusting for age, race/ethnicity, and socioeconomic status. Such disparities between Stroke-Belt and non-Belt regions remained for dementia (HR=1.49, 1.05-2.12) and AD (HR=1.57, 0.96-2.55), after further adjusting for lifestyles, depressive symptoms and Framingham stroke risk profile. This study provides the first epidemiologic evidence for geographic disparities in dementia risk of older women in the US. Late-life residence in Stroke-Belt region increased the subsequent risk for dementia including AD. Future studies need to examine other socio-environmental determinants of geographic disparities in dementia risk of older women.

**325. Senior's Sweet Tooth: Age-Associated Preference for Carbohydrates in the Baltimore Longitudinal Study of Aging,** *Chee Chia, National Institute on Aging; David Liu, National Institute on Aging; Toshiko Tanaka, National Institute on Aging; Eleanor Simonsick, National Institute on Aging; Josephine Egan, National Institute on Aging; Luigi Ferrucci, National Institute on Aging*

**Objectives:** To characterize the longitudinal association between carbohydrate consumption and age

**Abstract Body:** Taste bud number and sweet taste sensitivity have been found to decline with age. Whether such changes affect dietary preferences, such as carbohydrate consumption, during aging has not been studied although would be of great interest given the potential effects on metabolic disease risk. We hypothesized that the decline in sweet taste sensitivity with age may lead to a compensatory increase in carbohydrate consumption. Using repeated 7-day food diary data from 1454 participants (51% men) in the Baltimore Longitudinal Study of Aging with at least two visits starting from 1984, we examined %carbohydrate-intake (calories from carbohydrates divided by total calories). At analytic study baseline, participants had the following characteristics: age (men:63.4±15.1years;women:58.0±16.1years), waist circumference (men:93.7±10.4cm;women:81.3±11.4cm), number of visits (men:2.2±1.5;women:2.1±1.4), follow-up years (men:5.5±7.1years;women:5.3±6.9years), %carbohydrate-intake (men:48.4±9.0%;women:49.5±8.8%), total-intake (men:2112±510kcal;women:1734±485kcal). Sex-stratified mixed-effect models adjusted for waist circumference and date-of-visit evaluated the associations between age and %carbohydrate-intake over time. In men, there was a strong positive association between age and %carbohydrate-intake (Age:β=0.048,95%CI=0.009–0.087,P<0.05). In women, there was a significant quadratic association between age and %carbohydrate-intake with an inflection point (trough) at age 57 (Age<sup>2</sup>:β=-0.326,95%CI=-0.526–0.126,P<0.01; Age:β=0.003,95%CI=0.001–0.005,P<0.001). Findings of increased carbohydrate consumption with aging are consistent with the observed age-related decline in taste bud number and sweet taste sensitivity. Whether this age-related change in dietary habits is a compensatory response to reduced sweet sensitivity or reflects food marketing trends and/or ease of preparation in the face of declining capacities remains to be established. The quadratic relation of age with %carbohydrate-intake in women also warrants more study.

**326. Bisphosphonate and Walking Aid Associated Upper Extremity Stress Fractures,** *Grace Shu Hui Chiang, National University Hospital; Kelvin W.B Koh, St Lukes Hospital; Tsung Wei Chong, St Lukes Hospital; Boon Yeow Tan, St Lukes Hospital*

**Objectives:** To increase awareness among both physicians and patients about the possibility of upper extremity stress fractures occurring and the signs and symptoms associated with such fractures.; To highlight that the risk of upper extremity stress fractures is higher in patients who are on bisphosphonate therapy and use walking aids.

**Abstract Body:** Introduction: Upper extremity stress fractures are rare. However, the likelihood of such fractures occurring increases in patients on long-term bisphosphonate therapy and who use walking aids. Case Description: A 77 year old female, was started on alendronate for osteoporosis in 2004. 9 years after starting alendronate, she suffered an atraumatic fracture of the right ulna. The patient had noted pain of her right forearm for 3 months, however pain had worsened when she had transferred more weight to her right forearm whilst ambulating with a walking cane. X-ray of the right forearm showed a transverse fracture of the proximal shaft of the right ulna with increased sclerosis around the fracture. She was active pre-morbidly and ambulating with a walking cane for 6 years. She did not have premature menopause or history of steroid use. Physical examination revealed right forearm deformity with tenderness, neurovascularly intact. Laboratory work-up was normal. Bone scan showed no scintigraphic evidence of bone metastasis. In view of the atraumatic nature of the fracture, X-ray findings distinctive of atypical fractures and further investigations excluding other causes of atypical fractures, the diagnosis of atypical ulna shaft fracture secondary to long term alendronate use was made and alendronate was discontinued. Conclusion: This case illustrates the importance of having a high index of suspicion of upper extremity stress fractures occurring in patients who complain of chronic upper limb pain if they are on bisphosphonate therapy and are using walking aids. Early detection will facilitate appropriate management.

**327. High-Dose Inactivated Influenza Vaccine is Associated with Cost Savings Compared to Standard-Dose Inactivated Influenza Vaccine in Seniors, Ayman Chit, Sanofi Pasteur; Debbie L. Becker, OptumInsight; Carlos A. DiazGranados, Sanofi Pasteur; Michael Maschio, OptumInsight; Eddy Yau, inVentiv Health Clinical; Michael F. Drummond, inVentiv Health Clinical**

**Objectives:** High Dose (HD) influenza vaccine reduces health care resource utilization compared to Standard Dose (SD) influenza vaccines; Compared to SD vaccine, HD vaccine saved the health care system over \$100/person immunized even after accounting for the cost of the vaccine

**Abstract Body:** Background: Adults  $\geq 65$  years of age account for most seasonal influenza-related hospitalizations and deaths. A recent head-to-head RCT (FIM12, NCT01427309) demonstrated that a high-dose influenza vaccine (HD) was 24.2% more efficacious than a standard-dose influenza vaccine (SD) in adults 65+ years. This economic sub-study estimates the total medical and societal costs in FIM12 participants. Methods: Health care resource utilization data collected in the FIM12 study included: medications, non-routine medical and emergency room visits, and hospitalizations. Utilized resources were summarized across vaccine arms and unit costs were applied, using standard US cost sources, to each resource item (including vaccines; HD \$31.82; SD \$12.04) to estimate the mean total direct medical and societal costs associated with each vaccine. Results: The average medical costs (including influenza vaccine cost) per-participant were \$106 lower in the HD arm. In both arms, hospitalizations represented over 95% of the total cost and were less frequent in the HD arm (7.7% of HD participants reported  $\geq 1$  hospitalization versus 8.4% in SD arm) and average length of stay (LOS) across all participants was shorter in the HD arm (0.4859 days (HD) vs 0.5626 days (SD)). The average per-participant societal costs were \$118 lower for HD. Conclusions: Despite the higher price of HD compared to SD, the total direct medical and societal costs were over \$100 lower per vaccinee in those who received HD. This was driven by a reduction in the number of hospitalizations as well as in the LOS for those hospitalized.

**328. Integrating Gerontological Nursing Evidence-Based Guidelines in Nursing Education, Karen Clark, Our Lady of the Lake College; Stazel Guerin, Our Lady of the Lake College; Lisa Skemp, Our Lady of the Lake College; Fayron Epps, Our Lady of the Lake College; Bronwyn Doyle, Our Lady of the Lake College; , Our Lady of the Lake College**

**Objectives:** Describe the gerontological nursing EBP guideline classroom project; Discuss classroom strategies for infusing gerontological nursing science into the nursing curriculum.

**Abstract Body:** As gerontological nursing science expands to meet the needs of a growing population, nursing education must prepare students to understand and use evidence-based practice (EBP) in the care of older adults. Yet the majority of nurses have limited preparation in gerontological nursing EBP. Purpose This study evaluated a class project whereby pre-nursing students reviewed, researched and then presented the John A. Hartford Foundation Center of Geriatric Nursing Excellence Evidence-Based Practice guidelines to members of the college community. Methods An educational evaluation survey was conducted with 420 students and 41 faculty who participated in the EBP project. The seven-question survey assessed perceptions of the EBP project. Face to face interviews were conducted with eight faculty members who taught the course. Findings 343 students and 27 faculty reported an improved understanding about EBP (88%/93% respectively), increased knowledge about gerontological nursing (84%/100%), a positive influence on perceptions of older adults (83%/96%), and improved provision of care of older adults (73%/96%). Faculty stated "it enhances their practice and helps them understand why we do what we do" and "make the connection from research to practice". Students stated they "have more respect" and it "sparked" their interest in gerontology. Faculty expressed students "stopped looking at them just as old people but as human beings with emotions and feelings". Recommendations Engage more faculty and integrate EBP across the curriculum. Limitations Composite of all six classes and a variety of educators conducting the project. After attending this activity, participants will be able to: 1. Describe the gerontological nursing EBP guideline classroom project. 2. Discuss classroom strategies for infusing gerontological nursing science into the nursing curriculum.

**329. A Comparison of Characteristics by Age of Hospitalized Adults with a Diagnosis of Malnutrition: United States, 2010, Rose Ann DiMaria-Ghalili, Drexel University College of Nursing and Health Professions; Jamie Slaughter, Drexel University; Elizabeth Gonzalez, Drexel University; Purni Abeysekara, Drexel University; Helaine Resnick, American Society for Parenteral and Enteral Nutrition; Peggi Guenter, American Society for Parenteral and Enteral Nutrition**

**Objectives:** . To compare the differences in demographic characteristics, cost, and comorbidities between older and younger hospitalized adults with diagnosis of malnutrition from the 2010 Healthcare Cost and Utilization Project (HCUP)

**Abstract Body:** Purpose: To examine differences in demographic characteristics and comorbidities in a nationally representative sample of older ( $\geq 65$  years) and younger (18-64 years) hospitalized patients with diagnosis of malnutrition (dxmal). Methods: Data are from the 2010 Healthcare Cost and Utilization Project (HCUP), which contain patient-level data with ICD-9CM diagnosis codes on hospital inpatient stays. Data were weighted to generate nationally representative estimates of US hospitalizations. Characteristics of older and younger adults with a dxmal during their hospital stay were identified and compared. Results: Among patients with a dxmal, those  $\geq 65$  years were 1.5 times more common than those  $< 65$  (727,858 vs 467, 378). Older dxmal patients were more likely to have chronic comorbidities than younger adults. However, among older dxmal patients, length of stay (11.6 vs 13.7 days,  $p < .001$ ) and cost of care (\$80,191 vs 106, 535,  $p < .001$ ) were lower and more older dxmal patients died during their hospital stay (10.7% vs 6.6%,  $p < .001$ ). Older dxmal

patients were three-times more likely to be admitted to the hospital from a skilled nursing facility (6.4% vs 2.0%,  $p < .001$ ), and twice as likely to be discharged to an intermediate or skilled care facility (49.2% vs 25.0%,  $p < .001$ ). Conclusions: Older hospitalized dxmal patients appear to be more frail and have greater comorbidity than their younger counterparts. While their length of stay and cost of care is lower, their mortality is higher. It may be beneficial to carefully monitor nutritional status in hospitalized older adults with dxmal, especially those admitted from skilled nursing facilities.

**330. Aging-in-Place: The Service Needs of Minority Seniors**, *Suzanne Dupuis-Blanchard, Université de Moncton; Odette Gould, Mount Allison University; Danielle Thériault, Université de Moncton; Lita Villalon, Université de Moncton; Caroline Gibbons, Université de Moncton*

**Objectives:** Participants will be able to better understand the needs of minority seniors for aging-in-place.; Participants will be able to describe the challenges faced by minority seniors for aging-in-place.

**Abstract Body:** Aging-in-place is gradually making grounds as a long term care option in North America. In fact, in Canada, only 8% of older adults are institutionalized while the majority are living in the community. However, for aging-in-place to be successful, older adults need access to appropriate community supports and services. For minority French speaking older adults living in dominantly English speaking communities, access to services is problematic. The goals of this qualitative descriptive study were: 1) to better understand aging-in-place for minority French speaking older adults living in three English dominant communities in the province of New Brunswick (Canada); 2) identify the services required to support successful aging-in-place. Thirty-eight minority French speaking older adults over the age of 75 years, aging at home, and residing in three specific communities were interviewed. Semi-structured interviews were recorded and transcribed followed by content analysis to identify common themes related to study objectives. Results confirm the general lack of services for aging-in-place and the greater difficulty of obtaining services in a minority language. Participants explained that it takes too long to obtain services in French. Accepting services is also substantial since many participants related asking for services to accepting loss of independence. Also, contrary to popular belief, the most common services required are not healthcare but home maintenance related. This project provides a better understanding of the needs in services of minority speaking seniors living in dominant English speaking communities and confirms the need for continued research on this topic.

**331. Recruiting African-Americans With Dementia And Their Family Caregivers: What Worked**, *Fayron Epps PhD, RN, Our Lady of the Lake College/NHCGNE Claire M. Fagin Fellow 2013-15; Lisa Skemp PhD, RN, FGSA, FAAN, Our Lady of the Lake College/University of Iowa; Janet Specht PhD, RN, FGSA, FAAN, University of Iowa*

**Objectives:** After attending this session, participants will be able to explain recruitment strategies used to access the African American families that are caring for loved ones with dementia.; After attending this session, participants will be able to discuss the benefits and barriers associated with recruiting African-American dementia families.;

**Abstract Body:** Challenges of accessing and recruiting African American (AA) research participants has been explained by a lack of trust developed because of historical ethical issues such as the Tuskegee Syphilis Study and Henrietta Lacks' "immortal" cells. Additionally, dementia is a dormant topic among the AA community. Consequently, advancing the understanding of and treatment for many conditions in the AA population are hampered because of these barriers. The purpose of this presentation is to describe recruitment approaches that were used while conducting a qualitative descriptive study on family involvement in health promotion activities for AA older adults with dementia. Recruitment strategies went beyond the current thinking related to having a minority recruiter and recruiting from faith-based organizations. These strategies included becoming familiar with the context of southern Louisiana through systematic engagement with the community and attaining buy-in from formal and informal contacts. Field notes and journals were kept and a tracking matrix emerged that facilitated management and assured accountability during recruitment efforts. Field notes were reviewed using inductive content analysis. Themes included "gaining trust", "community engagement", "networking", "follow-up", and "visibility". Most importantly, "purposeful activity" through attending social gatherings resulted in surprising success for recruitment. Barriers identified were the context of words and terminology linked to dementia and family dynamics associated with AA caregiving. Benefits included community awareness and development of community and family partnerships. To have successful AA participation in research, it's necessary to understand their culture, make research appealing, think "out the box" and show a beneficial gain.

**332. Functional Disability and Ability in 75-year-olds: A Comparison of Two Swedish Cohorts Born 30 Years Apart.**, *Hanna Falk, Institute of Neuroscience and Physiology at Sahlgrenska Academy, University of Gothenburg; Ingmar Skoog, Institute of Neuroscience and Physiology, Sahlgrenska Academy at University of Gothenburg*

**Objectives:** To compare the level of functional disability and involvement in leisure activities between two birth cohorts of Swedish 75-year-olds examined in 1976-77 and 2005-06

**Abstract Body:** Objective - To compare the level of functional disability and involvement in leisure activities between two birth cohorts of Swedish 75-year-olds examined in 1976-77 and 2005-06. Design - Cohort comparison. Setting and Participants - Representative data from the general population in Gothenburg, Sweden, examined at age 75 in 1976-77 (N=744), and in 2005-06 (N=731) with comprehensive somatic and psychiatric examinations. Measurements - Activities of daily living (ADL); Instrumental activities of daily living (IADL); a battery of self-report measures, including involvement in

leisure activities, satisfaction with home environment, social networks, and self-rated health. Results - Functional disability in ADL decreased between the cohorts (13.9% vs. 5.6%,  $p < .001$ ). Functional disability in IADL also decreased between the cohorts (33.4% vs. 13.0%,  $p < .001$ ). Combining ADL and IADL resulted in an overall decreased dependency, with the largest decrease seen in women (42.3% vs. 15.1%,  $p < .001$ ). Involvement in leisure activities increased between the cohorts. For example, the proportion going on international and domestic holiday travels increased (44.6% vs. 72.8%,  $p < .001$ ), and the proportion who independently drove their own car also increased (10.0% vs. 53.0%,  $p < .001$ ). Conclusion - Later born cohorts of 75-year-olds are less dependent in activities of daily living and more engaged in leisure activities compared to earlier cohorts. Later born cohorts of 75-year-olds are thus better equipped to maintain a non-age related identity compared to earlier cohorts. Our findings might serve as a reason to adopt a more positive view to aging in a world with an increasing number of older people.

**333. Prevalence and Predictors of Potentially Inappropriate Medications in Frail Elderly**, *Joseph Finkelstein, Johns Hopkins University; Xuan Li, Johns Hopkins University*

**Objectives:** To identify prevalence of potentially inappropriate medications in frail elderly; To identify risk factors of potentially inappropriate medications in frail elderly; To compare prevalence and risk factors of potentially inappropriate medications in frail and non-frail elderly

**Abstract Body:** Frailty is associated with the decline of physiologic reserves in multiple systems and the inability to respond to stressful insults. Inappropriate medication prescription may result in significant adverse events which in frail elderly frequently lead to hospitalization. The objective of this project was to estimate prevalence of potentially inappropriate medications (PIM) in frail and non-frail elderly and identify PIM predictors. The National Health and Nutrition Evaluation Survey (NHANES) dataset (2003-2006) containing results from 20470 participants was used for the analysis. Frailty was identified using previously validated criteria reflecting physical, psychological and social domains of frailty. Physical activity was measured by an accelerometer, psychological and social domain variables were based on self-report. PIM prevalence in frail elderly was 44% both in males and females, 44% in Whites and 48% in Blacks. PIM prevalence in non-frail elderly was significantly lower in all subgroups (males: 36%; females 35%). PIM prevalence depended on underlying condition and number of comorbidities. Frail elderly with CHF had highest PIM prevalence (79.5%). Increase in comorbidities resulted in increase of PIM. PIM prevalence in frail elderly with one chronic condition was 37%; more than 5 conditions was associated with 82% PIM prevalence. After adjustment for covariates in logistic regression, following factors were identified as significant predictors of PIM in frail elderly: polypharmacy (OR=6.1; CI=3.1-11.8), health status compared to a previous year (OR=2.4; CI=1.3-4.6), and private insurance coverage (OR=0.5; CI=0.2-0.9). PIM is widespread in frail elderly. Risk factors for PIM may help in identification and prevention of PIM in elderly.

**334. A Virtual Healthcare Neighborhood: Providing Support for Dementia Caregivers**, *Christianne Fowler, Old Dominion University*

**Objectives:** Review the impact dementia caregivers have on our healthcare community.; State the components of the Virtual Healthcare Neighborhood; Review the results of the VHN study

**Abstract Body:** INTRODUCTION One out of every nine people in the United States over 65 has dementia. In 2014, care for those with Alzheimer's disease is expected to cost the United States \$214 billion. Many of these individuals are cared for by informal family caregivers. These caregivers provide approximately 17 billion hours of unpaid care each year averaging 20 hours a week. This care saves the healthcare system over \$220 billion per year. The Virtual Healthcare Neighborhood (VHN) was developed as an interactive website to help meet some of the needs of dementia caregivers (CG) in hopes of helping them continue in this role. METHODOLOGY 28 individuals caring for a homebound person with dementia were recruited from Alzheimer's support groups. They were enrolled in either a control group, receiving usual support, or an intervention group participating in the 4 month VHN. The VHN provided education, access to interprofessional providers and virtual interactive support for the CG's. Both groups were also given a sleep actigraphy band to monitor their sleep quantity and quality. At the beginning and end of the study they were given several surveys (demographic, CG burden, ADL, self efficacy, insomnia severity, agitation). RESULTS There were 14 participants in each group. Results of the surveys, qualitative data and the sleep actigraphy information are currently being evaluated. Information will be presented describing the demographic characteristics and measures of any differences between groups. Implications and further research plans will also be presented.

**335. Risk and Protective Factors Affecting Decline in Cognitive Functioning Among Newly Admitted Residents to Long-Term Care**, *Shannon Freeman, School of Health Sciences, University of Northern British Columbia; Lina Spirgiene, Lithuanian University of Health Sciences; Melinda Martin-Khan, University of Queensland School of Medicine; John Hirdes, University of Waterloo*

**Objectives:** To examine modifiable risk factors driving decline in cognitive status among residents newly admitted to long-term care facilities.; To highlight that decline in cognition is not inevitable for persons upon entry to a long term care facility and that there are things that a facility can do to reduce the risk for decline in cognitive status (ex. minimize restraint use and engage all residents regardless of presence/absence of a diagnosis of dementia) in social activities and life in the facility.;

**Abstract Body:** Introduction: Declining cognitive function impacts on an individual's perception of their quality of life (QoL). We examined factors affecting that affect cognitive decline among residents newly admitted to a long-term care facility (LTCF) to identify factors amenable to intervention. Methods: Secondary data analysis used interRAI Minimum Data Set (MDS 2.0) data gathered at admission and first follow-up assessment. The study population included 111,052 residents (aged  $82.9 \pm 9.8$  years; range 18 to 110 years) from LTCFs in Ontario, Canada. Regression analyses investigated the role of physical restraints, antipsychotic use, and indicators of engagement in social activities affecting cognition in LTCFs. Analyses were stratified based on presence/absence of diagnosis of dementia. Results: Nearly 15% of residents (n=17,444) exhibited decline in cognition at follow-up. Residents with one or more physical restraints (chair, trunk, and limb) were at increased risk for cognitive decline evidenced among residents with and without a diagnosis of dementia. Antipsychotic medication use did not emerge as a strong predictor of cognitive decline. Social engagement was protective against cognitive decline and more pronounced for residents without a diagnosis of dementia. Conclusion: Physical restraint use was closely linked with decline in cognition and should be avoided, or used only as a last resort. Engagement in social activities should begin for all residents as soon as possible upon entry to the LTCF even for persons with diagnosed dementia. Prioritization of social networks and increased involvement in LTCF activities may decrease risk for cognitive decline thereby improving or maintaining resident QoL.

**336. Decision Support Through Focused Observations From the Electronic Health Record: The Informing of Non-Clinical Skilled Professionals Using HEADS-UP Technique, James Friedman, University of Minnesota, School of Nursing**  
**Objectives:** 1.The viewer will be able to discuss the components of the HEADS-UP review technique.; 2.The viewer will be able to discuss the proposed benefits of the HEADS-UP review technique.;

**Abstract Body:** The HEADS-UP template is a documentation review technique, applicable in both electronic and paper documentation, to develop an understanding of the current status of an individual. The purpose of the HEADS-UP technique is to direct a focused review of the Electronic Health Record (EHR) or paper health record of a given individual, in key areas, to develop a general understanding of the diagnoses and co-morbidities involved, overall wellness, and possible areas of concern for an individual. This practice informs the general understanding of illnesses with which an individual is living and to what degree that individual may be burdened by symptoms and disease. Additionally, the HEADS-UP technique fosters critical thinking in the non-clinical reviewer in terms of how various factors may influence an individual's life, identification of possible resource needs and highlighting shared decision making opportunities. The acronym, HEADS-UP, represents areas of review: number of Hospitalizations in the last 12 months, number of Emergency department visits in the last 12 months, Advance care planning, current Diagnoses, current and recent Symptoms, Unknowns or questions raised, and Pharmacology or medication regimen. The reviewer undertakes a concise, review of the documentation present in these areas of a patient's chart. The knowledge gleaned is then applied to the building of relationship, and to the process of identifying what matters most to patients and those close to them. The desired outcome is the empowerment of patients and those close to them, in collaboration with providers to actualize richly informed, patient directed plans of care.

**337. Combined Ratchet and Twiddler's Syndrome, Manfred Gogol, Hospital Lindenbrunn Departemnt of Geriatrics**

**Objectives:** Know that Twiddler's syndrome is a rare but typically complication of pacemaker therapy in the elderly.; Know reasons an early signs for the syndrome.; Know management strategies.

**Abstract Body:** Twiddler's syndrome is a rare but serious and potential life-threatening complication of pacemaker (PM) implantation. We report a case of an 80 year old man who came for inpatient geriatric rehabilitation after major abdominal surgery with a longterm complicated course on ICU. He received a single lead ICD three years ago and chest X ray (CXR) demonstrated a correct positioning of pacemaker (PM) and lead in April 2011. Three years later we revealed a Twiddler's syndrome with a total of nine twists in different lead positions. CXR after PM implantation detected a Ratchet syndrome (white arrow) with 180° rotation of the PM by its short axis in April 2012 and 6 plus 1 twists in two lead positions in January 2014. On June 4 and June 16, 2014 CXR show a progression of lead twisting (7 twists) and an additional twisting position. A CXR in lying position revealed the possible mechanism with a 90° rotation and axillar shifting of the PM. The patient denied manipulation of the device. Device testing at his primary cardiologic department revealed a correct function of the device.

**338. Evaluating Methods for Assessing Hydration of Older Adults in the Home, Elena Gonzalez, Georgia Tech Research Institute; Hannah Glazebrook, Georgia Tech Research Institute; Linda Harley, Georgia Tech Research Institute; Adrienne Jones, Georgia Tech Research Institute; Brad Fain, Georgia Tech Research Institute; , Georgia Tech Research Institute**

**Objectives:** Learn about older adults' perspectives on best methods for assessing hydration in the home; Explore user testing results of a sensor straw prototype, that can monitor fluid consumption in real-time;

**Abstract Body:** Dehydration in older adults can be life-threatening. Unfortunately, many older adults do not realize they are dehydrated until a health complication occurs or they become hospitalized. In order for older adults to better monitor and manage their own hydration, assessments will need to shift from the clinical setting to the home. This pilot study aims to 1) evaluate which methods of assessing hydration in older adults are best suited for the home environment and 2) provide

consumer feedback on a sensor straw prototype that monitors fluid consumption in real-time. For five days, six older adult participants (Mage = 71; SD = 5.2, 4 male) completed various assessments and surveys in their homes regarding their hydration status and drinking behaviors. Each day, participants were asked to keep a food and beverage journal, record their morning weight, rate their level of thirst, wear an activity tracker, provide a morning urine sample, and drink all beverages using the sensor straw. Additionally, researchers conducted daily, in-home appointments to take blood pressure readings and run urinalysis tests. Preliminary findings suggest that in terms of hydration self-monitoring, older adults are more willing to adopt passive, less-involved methods, such as drinking out of a sensor straw, wearing an activity tracker, or weighing themselves. Participants expressed concerns about the amount of time and detail involved in keeping a food and beverage journal and the discomfort of regular urine testing. User testing feedback for the sensor straw will be incorporated in the continued development of the device.

**339. Quantitative Ultrasound for Sarcopenia Screening: Interrater Reliability Using a Novel Method of Force Feedback,** *Michael Harris-Love, Washington DC VA Medical Center; Catheeya Ismail, The George Washington University; Reza Monfaredi, Children's National Hospital; Paula Woletz, Washington DC VA Medical Center; Claudia Ranniger, The George Washington University; Marc Blackman, The George Washington University*

**Objectives:** Determine the interrater reliability of portable sonographic assessment using force feedback among examiners with varied experience levels.

**Abstract Body:** Background: Ultrasound has been proposed as inexpensive method to assess age related changes in muscle tissue composition and lean body mass without the use of ionizing radiation. However, the reliability of the method may be affected by examiner technique and experience. Augmented ultrasound feedback may aid measurement consistency among multiple examiners. Methods: We conducted a study involving 3 pairs of ultrasound examiners (experience: > 10 years, 1 year, and < 1 year) to determine if augmented sonography using force feedback could foster reliability among the examiner groups, and with automated image acquisition, using a graduated range of forces (1 N to 10 N). The scanned material was a custom calibration phantom designed as a skeletal muscle mimetic (i.e., anechoic gel, 15 kPa, speed of sound, 1540 m/s, attenuation, est. 0.1 dB/cm/MHz). The KUKA Light Weight Robot ( $\pm 0.05$  mm motion error) was used to apply uniform force levels on the muscle mimetic to obtain criterion reference automated ultrasound images. Results: The material thickness values obtained by the examiners resulted in an ICC 2, k of .88 ( $p < .001$ ; CV = 1.5% to 2.9%, SEM = .02-.04 cm). No differences in material dimension measures were detected among the 6 examiners. Additionally, there was a high degree of association among the examiner-derived and the robot-arm aided material thickness values ( $R^2 = .86-.97$ ,  $p < .001$ ). Conclusions: Sonography with augmented force feedback allows examiners with varied experience levels to exhibit high interrater reliability, and holds promise as an alternative sarcopenia screening method.

**340. Activity Effort and Stress in Women Aging with Mobility Disability,** *Tracie Harrison, The University of TX at Austin; Janiece Walker, The University of TX at Austin; Carol Dellville, The University of TX at Austin*

**Objectives:** The learner will identify the mechanisms behind accelerated aging for women with mobility limitations.; The learner will be able to identify successful tips for the recruitment and retention of hard to reach populations with disabilities.;

**Abstract Body:** The cumulative impact of activity effort while living with a disability is theorized to increase stress and inflammatory responses resulting in accelerated aging. It was our purpose to test the feasibility of in-home data collection for this bio-social study of aging with disability. To this end, we recruited 28 Non-Hispanic White and Mexican American women, age 55 to 76, with severe mobility limitations to complete in home data collection. Women were recruited with fliers and word of mouth in two months' time; after which, multiple women were placed on a wait-list for future studies. The final sample of women completed biological measures of accelerated aging (telomere length), inflammation (C-reactive protein), and stress response (cortisol) using reliable laboratory procedures. They also completed surveys of depression, pain, activity effort, co-morbidity, and functional limitations. All scales were reliable and valid measures. Of note, results of the pilot data indicated that perceived activity effort was associated with serum stress [cortisol levels ( $r = -0.54$ ,  $p < 0.05$ )], but not with inflammatory markers [C-reactive protein levels ( $r = -.11$ ,  $p = 0.65$ )]. Results of telomere analyses are pending. The pilot data provides preliminary support for the continued study of this phenomenon. Procedures for data collection and analysis with women with severe mobility limitations living within the community were supported.

**341. How are robotic Rollators evaluated by the User Perspective: A Systematic Review,** *Klaus Hauer, Bethanien-hospital/Geriatric Centre at the University of Heidelberg; Christian Werner, Bethanien Hospital/ Geriatric centre at the University of Heidelberg; Milad Geravand, TU Muenchen; Phoebe Koepp, Bethanien-Hospital/Geriatric Centre at the University of Heidelberg; Angelika Peer, TU Muenchen*

**Objectives:** The purpose of this systematic review was to summarize assessment strategies and results of evaluation studies of robotic rollators with focus on the user perspective

**Abstract Body:** Background: Robotic rollators enhance basic functions of established devices by technically advanced physical, cognitive or sensorial support to increase autonomy in persons with severe impairment. In the evaluation of such robotic rollators both the technical as well as the user perspective is important to ensure safety, usability and effectiveness and to approve adequate application. Methods: A systematic review was conducted following Cochrane review methodology



in large data bases representative for the research field. Articles were selected according to the following inclusion criteria: Evaluation studies of robotic rollators documenting human robot interaction and subjective user perception, no case reports, published in English language. Results: Based on the heterogeneous study methodology and study results, a meta-analysis was not feasible in identified articles (n=23). Major methodological shortcomings related to user definition, study design, lack of appropriateness, standardization and validation of assessment instruments and insufficient sample size without statistical analysis of results. Robotic devices were described as usable and effective in most studies, however without giving statistical evidence. In those studies in which robotic devices were compared to standard devices, most, but not all, technically advanced devices showed superior performance. Long-term use in habitual environment was not evaluated. Discussion: Recommendations for future evaluation studies include clear definition of target user group and adequate, user-focused assessment strategy with internationally well-established tests to allow comparison of results and include documentation of long-term use. Assessment strategies may focus on specific functionalities of devices allowing an individually tailored assessment of innovative features to document added value.

**342. Cognitive Status effects Therapy in geriatric Rehab**, Klaus Hauer, Bethanien-Hospital /Geriatric Centre at the University of Heidelberg; Ilona Dutzi, Bethanien-Hospital/Geriatric Centre at the University of Heidelberg; Michael Schwenk, University of Arizona College of Medicine

**Objectives:** The purpose of this study was to analyze the effect of cognitive status on quality and quantity of therapy during ward based geriatric rehabilitation

**Abstract Body:** Background: Patients with cognitive impairment show less favorite rehab outcome compared to cognitively intact persons. Impairment-specific limitations, selective priority setting by therapists, or other causes have been discussed as potential influencing factors. However, up to date only very limited data on objectively documented therapy in a clinical routine setting have been published for geriatric rehabilitation. Methods: Study design: Prospective, observational study. Participants: Geriatric patients (mean age: 83.1 yrs.) consecutively recruited at ward-based geriatric rehabilitation (n=426). Assessment: Qualitative and quantitative documentation by electronic data documentation chart (ORBIS) during 3-week rehabilitation. Data analysis according to sub-groups defined by cognitive screening (Mini Mental State Examination; MMSE: cognitively intact (30-27), mild to moderate impairment (26-17); advanced impairment (<17 scores). Results: Patients with advanced cognitive impairment receive significantly less therapy (therapeutic units, total) (p=0.001), as well as significantly less personal as well as group-based therapy (p=0.04-0.002) compared to cognitively intact patients. Results seem to be impairment-related, as patients with moderate impairment showed an intermediate position with only singular significant differences between other patient groups (e.g. frequency of personal therapy; p=0.01). Analysis of covariance (ANCOVA) identified age and functional status (Barthel –Index) as significant covariates apart from cognitive status. Discussion: The study results document a significant effect of cognitive status on frequency as well as quality of therapy during geriatric rehabilitation. Effects are partly associated with age and functional status as significant covariates for group differences.

**343. Dual-task Walking in Older Adults with Type 2 Diabetes without Diagnosed Diabetic Peripheral Neuropathy or Retinopathy: A Pilot Study**, Patricia Hewston, Queen's University; Nandini Deshpande, Queen's University

**Objectives:** To discuss how divided attention may affect the ability to employ proactive strategies (ie. head-trunk coupling) while walking in older adults with type 2 diabetes; To emphasize that subtle differences in postural control may occur in older adults with type 2 diabetes before the onset of overt complications (i.e., diabetic peripheral neuropathy or retinopathy); To highlight the need for systematic monitoring and early intervention to help reduce the incidence of falls in older adults with type 2 diabetes before the onset of overt complications

**Abstract Body:** Diabetes-related declines in executive function may further heighten balance impairments, in addition to sensorimotor deficits, in older adults with type 2 diabetes (OAT2D); specifically, during mobility tasks requiring divided attention. Our study examined dual-task walking performance in OAT2D without diagnosed diabetic peripheral neuropathy (DPN) or retinopathy (DR). Twelve OAT2D without DPN or DR (OAT2D, age:70.50±5.12) and 12 healthy controls (OAH, age:72.00±5.53) were recruited. A motion capture system tracked body segment position while participants walked a 6-meter path at their self-selected comfortable or fastest possible pace. The dual-task involved serial subtraction by 3's (SS3). Outcome measures included: walking speed, peak-to-peak displacement of the head and trunk in the mediolateral direction, and head-trunk correlation. The Trail Making Test (TMT) measured executive function. In both groups, walking speed significantly reduced with SS3; more at the fastest than self-selected pace (p<0.001). Head movement increased with SS3, regardless of pace or group (p<0.05). Trunk movement increased with SS3 at the self-selected pace (p<0.05) but not at the fastest pace (p>0.05). Higher overall head-trunk correlations were observed in OAT2D than OAH (p<0.001). Head-trunk correlations reduced with SS3 in both groups (p<0.001). No significant differences in TMT were found (p>0.05). Higher head-trunk coupling in OAT2D reflects a need for segmental co-contraction strategy to simplify postural control (i.e., reduced degrees of freedom) without sacrificing their overall mobility. However, the ability to employ this strategy was affected by divided attention in the dual-task. Overall, subtle differences in postural control may occur before the onset of diabetes-related complications in OAT2D.

**344. Cross-sectional and longitudinal associations between anaemia and frailty in older Australian men: The Concord Health and Ageing in Men Project**, Vasant Hirani, Centre for Education and Research on Ageing, Concord Hospital, University of Sydney, NSW, Australia. School of Public Health, University of Sydney, NSW, Australia.; Vasi Naganathan, University of Sydney; Fiona Blyth, University of Sydney; David Le Couteur, Centre for Education and Research on Ageing, Concord Hospital, University of Sydney, Sydney, NSW, Australia.; Robert Cumming, University of Sydney

**Objectives:** Participants will learn about the evidence relating to the causal association between low haemoglobin levels and development of frailty

**Abstract Body:** Introduction: Anaemia and frailty are both common in older people, and associated with adverse health outcomes. The objectives of this study were to examine cross-sectional and longitudinal associations between anaemia and frailty in older Australian men. Methods: 1666 men aged 70 years and older from the Concord Health and Ageing in Men Project (CHAMP) were assessed at baseline (2005-2007), 1314 men came for the 2-year follow-up (2007-2009), and 917 men returned for the five year follow-up (2012-2013). The main outcome measurement was frailty, assessed using the Cardiovascular Health Study method. Anaemia was defined as a hemoglobin levels <13.0 g/dl. Model covariates included age, income, measures of health, estimated glomerular function (eGFR), inflammatory markers (white cell count and albumin) and use of non-steroidal anti-inflammatory drugs. Results: At baseline prevalence of anaemia was 14.6% and prevalence of frailty was 9.1%. There were significant cross-sectional associations between anaemia and frailty in both unadjusted (OR 5.03 (95%CI 3.50,7.25, p<0.0001)) and fully adjusted analysis (OR 2.90 (95%CI 1.87,4.51, p<0.0001)). Generalized estimating equations time-lag models were used to examine the longitudinal associations between repeated measurements of haemoglobin and frailty. There were significant associations between measurements of anaemia status taken 2 years prior to the measurement of frailty in unadjusted (OR 2.51 (95%CI 1.58,4.00, p<0.0001) and in fully adjusted analysis (OR 1.80, 95%CI 1.14,2.85, p=0.01). Conclusion: Anaemia was associated with frailty, suggesting a causal relationship. The risks and benefits of interventions including nutritional therapy to correct anemia among frail older adults is an area that needs further investigation.

**345. A Snoezelen® Room vs ‘Standard Care’ for Managing Wandering, Aggression and Restlessness among Residents with Dementia: An Observational Study.**, Michael Bauer, La Trobe University; Jo-Anne Rayner, La Trobe University; Judy Tang, La Trobe University

**Objectives:** To report on the effectiveness of using Snoezelen compared to usual care for the management of dementia related behaviours in residential aged care

**Abstract Body:** Background: The use of Snoezelen® rooms has become increasingly popular in residential aged care facilities in Australia for allaying the behavioural symptoms of dementia, despite no evidence of clinical efficacy. Aims: To compare the use of a Snoezelen® room and usual care practices in the management of the dementia related behaviours of wandering, aggression and restlessness in residential aged care facilities in Victoria, Australia. Methods: An observational study was undertaken in different aged care facilities over a four week period. Sixteen residents had their behaviour and their responses to Snoezelen® or usual care practices observed and recorded over three time periods. Data was analysed using repeated measures of ANOVA with adjustments for differences between subjects and intervention times. Results: A significant reduction in reported behavioural symptoms was found immediately post-intervention for both groups, however no significant differences were found at other post intervention time points. No significant differences were found between residents receiving Snoezelen® and usual care for the management of the dementia related behaviours of interest. Conclusion: The study findings suggest that the use of Snoezelen® as it is delivered currently in Victoria, Australia for allaying the dementia related behaviours of wandering, aggression and restlessness has no advantages over the use of usual care.

**346. Understanding the Loss of a Spouse Two years Post-Loss**, Suzanne Beans, University of Akron; Ruth Walker, University of Akron; Toni Bisconti, University of Akron; Sara Powers, University of Akron; Cindy Bergeman, University of Notre Dame

**Objectives:** To understand how older adult women are faring two years post-loss after conjugal bereavement.; To examine how depression, life satisfaction, control, and coping styles change over time.

**Abstract Body:** Losing a spouse is considered one of the most stressful transitions in older adulthood. This traumatic, yet normative, life event can pose a threat to a widow's well-being. During the first year of widowhood, researchers have found increased rates of physical and psychological morbidities, as well as trajectories of resilience (Bonanno et al., 2004); however, little is known about the specific anniversary effects. Therefore, the current study aimed to understand the effect of death anniversaries on a sample of bereaved women. Participants included 57 Caucasian widows from the Midwest region, who ranged in age from 57 to 83 (M=71.30; SD=6.25). Depression, Life Satisfaction, Perceived Control, Emotion-Focused and Problem-Focused Coping were examined at 4 month intervals starting 2-3 weeks post-loss and ending at 24 months. Results indicated a significant difference in Depression from 1 month to 24 months, with women scoring higher on Depression 1 month post-loss. Similarly, Life Satisfaction showed the same pattern with 1 month data showing lower Life Satisfaction than 2 years post-loss. Interestingly, Control showed an inverse relationship with lower Control being reported at 2 years post-loss than previous time points, whereas Problem-Focused Coping was reported to be higher at the two-year post-loss mark than in the initial months. Consistent with previous research by Bisconti et al. (2006), there might be a time

sensitivity to the benefits of Emotion-Focused vs. Problem-Focused Coping strategies, with strategies focusing on our emotions being more salient at the beginning of the grieving process and more instrumental strategies being more helpful later.

**347. More Older Iowans Share their Medical Preferences with Attorneys than with Physicians, Mercedes Bern-Klug, The University of Iowa, School of Social Work; Tobokane Manthai, The University of Iowa School of Social Work**

**Objectives:** Compare and contrast Iowa's version of the POLST paradigm, IPOST (Iowa Physician Orders for Scope of Treatment) with other states.; Describe the extent to which older Iowans have communicated advance care wishes, and to whom.

**Abstract Body:** In July, 327 adults age 50+ who were part of the statewide STAR research volunteer registry completed an on-line survey about advance care planning including the extent to which they were familiar with IPOST (Iowa's version of the POLST paradigm—Physician Orders for Scope of Treatment, enacted into state law as of July 2012). Sample: two-thirds women, two-thirds with a 4 year college degree or more, 98% who reported their race as white. 88% indicated they had never heard of IPOST. 70% had a living will and 70% had appointed a proxy decision-maker through a DPOA-HC. Close to 60% reported they had been asked to be someone else's health care decision maker, although 23% were not sure if they were officially appointed. Thirty percent of the sample indicated they were "very concerned" about getting the type of medical care they prefer if they become terminally ill. Almost all (98.5%) indicated they would be interested in having a 30 minute discussion with their physician about medical care options, in the event they received a serious life-threatening diagnosis. When asked if they had had a conversation in the past 5 years with anyone about their preferences should they get in a serious accident and not be able to communicate, a higher percentage had spoken with a lawyer (33%) about their medical preferences than a physician (20%); 94% of the sample indicated it was important to have the discussion. More consumer education about advance care planning and IPOST is called for.

**348. Non-driving Older Adults in Appalachian Ohio: An Exploratory Look into Transportation Resources, Sarah Boehle, Department of Sociology and Gerontology Miami University**

**Objectives:** After attending this session participants will be able to identify strengths, barriers and challenges in transportation resources available to this Appalachian population.; After attending this session participants will be able to identify opportunities for policy and program developments to enhance transportation resources in Appalachian Ohio communities.

**Abstract Body:** Appalachian residents are described in the literature as having disadvantages in education, higher rates of illiteracy than national averages, poor housing, a lack of public transportation, and poor social service resources. Rural disadvantages of higher poverty rates, higher rates of chronic illness and disability, lower incomes, and less access to medical care and transportation services are also common. Several counties in Appalachian Ohio are projected to have an older population of around 30% by 2030, yet we know little about how transportation resources enhance or impair their ability to age in place. This study examines how non-driving older adults living alone in Appalachian Ohio utilize transportation resources to access medical care, groceries, employment, and maintain social relationships. Face to face interviews were conducted with 19 informants during the summer of 2014 to explore transportation resources. Utilizing ALTAS.ti and a content analysis process of inductive and deductive coding, richly detailed stories emerged about their experiences. The findings suggest that many trips for medical care meet essential needs; distant trips for specialized care are problematic, especially for those dependent on oxygen; return trips may entail waits of several hours; ER's are over utilized when transport is unavailable; and care is sometimes delayed and/or stopped due to transportation challenges. Additional findings suggest that home care workers provide transportation beyond authorized work boundaries; and concerns exist regarding the skills and training of transportation providers. The findings bring voice to the informants, and allow them to share their visions for improving services.

**349. The Gender Gap in Nation-State social insurance Retirement Benefits: Sweden; Germany; Belgium, France and Italy, Sally Bould, Gerontology Institute, University of Mass, Boston; ,**

**Objectives:** What social policies and practices come closest to providing equal financial security for women as compared to men in state provided retirement schemes. Does Sweden provide the model most favorable for women?; What is the impact of motherhood (the number of children from 0 to 3 or more) on women's state provided retirement income? Retirement income includes income from social insurance retirement schemes as well as old age public pensions; it excludes disability pensions and private pensions.

**Abstract Body:** New results from the European survey, SHARE, provide an initial understanding of the gender gap in social insurance retirement income provided by the state—the European system of public pension benefits. These data are the first to systematically document this critical gender gap under different systems of generous public pension provision. Pensions from the private sector in these countries are limited as the vast majority of older adults depend primarily on a universal public retirement or old-age pension, including survivor's pensions. The SHARE data allow for the calculation of the total amount of these public pensions in a sample of 17,000. Each national system is evaluated separately and cross-national comparisons are made. Within each country, different marital statuses and living arrangements are studied separately.

While a significant gender gap between married men and women exists in each country, this gap is not so critical in terms of total household income. It is among the widowed where the gender gap becomes more critical because of the reduction of household income and the loss of economies of scale. The widow/widower gender gap is consistently the greatest in each of the countries studied for all unmarried/un-partnered individuals. Women are best protected by survivor benefits in Belgium. In contrast, for Sweden, widowed women's median pension is 14,793 euros in comparisons to widower's median pension of 18,315. There is a significant motherhood penalty in all countries except Italy. This regression result for women controls for age, education, marital status and the decade last worked.

**350. Predictors of Physical Activity and Sedentary Behaviors Among Older African American Women: NHANES 2003-2006**, Pamela Bowen, *The University of Alabama at Birmingham School of Nursing*; Olivia Affuso, *UAB Department of Epidemiology School of Public Health*; Denise Houston, *Wake Forest School of Medicine: Department of Internal Medicine*

**Objectives:** Identify correlates that influence sedentary behaviors, light physical activity, and moderate-to-vigorous physical activity among older African American women.; Describe the amount of time this population spends performing sedentary behaviors, light physical activity and moderate-to-vigorous physical activity.

**Abstract Body:** Although physical activity is vital for the promotion of successful aging, many older African American women have a high prevalence of physical inactivity, which has been associated with mobility and functional impairments. The purpose of this study was to examine the correlates of physical activity and sedentary behaviors in older African American women. Data for African American women, aged 60 and older, from the National Health and Nutrition Examination Survey (NHANES) surveys 2003-2006 were used for this analysis. Objectively measured physical activity and sedentary behavior were assessed using accelerometry and physical function by self-report. Multivariable linear regression was used to examine the correlates of physical activity and sedentary behavior. The mean age of the sample was 68.5 years ( $\pm$  7.1), 35.4% were married, 60.9% had at least a high school education, and 53.4% were obese. Mean time spent performing moderate-to-vigorous physical activity (MVPA) was 5.7 minutes/day (metabolic equivalent [METs] > 3.0), light activity was 3.6 hours/day (1.1-2.9 METs), and 7.5 hours/day were spent being sedentary (1.0 MET). Significant predictors ( $p < 0.05$ ) included: education, weight status, amount of computer usage, and difficulty stooping, crouching, and kneeling for sedentary behaviors; TV/video viewing and difficulty walking up 10 steps for light behaviors; and education for MVPA. Physical inactivity continues to be a public health issue. Our findings suggest that older African American women need to be empowered to move from sedentary behaviors to a light and/or MVPA level. Further exploration is needed to develop appropriate interventions that will motivate this population to move more.

**351. Immigrants As They Age: Asian Elders and Functional Disability**, Keith Chan, *University at Albany SUNY*; Thanh Tran, *Boston College*

**Objectives:** After attending this session, participants will be able to explain the conceptualization of disability in regards to biological limitations in relation to cultural, social and physical environmental factors.; After attending this session, participants will be able identify ethnic differences in the perception of functional disability for major groups of foreign-born Asian elders.; After attending this session, participants will be able to demonstrate culturally competent insights that can be applied to improve service delivery and shape policies to enhance healthy aging for foreign-born Asian elders.

**Abstract Body:** Purpose: Recent advances in the conceptualization of disability have emphasized the importance of cultural, social and physical environmental factors. Despite well-known projections of growth, only a few studies have examined how disability is understood for Asian elders. Most are immigrants and came from distinct ethnic groups, which have influenced how they have interacted with their environment and managed their chronic conditions as they aged into disability. Design and Methods: This study examined trends in how functional disability was perceived by Asian immigrant elders using large-scale, population data from the 2009, 2010, 2011, and 2012 American Community Survey. Reliability and Confirmatory Factor Analyses were conducted with five major groups of foreign-born Asian American elders (Chinese, Filipino, Vietnamese, Korean, and Japanese), to examine two major dimensions in functional disability, 1) Sensory Disability and 2) Activities of Daily Living. Results: Analyses indicated that functional disability was reasonably captured by the items for all five groups of foreign-born Asian elders from the ACS. However, foreign-born Korean elders appeared to be the most homogeneous in their perception of functional disability. Additionally, the factor loadings for the sensory perception item, Difficulty Hearing, varied the most for Chinese elders ( $\lambda = 0.71$ ) compared to the other ethnic groups ( $\lambda$  ranged from 0.57 to 0.59). Implications: The perception of disability varied for ethnic groups of Asian elders, most likely due to differences from the pathways and motivations for immigration. Policies and practice must take into account these differences in order to promote healthy aging for this growing population.

**352. Trust and Volunteerism in Hong Kong Adults: A Cultural Perspective**, Alice Ming Lin Chong, City University of Hong Kong; Susu Liu, City University of Hong Kong

**Objectives:** To examine the differential effect of generalized trust and particularized trust on Chinese adults' volunteering motives and behaviors.; To explore ways to promote voluntarism among older Chinese;

**Abstract Body:** Introduction: Chinese people are usually found to reduce their voluntary involvement with age, which is contrary to the global trend. The present study aims to explore reasons behind this puzzling phenomenon by examining the effect of two main types of social trust, namely generalized trust and particularized trust, on volunteering. Method: The respondents were Hong Kong Chinese adults aged between 40 and 79 (N=715). They were interviewed by trained interviewers using a self-constructed questionnaire in a randomized household survey. Results: Age was found to be positively related to particularized trust, but negatively correlated with participation in voluntary work. Significant differences were found between the middle-aged (40-59 years old) and older adults (60 and over) in terms of volunteer hours in past month, volunteer motivations and particularized trust. Hierarchical regression analysis showed that generalized trust marginally and positively predicted voluntary work, while particularized trust indicated negative effect. Conclusion: This study is one of the very few to examine the effect of particularized and generalized trust on volunteerism. The findings suggest that Chinese people hold a higher level of trust towards individuals (particularized trust) than society (generalized trust), and this trend increases with age; thus leading to a decrease in volunteering hours with increase in age. People endorsing particularized trust might stick to personal and family values, and were less inclined to participate in voluntary work. Strengthened efforts should therefore be taken to raise generalized trust and appropriate measures are suggested to promote volunteerism in late life.

**353. Poverty in old age: Evidence from Hong Kong**, Kee-Lee Chou, The Hong Kong Institute of Education

**Objectives:** To differentiate the different concepts of poverty measured by income, expenditure and asset

**Abstract Body:** Identify the poor in aged population is particularly particular because a number of them may have insufficient income but enjoy adequate consumption due to their assets at hand. This study investigates poverty among older adults by using income and consumption in the defining poverty. We use a data set with a representative sample of 4,306 older adults aged 60 years old and older. Using the official poverty line (i.e. half of the median of household income), 36.4% of older adults are below the threshold using income whereas 31.1% are below the threshold using the consumption flows. However, the poverty rate is cut to 25.3% when both income and consumption are used to define poverty. Results indicate that older adults who are consumption poor but income non-poor are more likely to still engage in employment and receive wages, but they will be retired very soon. Therefore, they attempt to save more when they are still working. On the other hand, among those who were income poor but consumption non-poor consume much more than their income but a much higher percentage of them were homeowner and had higher asset (beside self-occupied properties). Lastly, our results indicated that older adults who were both income and consumption poor were the poorest because they were mostly likely depended on family support and welfare for their living and the level of asset they possessed was very low. Understanding the nature of this double poverty population is crucial in evaluating the anti-poverty measures in the aged population.

**354. To What Extent Can Hospitals Control Readmissions? Predictors of 30-day Hospital Readmission Among At-Risk Older Adults**, Alexis Coulourides Kogan, University of Southern California; Adria Navarro, Azusa Pacific University; Eileen Koons, Huntington Memorial Hospital; Susan Enguidanos, University of Southern California

**Objectives:** After attending this session, attendees will have a greater understanding of the policy and practice implications for 30-day hospital readmissions among older adults.; After attending this session, attendees will understand the patient-level factors and consequences associated with 30-day hospital readmissions and receipt of a social work intervention.;

**Abstract Body:** Older adults transitioning from hospital-to-home are at high risk for adverse outcomes and rehospitalizations. Under the Affordable Care Act, hospitals are penalized for high 30-day readmission rates, and have thus undertaken efforts to reduce readmissions among their older patients by improving transitional care. This poster reports findings from the Social Work Intervention Focused on Transitions (SWIFT) study, a randomized controlled trial testing the impact of a brief social work transition intervention on hospital readmissions. The study enrolled 181 patients; most were married (45%), Caucasian (61%), male (51%), and, on average, 78.8 years old (sd=8.3). Results reveal that predictors of 30-day readmission included Caucasian race (p=.036) and having a cancer diagnosis (p=0.017). As compared to racial minorities, odds of readmission were 4.7 times higher for Caucasians and 6 times higher among participants diagnosed with cancer. Additionally, those assigned to the intervention arm that refused the social work intervention were more likely to be readmitted. Randomization to the SWIFT intervention was not significantly associated with lower 30-day readmissions. These results suggest that certain patient groups, such as those diagnosed with cancer, may need ongoing support, and that a brief social work intervention may not be sufficient in reducing short-term readmissions among at-risk older adults. Current policies have charged hospitals with the task of reducing 30-day readmission rates and these results along with new, emerging research may indicate that patient-level factors may contribute to readmissions. More research is needed to confirm these findings and better understand patient characteristics associated with 30-day rehospitalization.

**355. Developing a Multi-Dimensional Measure of Successful Older Persons' Transitions in Care (OPTICS),** *Greta Cummings, University of Alberta; Sarah Cooper, university of Alberta; Colin Reid, University of British Columbia; Carole Estabrooks, University of Alberta; Brian Rowe, University of Alberta*

**Objectives:** To discuss the development of the measure of the success of transitions across multiple settings (nursing homes via emergency medical services to emergency department and back)

**Abstract Body:** Purpose: To develop a measure of successful transitions of frail seniors who reside in nursing homes to emergency departments and back via emergency medical services. Methods: Multi-method, multi-perspective procedures were used to develop quality indicators of care for frail nursing home residents during transitions. Data were gathered from qualitative interviews with residents, family/friend caregivers, and healthcare providers from all transition settings, real-time tracking of 628 transitions and a growing body of research and policy literature on quality care and transitions. The six domains (safety, resident-focused, timeliness, effective, efficient, equity) in the Institute of Medicine (IOM) Quality Framework were used to categorize and analyze data from all sources. Analysis: Steps included a) development of an OPTIC (Older Persons' Transitions in Care) definition of successful transitions; b) development of standards of care for each IOM domain across the entire transition; c) operationalization of the standard into quality indicators in each setting of the transition; d) identification of normative/comparative data from the literature; e) analysis of OPTIC data from 628 full transitions in two Canadian provinces; and f) development of an interactive dashboard of quality indicators of success for use by healthcare decision-makers to monitor quality of transitions in their jurisdictions. Conclusion: The complexity of measuring multi-setting transitions for frail seniors with multiple co-morbidities and cognitive issues is enormous. However a multi-perspective matrix of quality indicators can be developed and displayed as an interactive dashboard to provide important information to improve transitions of frail seniors in nursing homes who require acute care services.

**356. Fall Incidence and Social Support in Older Mexican Americans: A Longitudinal Study of Development and Predictive Factors,** *Leah Dierking, University of Texas Medical Branch, Galveston, Texas; Kristen Peek, University of Texas Medical Branch, Galveston, Tx.*

**Objectives:** The results and analysis provide a glimpse into the nuances found in specific ethnicities regarding fear of falling and fall incidence as it relates to health outcomes and social support.; The study also provides a starting point for the development and implementation of interventions specifically aimed specifically among fall incidence education and recovery among a minority population and within their community;

**Abstract Body:** Social and physical isolation has been shown to be a debilitating factor for adults in regards fall incidence. Few studies regarding fall incidence have focused on minority populations regarding prediction and prevention. The purpose of this study is to expound on prior research and to examine longitudinally the incidence and predictive factors of any falls as compared to multiple fall incidence over a 7 year period. The data for this study was taken from the Hispanic EPESE, a population based study of 3050 non institutionalized Mexican-Americans residing in five Southwestern states: Arizona, Texas, California, New Mexico and Colorado (86% response rate). Of the 1682 respondents at baseline, 32.88 % of them reported varying incidents of falls in the last 12 months. Subjects that have a high CES-D score, self-reported fear of falling, high chronic conditions, and high IADL limitations were more likely to report baseline fall incident during the last year. Stratifying between presence of any and 3 or more falls during a 12 month period across time revealed that having the number of family interactions became significant for those with 3 or more falls in a 12 month period. This study supports the hypothesis that fall incidence is a common concern for not only the general population as prior studies have shown, but also for the specific Mexican-American older community in the Southwestern United States. Social activity among sub culture specific clusters needs to be explored further in regards to a range of physical, psychological and functional complications

**357. Publicly Assisted Senior Housing: The Structure of Residents' Social Convoys,** *Jessica Drum, Wichita State University; Dr. Louis Medvene, Wichita State University*

**Objectives:** To understand the differences in the social convoys of publicly assisted senior housing residents as compared to nursing home and assisted living residents, specifically in relation to friends and fellow residents.; To understand the implications of social programming and a service coordinator at publicly assisted senior housing locations.;

**Abstract Body:** The largest percentage of adults over 65-year-of-age (95%) live outside of nursing homes. These arrangements are likely to continue given limited public resources. Of most concern are low-income older adults, two million of whom live in publicly assisted housing (Stone, 2013). We know little about these older adults. This exploratory study focused on the social networks of 31 residents of a 66-unit subsidized senior housing building. Residents were interviewed about their social convoys (Antonucci et al, 2010), isolation (Lubben, 1988), and loneliness (Russell, 1996), and a cluster analysis was carried out. On average, residents were 78 years-of-age, 90% were female, and almost 90% were Caucasian. Friends constituted 47% of residents' networks, 42% were family/relatives, and 11% were professional staff. Residents' length of stay was positively correlated with the number of fellow residents in their social convoy ( $r = .39, p < .03$ ). Using frequency of contact as criteria variables, a cluster analysis yielded two large clusters – religious/community organizations ( $n=14$ ), and family/friends ( $n=12$ ) – and two small clusters – restricted ( $n=4$ ), and an outlier ( $n=2$ ). A series of ANOVA's indicated that residents embedded in the family/friend cluster were significantly less isolated than other residents

( $p < .03$ ), and less lonely than residents embedded in the restricted cluster ( $p < .01$ ). The number of friends/residents in participants' social convoys is larger than has been reported in studies of nursing homes and assisted living. This site had a service coordinator and extensive social programming, suggesting that publicly assisted senior housing sites are well-suited for social interventions.

**358. An Interdisciplinary Framework To Support An Age-friendly Workplace In The NHS, Isaiah Durosaiye, University of Central Lancashire, Preston, United Kingdom**

**Objectives:** The factors that inhibit the work ability of older nurses within the NHS will be presented. For example, the physical, cognitive, sensory or emotional demands of the jobs will be explored.; The extent to which the design features of the workplace support or hinder the work ability of older nurses will be discussed.; Finally, the main features of an age-friendly workplace from the perspective of older nurses and how the developed framework supports the health and well being of older nurses will be highlighted.

**Abstract Body:** Introduction The nursing profession is a key part of the healthcare services in the United Kingdom (UK); hence ensuring their work environment is accommodating to advances in age is crucial to the continued delivery of high standard healthcare services. However, ill-designed jobs are forcing an increasing number of nurses to exit the profession through early retirement. Aims This PhD research project seeks to develop a design framework that will support the creation of a fit between older nurses and their job demands within the National Health Service (NHS), in the UK. This poster presentation will summarize the initial findings of the recently completed MPhil stage, as the project advances to the PhD stage. Methodology After an in-depth literature review, semi-structured interviews were conducted with 10 participants within the NHS. Participants are from various backgrounds, including occupational health, facilities management, human resource management and practicing older nurses. Participants were invited to describe their understanding of an age-friendly workplace and if their particular workplace was age-friendly or not. Results The initial findings revealed that older workers: 1) Depend much more on their physical and sociocultural environments compared to their younger peers; 2) Compensate for decline in their work ability through work experience and familiarity with their physical and sociocultural environments; 3) Are concerned about their health and risk of work-related injuries; 4) Value adaptable workplaces and flexible job designs and work patterns; and 5) Are generally apprehensive of coping with their post-retirement lifestyle.

**359. FITS Into Practice: Reducing The Use Of Antipsychotics For People With Dementia In Care Homes, Simon Evans, University of Worcester, UK; Dawn Brooker, University of Worcester; Isabelle Latham, University of Worcester; Nicola Jacobson, University of Worcester**

**Objectives:** To describe the structure and key elements of a training approach that has proven successful in reducing the use of antipsychotics by people with dementia living in care homes.; To highlight the main outcomes that a person-centred training approach can deliver for people with dementia living in care homes.; To explore the main barriers to successful implementation of an innovative training programme that aims to improve quality of life for people with dementia living in care homes.

**Abstract Body:** The Focussed Intervention Training for Staff (FITS) intervention demonstrated an effective way of significantly reducing inappropriate antipsychotic use in UK care homes. The Association for Dementia Studies at the University of Worcester worked with the Alzheimer's Society to draw up an intervention that would remain true to the FITS programme but that could be delivered across a large number of care homes. This is the FITS into Practice Programme. Over a 2-year period two "Dementia Practice Development Coaches" delivered an intensive nine month education and supervision programme to care home staff designated as "Dementia Care Coaches" (DCCs) to enable care-homes to safely reduce antipsychotic medication and to put in place best evidence based practice interventions to improve well-being and reduce BPSD in residents with dementia. Quantitative and qualitative data were gathered from the viewpoint of multiple stakeholders including the impact on anti-psychotic prescribing. In addition nine care homes case studies were undertaken to deepen understanding of the processes involved in practice. 106 care homes were recruited and 67 successfully completed the programme. Participants reported significantly improved confidence and knowledge and felt able to provide a positive role model to other staff. There was a statistically significant reduction in anti-psychotic prescribing following the intervention. Feedback and case studies also demonstrated very positive changes in practice in terms of improving resident well-being, staff team attitudes, quality of the care environment, good feedback from families and enhanced reputation with CQC and local commissioners.

**360. Implementation of screening tools of patients at risk of hospital readmissions in Spain: impact on the management of chronic patients, Jordi Garcés Ferrer, Prince of Asturias Distinguished Visiting Professor. Georgetown University.; Francisco Ródenas Rigla, Polibienestar Research Institute; Estrella Durá Ferrandis, Polibienestar Research Institute - University of Valencia; Ascensión Doñate-Martínez, Polibienestar Research Institute - University of Valencia; Irene Monsonís-Payá, Polibienestar Research Institute - University of Valencia**

**Objectives:** The main objective of the study presented is to assess the use of tools to detect patients at risk of hospital readmission developed in the United States in the Spanish Healthcare System, and their inclusion in specific programmes to manage patients with chronic conditions from the public administration.

**Abstract Body:** Most of the healthcare systems in European countries are experiencing a burden in the care and management of elderly patients with chronic conditions. Polibienestar Research Institute from the University of Valencia (Spain) – lead by Dr. Jordi Garcés, Prince of Asturias Distinguished Visiting Professor at Georgetown University – focus its research on the sustainability, ICTs and social innovation in long-term care systems with the aim of improving the quality of care provided to vulnerable elders and their quality of life. Authors implemented two screening tools to detect patients at risk of hospital readmission in the Valencian Region (Spain): The Community Assessment Risk Screen (CARS) and the Probability of Repeat Admissions Tool (Pra); both originally developed in the United States. The main results indicated that both predict with high efficacy the proportion of patients not to be readmitted (91% for CARS and 92% for Pra). Besides, Pra was less sensitive (54%) and more specific (81%) than CARS (with both values of 64%). Results obtained show that both CARS and Pra do not identify efficiently elderly population at risk of hospital admissions. So, currently, authors are working in the development of an own tool validated in a Spanish sample and based on our specific cultural, health and social features. The applicability of this kind of screening tools in the Spanish Healthcare System is demonstrated through the implementation of a version of CARS – revised and improved by clinicians' criteria – to identify high-risk patients to be introduced in a programme to manage chronic diseases.

**361. Home Care for Older Clients with Mental and Behavioral Health Diagnoses: Workforce implications, Hayley Gleason, University of Massachusetts Boston; Caitlin Coyle, Yale University**

**Objectives:** After attending this presentation, participants will be able to discuss the demand for home care services by older adults with mental and behavioral health problems and the implications of these conditions for the direct care workforce.; After attending this presentation, participants will be able to explain the skills and knowledge needed for home care aides to provide high quality care to older clients with mental and behavioral health diagnoses.

**Abstract Body:** Home care aides are critical to providing the care needed by the growing number of older adults who choose to remain in their home as they age. Despite home care aides' importance to the overall safety and quality of life for clients, these workers often do not have the necessary skills to provide care to increasingly complex and frail individuals. One challenging area of concern is providing care to adults with complicated behavioral health diagnoses. These elders and disabled adults represent a growing percentage of those receiving care in the home and require highly trained caregivers who can manage not only the personal care responsibilities, but also the consumer's difficult behaviors. To better understand the training needs of aides providing care to clients with mental and behavior health problems, a state-wide exploratory study was conducted in Massachusetts. Focus groups and interviews with ninety aides, supervisors, and key informants were used to explore this important area. The results from this qualitative analysis will be shared, including the principal behavioral and communication challenges experienced by aides and supervisors working with these clients and the implications of these challenges for both the aide's and client's well-being. Additionally, the availability of training to aides will be discussed, as well as, the mechanisms in place for including the aide in the communication and support of the client across the care continuum. Participants will learn the researcher's recommendations for the development of a training curriculum and the implications for future research and policy in other states.

**362. Neighborhoods. Does place matter for volunteering in later life?, Ernest Gonzales, Boston University, School of Social Work; Huei-Wern Shen, University of Missouri-St. Louis, School of Social Work; Yi Wang, Washington University in St. Louis, Brown School of Social Work; Julie Norstrand, Boston College, School of Social Work**

**Objectives:** Participants will learn of the intersection of productive aging and Age Friendly Cities initiative by the World Health Organization.; Participants will learn of the need for further conceptualization and measurement in order to make a direct link between formal volunteering in later life and neighborhood characteristics.

**Abstract Body:** OBJECTIVES. Research has established a strong link between individual factors and formal volunteering in later life, yet the concept of Age Friendly Cities by WHO signals the importance of the social and built environment. We ask: What are the economic and social determinants, as well as neighborhood characteristics, that may leverage older adults into volunteer roles? Does place matter? METHODS. We surveyed 289 residents aged 58-106 in the greater St. Louis, Missouri region in 2014. Neighborhood data were drawn from public records (e.g. online FBI records). Bivariate and logistic regression examined relationships between individual factors (sex, race, mental health, physical health, formal education, income, total assets, marital status) and neighborhood factors, e.g. safety (violent crime, property crime), economic status (percentage of unemployed, house values, number of households receiving food stamps), walkability, and stability (percentage of people living in same house for 5 years). RESULTS. Bivariate analyses revealed formal volunteering was associated with race, mental health, physical health, income, total assets, and marital status; none of the neighborhood factors were significantly related to formal volunteering. Regression results revealed mental health and total assets are significantly related. Although walkability was trending toward significance, none of the neighborhood characteristics were significantly related to volunteering. DISCUSSION. While transforming our cities and neighborhoods to become age friendly has much appeal, preliminary research suggests the link between formal volunteering and age friendly neighborhoods has yet to be



established. Further conceptualization, measurement, as well as examining objective and subjective perceptions of neighborhoods are required.

**363. Aging with a Physical Disability in Medicaid Managed Care**, Tamar Heller, University of Illinois at Chicago; Randall Owen, University of Illinois at Chicago; Hailee Gibbons, University of Illinois at Chicago; Dale Mitchell, University of Illinois at Chicago

**Objectives:** Increased understanding of the consumer experiences of people aging with physical disabilities in Managed Care.; Understand impact of Managed Care on use of emergency room and hospital among people aging with physical disabilities.

**Abstract Body:** This study examines healthcare experiences and outcomes for older and younger adults with and without physical disabilities in Medicaid receiving managed care (MC) versus fee for services (FFS) over two years. The study uses survey data from 652 individuals in MC and 659 in FFS two years after the start of MC. 55% of survey respondents were 50 and older. The survey includes measures of health care appraisal and unmet needs. Regression analyses with these outcomes included demographic variables and enrollment in MC versus FFS. Health care appraisal was not related to enrollment or age, although the interaction of MC and being older was significant ( $p < .05$ ). Among people with physical disabilities, older adults were more positive about MC versus FFS whereas younger people were less happy with MC versus FFS ( $p < .05$ ). Regardless of age or receiving MC, people with physical disabilities had more unmet needs ( $p < .01$ ) than people without physical disabilities. It is important to consider the experiences of people aging with physical disabilities in MC because this group has numerous unmet needs that need to be addressed to support them aging well. Identifying unmet needs is the first step in improving the MC system.

**364. Development and Evaluation of a Novel Dignity-Conserving End-of-Life Care (EoL) Model for Nursing Homes in the Hong Kong Chinese Context**, Andy Hau Yan Ho, Sau Po Centre on Ageing, The University of Hong Kong.; Annie Dai, Sau Po Centre on Ageing, The University of Hong Kong.; Vivian Lou, Sau Po Centre on Ageing, The University of Hong Kong

**Objectives:** To understand the programme structures and implementation mechanisms of a novel Dignity-Conserving End-of-Life Care (EoL) Model for Nursing Homes in Hong Kong; To identify ways in which a novel Dignity-Conserving EoL Care model serves to enhance Chinese older nursing home residents' dignity and quality of life at the end-of-life; To appreciate the imperative integration between end-of-life care and long-term-care through appropriate care coordination and management, family-centered care as well as physical-psycho-socio-spiritual Support

**Abstract Body:** Background: The provision of end-of-life (EoL) care in long-term-care settings remains largely underdeveloped in Hong Kong, China and other Asian regions, and older nursing home residents often fail to obtain good care as they approach death. Objective: This research systematically describes the development and implementation mechanisms of a novel Dignity-Conserving EoL Care model that has been successfully adopted by three nursing homes in Hong Kong, and presents preliminary evidence of its effectiveness on improving the quality of life (QoL) of terminally-ill residents. Methods: Nine terminally-ill nursing home residents (Mean-age=92years, SD=7.54, Range=82–102years) completed the McGill Quality of Life Questionnaire and the Nursing Facilities Quality of Life Questionnaire at baseline and 6-months post EoL programme enrollment. Wilcoxon signed rank test was used to detect significance changes in each QoL domains across time. Results: Although significant deterioration was recorded for Physical QoL (pre=1.83, post=1.31;  $z=2.19$ ,  $p < 0.05$ ), significant improvement was observed for Social QoL (pre=2.16, post=2.60;  $z=2.26$ ,  $p < 0.05$ ). Moreover, a clear trend towards significant improvements was identified for the QoL domains of Individuality (pre=2.33, post=2.63;  $z=1.78$ ,  $p=0.075$ ) and Relationships (pre=2.11, post=2.40;  $z=1.88$ ,  $p < 0.061$ ). Conclusion: A holistic and compassionate caring environment, together with the core principles of family-centered care, inter-agency and interdisciplinary teamwork, as well as cultural-specific psycho-socio-spiritual support, are all essential elements for optimizing quality of life and promoting death with dignity for older nursing home residents facing mortality. This study provides a useful framework to facilitate the future development of end-of-life care in long-term-care settings in the Chinese context.

## Poster Numbers 365-374 are NIA Travel Awardees for CNS Junior Investigators

**365. The Relationship between Inflammatory Burden, Mobility and Cognition is Influenced by White Matter Characteristics in Older Adults: Secondary Analysis of the Health, Aging and Body Composition (Health ABC) Study**, Neelesh Nadkarni, University of Pittsburgh School of Medicine / UPMC Division of Geriatric Medicine and Gerontology Department of Medicine; Robert Boudreau, University of Pittsburgh/Graduate School of Public Health;

*Caterina Rosano, University of Pittsburgh / Department of Epidemiology – School of Public Health; Oscar Lopez, University of Pittsburgh / Department of Neurology, School of Medicine and Alzheimer’s Disease Research Center; Howard Aizenstein, University of Pittsburgh / Department of Psychiatry; Stephen Kritchevsky, University of Pittsburgh / Department of Psychiatry; Kristine Yaffe, University of California at San Francisco / Department of Psychiatry; Anne Newman, University of Pittsburgh / Department of Epidemiology – School of Public Health*

**Objectives:** To study the cross-sectional and longitudinal associations between inflammation (interleukin (IL)-6), gait speed and processing speed in older adults.; To explore the underlying central nervous system mechanisms that could play an important role in the association between increased inflammation and decline in cognition and mobility.

**Abstract Body:** Objectives: To examine the relationships between inflammation, processing speed and gait speed and assess whether white matter (WM) characteristics mediate these relationships. Methods: In 314 adults (age: 83 years, 42% black) enrolled in the Health ABC study, cross-sectional (at year-10) and longitudinal (up to year-10) relationships between processing speed (digit symbol substitution test; DSST), gait speed and systemic inflammation (serum interleukin (IL)-6) were assessed. Rate of change of IL-6, DSST and gait speed were estimated by determining their respective slopes. Cerebral WM characteristics were assessed on neuroimaging (year-10) by quantifying small-vessel disease (white matter hyperintensities; WMH) and myelin integrity (total fractional anisotropy (FA) of normal appearing WM; WM-FA). Separate multivariable linear regression models quantified the association between IL-6, DSST and gait speed adjusted for relevant covariates. Tests of mediation with WMH and WM-FA were also conducted. Results: Cross-sectionally, in this sample of older adults (Modified Mini-mental Status score = 95 and gait speed = 0.9 m/sec), higher IL-6 levels were related to lower DSST (beta: -0.239,  $p=0.002$ ) and slower gait (beta: -0.249,  $p=0.001$ ). Higher IL-6 levels were also associated with higher WMH and lower WM-FA (beta: 0.156 and -0.174,  $p=0.044$  and 0.03 respectively). The mediation analyses found that with WMH and WM-FA in the model, the associations between IL-6, DSST and gait speed were no longer significant. Longitudinally, association between slopes of IL-6, DSST and gait speed were not statistically significant. Conclusion: The adverse effects of inflammation on mobility and cognition in older adults appears to be influenced by WM integrity.

### **366. Motor Imagery Ability In Persons With Parkinson’s Disease: Does Physical And Cognitive Status Matter?,**

*Kristin Lowry, Des Moines University*

**Objectives:** To examine associations between motor imagery ability, cognition, and physical function in persons with Parkinson’s disease

**Abstract Body:** Background: Motor imagery (MI), imagining an action without physical execution, facilitates motor skill learning in persons in good health and post stroke, with emerging evidence that MI may benefit persons with PD. An important determinant of the clinical value of MI in PD is to understand characteristics associated with MI ability. Methods: Eight individuals with PD participated (mean age, 65 yrs  $\pm$  6). Assessments performed: Imagery ability, Kinesthetic and Visual Imagery Questionnaire (KVIQ, 0-170), Movement Imagery Questionnaire - Revised Second version (MIQ-RS, 0-98), higher scores indicate better imagery ability; Cognition, MoCA, (0-30); Global physical status, Hoehn & Yahr (HY) scale (0 – 5, 5 = bed ridden). Spearman’s rho was used to determine associations between imagery ability, cognition, and physical status. Results: Participants had mild to moderate disease (mean HY, 2.5). Mean (SD) scores of assessments: KVIQ, 123 (25), MIQ-RS, 69 (19), MoCA, 25 (3.7). The KVIQ and MIQ-RS were related to the MoCA,  $r = 0.837$ ,  $p = 0.010$ , and  $r = 0.732$ ,  $p = 0.039$ , respectively. Neither the KVIQ nor the MIQ-RS were related to the HY scale,  $r = -0.013$ ,  $p = 0.976$ , and  $r = -0.273$ ,  $p = 0.514$ , respectively. Conclusion: The data suggest that MI ability is associated with cognitive, but not global physical ability. Specifically, better cognition is associated with better ability to imagine movement. Both cognition, (MoCA), and MI ability rely on frontal lobe function. Intact frontal lobe function, more so than actual physical ability, may be important for the effective use of MI.

### **367. Continuous monitoring of turning mobility is related to fall risk and cognitive function, Martina Mancini, OHSU, Department of Neurology; Patricia Carlson-Kuhta, OHSU, Department of Neurology; Mahmoud El-Gohary, APDM, Inc; James McNames, APDM, Inc; Jeffrey Kaye, OHSU, Department of Neurology; Fay Horak, OHSU, Department of Neurology**

**Objectives:** Continuous measures of mobility are more sensitive than overall quantity of mobility in predicting individual with fall risk and diminished cognitive resources

**Abstract Body:** Difficulty turning, or changing direction of walking, is a major contributor to mobility disability, falls and reduced quality of life in older people and people with movement disorders. The objective of this study was to determine the feasibility of continuous monitoring of turning during spontaneous, daily activity and its association with falls and cognitive function. Thirty-five elderly participants (85+8years) wore 3 Opal sensors on the belt and on each foot throughout 7 consecutive days in their homes. Neuropsychiatric assessment included cognitive domain z-scores: Executive function, Working memory, Attention/Processing speed, Memory, and Visuospatial function. Turning, gait bouts and activity rate were measured. Based on the history of falls, participants were grouped in non-fallers (N=16), fallers (N=12), and recurrent fallers (N=7). Quality of turning (mean turn duration, peak speed of turning, and number of steps to complete a turn) was significantly compromised in recurrent-fallers compared to non-fallers ( $p<0.05$ ). In contrast, activity rate, gait bouts, and mean number of turns/h were similar across the 3 groups. Visuospatial and memory functions were associated with turning mobility ( $r=0.4$ ,  $p<0.03$ ) while attention-processing speed functions were associated to gait ( $r=0.52$ ,  $p=0.006$ ). Mobility was

related to different aspects of cognition, consistent with shared neural resources for cognitive and dynamic balance functions. These findings suggest a less variable, cautious turning strategy in elderly subjects with a positive history of falls. We believe that characterizing functional turning during daily activities will address a critical barrier to clinical practice and clinical trials: objective measures of mobility in real life environments.

### **368. Improvements in Gait and Balance following Cognitive Training are Moderated by Age: Differential Impact for Old-Old and Young-Old Adults, Renae Smith-Ray, University of Illinois at Chicago**

**Objectives:** To understand how cognition impacts gait and balance.; To begin to consider whether younger old adults (age 65-79) have a greater capacity for improvement in gait following cognitive training compared to their old-old counterparts.

**Abstract Body:** Older adult falls are a leading public health problem. Research supports a link between cognition and falls, yet cognitive interventions are notably absent from the repertoire of fall prevention programs. Our team performed two pilot RCTs to examine the impact of cognitive training on balance and gait among older adults. The purpose of this presentation is to share results of a combined analysis from these two pilot trials. Ninety-six participants were recruited into the two studies. Both were RCTs that tested the hypothesis that a 10-week cognitive training intervention improves mobility. Distinct cohorts of older adults were recruited from (1) independent living communities (N=51) and (2) senior centers (N=45). Primary outcomes collected at baseline and 10-weeks included gait speed, distracted gait speed, and balance as measured by Timed Up and Go (TUG). The average participant's age was 77.2, with 62% categorized as young-old (age 65-79) and 38% old-old (age 80+). Old-old intervention participants performed significantly better than controls on TUG ( $F(2,26)=7.68$ ;  $p=0.003$ ) post-intervention while there was no significant difference between young-old groups. Conversely, young-old intervention participants significantly improved in gait speed ( $F(2,45)=3.94$ ;  $p=0.03$ ) compared to controls while old-old intervention participants did not significantly differ. Moreover, mean post-intervention improvements for all outcomes were more pronounced in young-old participants compared to old-old participants. These results shed light on the trajectory of balance and gait in late life, indicating that young-old adults may be more responsive to a cognitive training intervention than old-old adults. Additional studies are warranted to confirm these findings.

### **369. The Effect of Experience Corps on Lifestyle Physical Activity, Vijay Varma, Johns Hopkins University; Greg Harris, Johns Hopkins University; Michelle Carlson, Johns Hopkins University**

**Objectives:** Examine whether participants randomized to the Baltimore Experience Corps program, compared to controls, increased objectively measured daily walking activity post-exposure.

**Abstract Body:** Physical inactivity is associated with a number of adverse health outcomes. Increasing daily physical activity can help prevent chronic illness and decline, however only 20% of older adults meet the aerobic and muscle strengthening components of U.S. physical activity guidelines. Additionally, older adults, particularly of low socioeconomic status (SES), have difficulty adhering to exercise programs due to a high prevalence of chronic medical conditions and functional impairments as well as restrictive environmental and neighborhood characteristics. Experience Corps (EC), a community-based model of health promotion, was designed to attract a diverse population of older adults who may not engage in typical health promotion interventions. EC places older adults as volunteers within the public school system to simultaneously increase the physical, social, and cognitive activity of older adults, while improving the academic outcomes of children. Within the NIA-funded Baltimore Experience Corps Trial (BECT), we explored the effectiveness of the two-year EC intervention, to increase physical activity in a non-demented, older, mostly sedentary cohort. Using longitudinal, linear mixed effects models we found that following two years of exposure, older women, but not men, randomized to the EC intervention showed higher levels of step activity. Intervention and control groups had similar baseline physical activity; after two years, the intervention group completed, on average, 2000 more steps/day and 4 more 10-minute bouts of activity/day than control participants. Our findings suggest that engagement in a community-based senior service program, like EC, may lead to sustained increases in daily physical activity among community-dwelling, mostly sedentary, older adults.

### **370. Small Vessel Disease of the Brain and Peripheral/Sensory Impairments Have Similar Contributions to Poor Mobility, Andrea Rosso, University of Pittsburgh; Stephanie Studenski, National Institute of Aging; William Longstreth, University of Washington; Caterina Rosano, University of Pittsburgh**

**Objectives:** Understand the importance of different body systems to mobility performance

**Abstract Body:** Mobility limitations with aging are common and debilitating. The traditional focus of research and clinical practice has been peripheral systems or overt neurological diseases. The importance of subtler neurologic impairments, particularly small vessel disease (SVD), has increasingly been recognized but is rarely considered concurrently with peripheral/sensory impairments. We used the Cardiovascular Health Study ( $n=2734$ ,  $age \geq 65$  years) to characterize the association of SVD with mobility in the presence or absence of peripheral/sensory impairments. Obesity (body mass index  $>30$ ), peripheral vascular (ankle-arm index  $<0.9$ ), joint pain (self-report), lung function (sex-specific lowest quartile forced vital capacity), poor vision (self-report), and muscle strength (grip strength  $<16$ kg for women or  $<26$ kg for men) were examined in separate general linear models adjusted for age, gender, and race; each model had a 4-level variable: no SVD or peripheral/sensory impairment, only peripheral/sensory impairment, only SVD, both SVD and peripheral/sensory

impairment. For all systems, gait speed was approximately equal for those with only peripheral/sensory impairment and those with only SVD (p range=0.06-0.3). For example, mean gait speed was 0.96m/s (95% confidence interval: 0.94, 0.97) for those with no joint pain or SVD, 0.90m/s (0.89, 0.92) for those with joint pain only, 0.92m/s (0.90, 0.94) for those with SVD only, and 0.86m/s (0.84, 0.88) for those with both. Results were similar for other peripheral/sensory impairments or with self-reported mobility disability. SVD, peripheral, and sensory systems should be considered together to estimate severity of mobility disability and in intervention development.

**371. Association Between Perceptual Effort During Mobility and Executive Function in Older Adults.,** *Duane Corbett, University of Florida; David Gundermann, University of Florida; Michael Marsiske, University of Florida; Benji Kluger, University of Colorado Denver; Immanuel Samuel, University of Florida; Todd Manini, University of Florida*

**Objectives:** To investigate the relationship between perceptual effort during mobility and executive function in older adults  
**Abstract Body:** Purpose: To investigate the relationship between perceptual effort during mobility and executive function in older adults. Methods: 30 men and women (71.7±5.2 yrs) with normal cognition (MMSE score = 28.39±1.55) rated perceptual effort during a standardized walking test (400m walk test). Rating of perceived exertion (RPE) was captured using the Borg Categorical Ratio scale (1 = nothing at all, 10 = extremely strong) that was provided during each lap over 10 laps. The maximal RPE was used for data analyses. Executive function was assessed using the 2-back test— a complex test of working memory and attention control. The 2-back task required participants to decide whether each stimulus in a sequence matched the one that appeared 2 items ago. The test was conducted for 20 minutes. Results: Overall, the RPE value during the walk test was low (CR-10 = 1.72±1.99). Individuals who reported low exertion while walking (0.0±0.0) recorded faster preferred walk speeds (1.13±0.14 vs. 1.03±0.14 m/s, p=0.05) and were similar age (p=0.31) compared to high RPE (3.43±1.39) individuals. Individuals reporting low RPE levels had a significantly higher number of correct responses (proportion: 0.77±0.15 vs. 0.57±0.21, p=0.01), however, there was no difference in reaction time of correct responses (p = 0.82). Interestingly, there was no association between working memory performance and walking speed. Conclusion: Older adults who report higher perceptual effort during mobility tasks perform worse on a test of working memory and attention control. These results suggest that perceptual effort during mobility in older adults is linked to executive functioning.

**372. Effectiveness Of Exergaming For Improving Balance In People With Mild Cognitive Impairment: A Randomized Controlled Trial,** *Michael Schwenk, University of Arizona, Interdisciplinary Consortium on Advanced Motion Performance (iCAMP), Department of Surgery; Marwan Sabbagh, Banner Sun Health Research Institute; Ivy Lin, University of Arizona, Interdisciplinary Consortium on Advanced Motion Performance (iCAMP), Department of Surgery; Pharah Morgan, University of Arizona, Interdisciplinary Consortium on Advanced Motion Performance (iCAMP), Department of Surgery; Gurtej Grewal, University of Arizona, Interdisciplinary Consortium on Advanced Motion Performance (iCAMP), Department of Surgery; Jane Mohler, University of Arizona, Interdisciplinary Consortium on Advanced Motion Performance (iCAMP), Department of Surgery; Bijan Najafi, University of Arizona, Interdisciplinary Consortium on Advanced Motion Performance (iCAMP), Department of Surgery*

**Objectives:** The purpose of this study was to evaluate an innovative Exergaming approach, specifically designed for rehabilitation of balance deficits in people with mild cognitive impairment

**Abstract Body:** Background: Besides cognitive deficits, people with mild cognitive impairment (MCI) experience a decline in motor performance, including postural balance. This study aimed to evaluate an Exergaming program designed for improving balance in people with MCI. Methods: Memory clinic MCI patients (mean 78.2±8.7 years) were randomized to the intervention group (IG, n=12) or control group (CG, n=10). The IG underwent 4 weeks (twice a week) of Exergaming, including weight shifting and virtual obstacle crossing. Real time visual/audio lower-extremity feedback was provided using validated wearable sensors. The CG received no intervention. Outcome measures included changes in center of mass (CoM) sway, ankle and hip joint sway measured during eyes open (EO) and closed (EC) balance testing (feet together) at baseline and post-intervention. Gait (speed, variability), fear of falling, and user experience were also measured using validated assessment tools. Results: Post-intervention sway of CoM, hip, and ankle were significantly reduced in IG compared to CG during EO balance testing (p= .015-.047). Effect sizes were moderately-large (eta squared= .213-.302). Previous fallers showed greatest improvement in balance. Fear of falling was significantly reduced in IG, compared to CG (p= .015). Change in EC balance (p= .178-.333) and gait (p= .222-833) were non-significant. Users expressed a positive training experience including fun, safety, and helpfulness of sensor-feedback. Discussion: This study shows that a tailored Exergaming approach can improve balance in people with clinically validated MCI. Study findings may help to inform interventions combining virtual reality environments and wearable sensors for rehabilitation of MCI-specific motor deficits.

**373. Derivation of a High-Quality Summary Factor of Physical Functioning Scaled to NIH PROMIS Norms,** *Nicole Armstrong, Center on Aging and Health Johns Hopkins Bloomberg School of Public Health; Jeanine Parisi, Johns Hopkins Bloomberg School of Public Health; Laura Gitlin, Johns Hopkins School of Nursing; Michelle Carlson, Johns Hopkins Bloomberg School of Public Health; George Rebok, Johns Hopkins Bloomberg School of Public Health; Alden Gross, Johns Hopkins Bloomberg School of Public Health*

**Objectives:** To derive and validate a summary factor of physical functioning across studies with different but overlapping sets of activities of daily living (ADLs) and independent activities of daily living (IADLs).; To describe the prestatistical harmonization procedures involved in developing the harmonized measures.;

**Abstract Body:** Background. Because of low prevalence of disability and small samples, individual datasets capture part of the range of mobility impairment in older adults. To better measure physical functioning, we pooled physical functioning data from eight intervention trials onto a common metric and externally scaled it to nationally representative norms. Methods. To derive a summary factor for physical functioning, we used physical-functioning items in the PROMIS item bank (versions 1.0 and 1.2) and the following intervention trials: Baltimore Experience Corps, Advancing Better Living for Elders, Advancing Caregiver Training, Alzheimer's Quality of Life, Beat the Blues, Care of Persons with Dementia in their Environments, Resources for Enhancing Alzheimer's Caregiver Health, and Tailored Activity Program. We used Rasch-type item response models to derive a common factor. For items in common with PROMIS, PROMIS item thresholds were used to externally scale the factor to national norms. We used Monte Carlo simulations to test for bias and precision, and to verify the factor was on the same scale across datasets. Results. The sample included N=2,555 persons aged 42-105 years. We identified 179 items representing physical-functioning across eight studies, of which 39 overlapped with PROMIS. Simulations revealed no systematic evidence of bias in physical functioning factors but some evidence of imprecision especially in the less impaired range. Conclusions. Item-level harmonization approaches may facilitate direct comparison of physical functioning measures across existing and future studies using a common, population-based metric. These scores may facilitate future investigations regarding links between disability and the CNS through integrative analysis.

**374. Exergaming In Diabetics With Peripheral Neuropathy: A Randomized Controlled Trial, Gurtej Singh Grewal, Department of Surgery, University of Arizona; Michael Schwenk, Department of Surgery, University of Arizona; Jacqueline Lee-Eng, Department of Surgery, University of Arizona; Talal Talal, Hamad Medical Corporation; David Armstrong, Department of Surgery, University of Arizona; Bijan Najafi, Department of Surgery, University of Arizona**

**Objectives:** To evaluate effectiveness of a personalized sensor-based exercise that provides real time joint movement feedback during exercise on postural balance in diabetics

**Abstract Body:** Background: Sensory and motor skill deficits from diabetes lead to impaired postural balance, and higher fall-risk. Conventional exercise training is not always be appropriate for diabetes patients with lost joint perception and reduced joint mobility. We investigated effectiveness of a sensor-based balance training on postural balance in older diabetic. Methods: Thirty-nine older adults with diabetic peripheral neuropathy (Age:63.7±8.2years) were randomized to intervention (IG,n=19) or control (CG,n=20) group. IG received virtual-reality based exercise training (twice a week/4 weeks) focused on weight shifting and crossing virtual obstacles using body-worn sensors to provide joint visual feedback during exercise on a monitor screen. Outcome measures included changes in body sway, ankle and hip joint sway measured during eyes open and closed balance test and activities of daily living at baseline and post-intervention. Results: With no significant group differences at baseline four week sensor based Exergaming significantly reduced CoM sway (59.8%, p=0.009), ankle sway (62.2%, p=0.008), and hip joint sway (72.4%, p=0.017) in the IG during eyes open balance test. During eyes closed measurements, only ankle sway reduced significantly for IG group (62.41%, p=0.037). Activities of daily living did not change significantly but the number of steps walked demonstrated a trend of increase (+27.68% p=0.064) in IG following training. No significant improvements were observed in the control group. Conclusion: Significant improvement in postural balance from personalized Exergaming was observed that may be translated to activities of daily living. Sensor-derived visual feedback may compensate for lost ankle joint perception for accurate exercise performance.

**Thursday, November 6**  
**11:45 AM - 2:45 PM | Exhibit Hall D (CC)**

**307. Ethnic Differences in Health Outcomes Among Older Latinos Living in the United States, Catherine Perez, University of Southern California**

**Objectives:** After attending the session, participants will be able to describe ethnic variation in chronic disease among older Latinos in the Health and Retirement Study.; After attending the session, participants will be able to identify that non-Mexican Latinos have higher levels of chronic conditions compared to Mexicans.; After attending the session, participants will be able to determine that the assumption of homogeneity of health outcomes across Latino subgroups is not tenable.

**Abstract Body:** Latinos are often lumped together in one group in respect to analyses on health outcomes and there are important health disparities within this subgroup that have often been overlooked. Research has focused, most predominantly, on the Latino health advantage, that has masked ethnic variability in assessing health outcomes. Using data from the 2010 Health and Retirement Study (HRS) and RAND HRS, this study uses multigroup modeling and logistic regression to assess chronic conditions among older Mexican (N=826) and non-Mexican Latinos (N=602) controlling for age, gender, education, body mass index (BMI), self-rated health, and current smoking status. Results reveal that the number of chronic conditions and types of chronic conditions are clearly different among Latino ethnic groups. Mexicans report on average, 1.19 chronic conditions, whereas non-Mexican Latinos report 1.49 chronic conditions. Compared to Mexicans, non-Mexican Latinos are 12% more likely to have high blood pressure, 42% more likely to have cancer, 29% more likely to have lung disease, 36% more likely to have heart problems, 3% more likely to have a stroke, 49% more likely to have psychiatric problems, and 43% more likely to have arthritic problems. However, Mexicans were twice as likely as non-Mexican Latinos to have diabetes. Therefore, findings support the hypothesis that the assumption of homogeneity of health outcomes across Latino subgroups is not tenable. Supplementary analyses also revealed that compared to Whites, non-Mexican Latinos had poorer health outcomes but Mexicans displayed a health advantage.

**308. Evaluating the Lifestyle Intervention for Veterans Program, Y. Tony Yang, George Mason University**

**Objectives:** Retrospectively assess cardiometabolic and quality of life parameters of 500 veterans who completed the program and compare them to a matched control group.

**Abstract Body:** This research aims to evaluate the effectiveness of personalized lifestyle intervention on treating overweight and obesity in a cohort of veterans. Study participants are 500 overweight and obese veterans who are enrolled in the lifestyle intervention program at the Washington D.C. VA Medical Center. Propensity score matching is used to create a control group which is compared with participants. After calculating propensity scores, members of the control and treated groups who have the closest propensity scores are matched up. Then, these pairs are used to estimate the average treatment effect with a difference-in-difference model. Health outcomes chosen as a success measure include (1) BMI, (2) Systolic blood pressure, (3) Diastolic blood pressure (4) Pain, (5) Pulse, (6) HbA1c, and (7) Glucose. The results show as compared with the matched control group, the participants have 0.66 reduction in BMI. At the average height of 68.67 inches for study participants, that would represent a loss of 4.47 lbs over the course of the program. Personalized exercise program and dietary interventions are effective in three of seven measures. Many veterans suffer from chronic health conditions associated with overweight and obesity. A relatively new development in veterans' care, this program could serve as a model for future applications in veteran affairs hospitals across the country. GSA participants will learn about the extent to which this lifestyle program can influence health outcomes in veterans. In addition, the paper will highlight next steps for future research.

**309. Examining Dementia Simulations through a Disability Studies Lens, Hailee Gibbons, University of Illinois, Chicago**

**Objectives:** Increased understanding of how a Disability Studies lens contributes to our knowledge about dementia simulations

**Abstract Body:** Dementia simulations are increasingly used as interactive, educational tools for dementia caregivers and the general public. Advocates claim that these simulations increase awareness, teach caregivers about the behaviors and needs of patients and loved ones with dementia, and promote empathy rather than sympathy. While studies of dementia simulations have found positive outcomes (Bellville, 2002), these simulations have not been examined through a Disability Studies lens. By using a Disability Studies lens, scholars can critically interrogate how dementia and other disabilities are viewed and treated as a social construct. Using a case study methodology, this study examines two dementia simulations – an online simulation called “FaceDementia” and an in-person simulation called “The Virtual Dementia Tour.” These simulations were studied and analyzed. The analysis revealed that these simulations might reinforce negative beliefs and stereotypes about dementia due to their temporal nature, focus on individual outcomes, inclusion of other types of disability, and lack of first-person narratives by people with dementia. Furthermore, these simulations do not highlight how the environment, attitudes of others, and social context play a role in disability people with dementia. Therefore, although dementia simulations intend to be positive, a Disability Studies lens reveals that these simulations actually present a narrow, predominantly negative view of dementia. Thus, dementia simulations may not be the best way to raise awareness, and we may want to refocus our efforts on other, more empowering ways to educate others about dementia and the experiences of those aging with dementia and other disabilities.

**310. Examining Older Adult Quality of Life: Participation Patterns in High-Value Activities**, *Elizabeth Marfeo, Boston University School of Public Health Department of Health Policy & Management Health & Disability Research Institute; Elizabeth Simpson, Boston University School of Public Health; Alan Jette, Boston University School of Public Health, Health & Disability Research Institute*

**Objectives:** The objectives of this research were to: (1) identify patterns of participation in high-value activities among community dwelling older adults, and (2) explore health and contextual factors associated with limitations in participation in those favorite activities.

**Abstract Body:** Background: Identifying key factors that relate to participation in high-value activities may help to promote increased quality of life among older adults. Research Objectives: The objectives of this research were to: (1) identify patterns of participation in high-value activities among community dwelling older adults, and (2) explore health and contextual factors associated with limitations in participation in those favorite activities. Study Design & Population: Secondary data analysis of the 2011 Round 1 National Health and Aging Trends Study (NHATS), a national sample drawn to be representative of Medicare beneficiaries ages 65 and older. Results: The majority of the sample of 7197 older adults was between ages 65-84 (80.8%). Physical activities (48%) emerged as the predominant favorite activity, followed by Mental/Cognitive (29%), Social (12%), Instrumental (ADL/IADL) (9%), then Sedentary (2%). Both health (pain, hospitalizations, self-rated health) and contextual factors (activity type, race/ethnicity, social isolation, physical and mental function) were significantly associated with limitations in participation in high-value activities. Conclusion: Distinct patterns emerged in older adult's participation in favorite activities based on health and contextual factors. Additional studies are needed to gain a deeper understanding of the underlying mechanisms of how health and contextual factors act as facilitators or barriers to participation in valued activities among older adults over time.

**311. Experiences with Technology by Older Adults in the Deaf Community**, *Wendy Rogers, Georgia Institute of Technology; Jenny Singleton, Georgia Institute of Technology; Tracy Mitzner, Georgia Institute of Technology; Evelyn Chang, Georgia Institute of Technology*

**Objectives:** Provide insights into the technology experiences of older individuals in the Deaf community.; Identify the challenges and frustrations for these individuals when using a broad range of everyday technologies.; Determine how these findings may be used to improve design and training for technologies and enable full participation in society (and thereby increase quality of life).

**Abstract Body:** An understudied sector of the older adult population is the Deaf Community, whose members communicate using American Sign Language (ASL). These individuals may experience unique or additional challenges as they age, especially when using technology. This poster summarizes recently collected data on the use of technology by this understudied cultural and disability group. We surveyed 31 attendees at the Summer 2014 meeting of the National Association of the Deaf. Participants were 60-82 years of age ( $M = 69.81$ ;  $SD 7.5$ ). Participants were Deaf since birth or early childhood, and use ASL as their primary language. The 52-item survey asked participants to evaluate their usage of technologies in the domains of Communication, Social Networking, Computers, Everyday Technology, Health, Recreation, Transportation, and Assistive Technology. For technologies used at least once in the past year, participants also indicated their perceived difficulty with using that technology. Deaf older adult participants endorsed "Somewhat Difficult or Difficult" ratings for items from all categories of technology, including those in Assistive Technology, which we presume are designed to support activities of daily living. We include an analysis of the most common reported difficulties with and attitudes toward technology. Our results have implications for technology design, instructional support for technology use, and ultimately improving technology interactions for seniors, especially this understudied sector who are Deaf and rely primarily on ASL. Reducing existing barriers to technology use will improve participation in society and access to information that can support activities of daily living for Deaf older adults.

**312. Factors Associated with Healthy Aging among Adults of Low SES: Similarities and Differences with those of Higher SES**, *Sara McLaughlin, Miami University*

**Objectives:** To gain an understanding of factors associated with the maintenance of good health in the face of socioeconomic disadvantage

**Abstract Body:** Individuals of lower socioeconomic status (SES) are less likely to experience healthy aging than those of higher SES. Nevertheless, some socioeconomically-disadvantaged adults manage to maintain good health into older adulthood. Little is known about the factors associated with healthy aging among lower SES adults and the extent to which those factors may be shared with those of higher SES. Using 2010 Health and Retirement Study data, I examined correlates of healthy aging across educational strata among 9,545 adults age 65 and over (56% female, 16% non-white, 19% with less than a high school diploma). After stratifying by education ( $\geq$  high school diploma vs.  $<$  high school diploma), multiple logistic regression was used to examine the association between healthy aging (freedom from disability, functional limitations and cognitive impairment) and demographic, psychosocial, and health characteristics. Approximately 25% of those with less than a high school diploma experienced healthy aging compared to 40% of those with higher education. Among those with less than a high school diploma, age, wealth, physical activity, BMI, depression, and chronic disease were

significantly associated with healthy aging. These factors were also associated with healthy aging in those with higher education. Additional correlates in those of higher SES included gender, neighborhood safety, productive engagement, alcohol use, and smoking history. Similarities and differences in factors associated with healthy aging were evident across educational strata. Future research should be directed at understanding observed differences and the acquisition of modifiable health-promoting characteristics in the low SES context.

### **313. Factors Related to the Accuracy of Caregiver Knowledge about Patient Medications among Informal Caregivers of Community Dwelling Patients with Memory Loss,** *Jennifer Seaman, University of Pittsburgh, School of Nursing;*

*Jennifer Linger, University of Pittsburgh, School of Nursing; Lisa Tamres, University of Pittsburgh, School of Nursing; Susan Sereika, University of Pittsburgh, School of Nursing; Martin Houze, University of Pittsburgh, School of Nursing; Robert Kaufman, University of Pittsburgh, School of Nursing; Judith Erlen, University of Pittsburgh, School of Nursing;* ,

**Objectives:** To identify 3 significant factors that healthcare professionals need to consider when teaching informal caregivers of patients with memory loss about medication management

**Abstract Body:** Preventing or lessening adverse outcomes related to medications challenges informal caregivers of patients with memory loss. Caregiver knowledge about the indications for patient medications may enhance medication management. However, research describing critical factors associated with medication management is limited. We examined the relationships among caregiver demographic characteristics, cognitive function, mood, self-efficacy, problem solving, medication taking deficiencies, health literacy, and the accuracy of caregiver knowledge about prescribed FDA-approved patient medications. Baseline data from the parent RCT targeting problem solving related to medication management were used. Data analysis included descriptive statistics and correlations. Of 91 caregivers, 64 (70%) were female and 77 (85%) were white. On average caregivers were 66.97±12.17 years of age and had 14.91±3.31 years of formal education. Mean health literacy scores were moderately high 4.02±1.81 (0-6.0). Percent medication indication accuracy scores were 85.2±22.77. Health literacy was negatively associated with age ( $r=-.421, p=.000$ ) and caregiver cognition ( $r=-.545, p=.000$ ) and positively associated with number of formal years of education ( $r=.361, p=.000$ ). Medication taking deficiencies was inversely related to health literacy ( $r=.21, p=.05$ ). Percent accuracy was not associated with years of education ( $r=.05, p=.64$ ), but was associated with health literacy ( $r=.25, p=.02$ ). Caregivers with higher health literacy were younger, had more formal education, were less likely to have questionable or impaired cognition, and had higher overall indication accuracy scores for FDA-approved medications. Limitations included the small sample, missing data, and limited diversity. The findings support the need to assess health literacy of informal caregivers and their understanding of instructions regarding patient medications.

### **314. Filial obligation, adult attachment, and preparedness among prospective caregivers,** *Daniel Paulson, University of Central Florida; Rachel Bassett, University of Central Florida*

**Objectives:** After viewing the proposed research, gerontologists will be able to describe the relationship between adult attachment variables, filial obligation, and caregiver preparedness among prospective caregivers. After viewing the proposed research, gerontologists will be familiar with Mechanical Turk, an emerging technology useful for data collection in the social sciences.

**Abstract Body:** Background: Sorenson et al (2002) found that secure attachment style predicts caregiver preparedness. Characteristics of closely-attached adult relationships suggests that filial obligation may mediate that relationship. The goal of this study was to test that hypothesis. Methods: The sample, collected using Mechanical Turk, included 165 women between the ages of 45 and 65 years, who were not providing care to an aging parent. Participants were reimbursed \$.75 for completing an online survey including the Revised Adult Attachment Scale (Collins, 1996), CES-D, the Short Preparation for Caregiving Scale (Sorenson, 2002), the Obligation Scale (Seelbach, 1977), and four items establishing response validity, among other variables. Results: The mean participant age was 52.2 years ( $SD = 5.5$ ). The sample was predominantly White/Caucasian 82.6% White/Caucasian, and 7.3% Black/African American. With respect to education, 14.5% completed high school or GED, 32.7% completed some college, 36.4% completed a Bachelor's degree, 15.7% completed graduate degrees. The three attachment dimensions (close, dependent, and anxious) and filial obligation were all significantly inner-correlated. Stepwise multiple regression analyses found that filial obligation fully mediates the relationship between close attachment and caregiver preparedness, even after controlling for age, education, income, depression, birth order. Conclusions: The primary finding is that filial obligation mediates the relationship between close attachment style and caregiver preparedness among prospective caregivers. This finding suggests that, with respect to caregiver preparedness, perceptions of filial obligation may develop in relation to attachment style.

### **315. From Past to Future: Temporal Self-continuity Across the Life Span,** *Joshua Rutt, Cornell University; Corinna Löckenhoff, Cornell University*

**Objectives:** Attendees will be able to understand age effects that were found across the various measures of temporal self-continuity.; Attendees will be able to understand how our findings contribute to the literature on self-construal and well-being over the life span.



**Abstract Body:** Although perceived continuity with one's future self was shown to have implications for well-being and decision making in younger adults, age differences in this phenomenon remain poorly understood. The present study is the first to simultaneously examine past and future self-continuity across multiple time intervals using both explicit and implicit measures and controlling for a range of theoretically implicated covariates in an adult life span sample (N=43, aged 18-92, M=50.3, SD=21.9, 60% female). Perceived similarity to one's self across 6 past and 6 future time points (1 month to 10 years) was assessed with an explicit self-report measure and an implicit me/not me trait rating task. In multilevel analyses, age was significantly associated with greater implicit and explicit self-continuity, especially for more distant intervals. Reaction times for implicit me/not me ratings showed no age differences for past ratings; but for future ratings, older as compared to younger adults responded more slowly to increasingly distant time frames. This points toward age differences in the underlying mechanisms of self-continuity. A multilevel model examining the role of covariates including personality, cognition, future horizons, and subjective health found that better subjective physical health was selectively associated with greater explicit self-continuity in older adults but not in younger age groups. This converges with prior research suggesting age-related shifts in the role of physical well-being in self-construal (e.g., Frazier & Hooker, 2006). Taken together, our findings suggest that chronological age is associated with greater self-continuity although specific mechanisms and correlates may vary by age.

**316. Hanging On to Those Who Are Still Here: The Meanings African American Caregivers Ascribe to Dementia-Related Changes in Care-Recipients,** Allison Lindauer, Layton Aging and Alzheimer's Disease Center Oregon Health & Science University; Theresa Harvath, Betty Irene Moore School of Nursing, University of California, Davis; Patricia (Pat) Berry, Hartford Center for Gerontological Nursing Excellence at OHSU, Oregon Health and Science University, School of Nursing; Peggy Wros, School of Nursing, Oregon Health & Science University

**Objectives:** 1. Discuss the unique perspectives these African American caregivers have on dementia-related changes. 2. Consider how historical oppression shaped the meaning these caregivers gave to dementia-related changes. 3. Explore how clinicians can use these findings to broach the subject of end-of-life care.

**Abstract Body:** Background. Our knowledge of the meaning African Americans (AA) caregivers give to dementia-related changes in family members is limited. While many White caregivers perceive dementia-related changes as losses (and thus grieve long before care-recipient death), little is known about the meanings AAs ascribe to dementia-related changes. Purpose/Method. This interpretive phenomenological study explored the meaning AA caregivers gave to dementia-related changes in their care-recipients. Data were gathered through two in-depth interviews with 11 AA caregivers in the Pacific Northwest (22 interviews). Four caregivers participated in an optional observation session. Results. Two themes emerged from our hermeneutic analysis. First, the dementia-related changes meant that the caregivers had to "hang on" to the care-recipients for as long as possible. Second, caregivers recognized that their venerated care-recipients were "still here" and worthy of love and compassion. The history of oppression of AAs in the US influenced caregivers' perceptions of their care-recipients. Discussion/Implications. Our findings suggest that AA caregivers tend to focus on the aspects of the care-recipients' personalities that remain. These findings vary from the current literature that suggests that White caregivers tend to grieve for dementia-related losses. In contrast, the caregivers in our study focused not on what was lost, but what was not lost. Clinicians can use these finding to initiate conversations about sensitive subjects such as placement and end-of-life care. Educators can integrate the findings into cross-cultural curricula and diversity training. Finally, this study lays the foundation for future research that measures pre- and post-death grief in AA caregivers.

**317. How Do Employers and Employees Deal With an Increasing Pension Age: Qualitative Evidence From the Dutch Metalworking Industry,** Jaap Oude Mulders, Netherlands Interdisciplinary Demographic Institute; Kène Henkens, Netherlands Interdisciplinary Demographic Institute; Joop Schippers, Utrecht University

**Objectives:** After attending this activity, participants will be able to understand employers' evaluations of the up- and downsides of an aging workforce.; After attending this activity, participants will be able to understand the tension that exists in organizations between retaining older workers and hiring younger workers.; After attending this activity, participants will be able to understand how older workers view working into old age in a country with comparatively high state and occupational pensions.

**Abstract Body:** Governments in Western countries are trying to increase the retirement age of their population. Recently, the Dutch government has increased the state pension age from 65 to 67, which is slowly leading to later retirement. In this study, we examine the considerations regarding longer employment (both up to and after state pension age) of employers and employees in five mid- to large-sized organizations in the Dutch metalworking industry, a sector characterized by long organizational tenure, low job mobility, and relatively many older workers. We conducted qualitative interviews with both employers (e.g., CEOs, HR managers) and older workers. The interviews were transcribed and coded using qualitative software, then analyzed to detect common themes and conflicting viewpoints. The results suggest that organizations in the Dutch industry sector are first and foremost concerned with rejuvenating their workforce and thus put little emphasis on retaining older workers. Most employers signal a conflict between retaining older workers' valuable knowledge and experience and simultaneously trying to hire younger workers and educate them in order to guarantee their organizations' long-term success. The employers try to resolve this conflict by hiring younger workers and matching them to older workers,

in an attempt to transfer experience and tacit skills. However, this process is regularly frustrated by economic difficulties, which leads to older workers feeling undervalued and disappointed. Employers stress the need for more individualized gradual retirement plans and the possibility of demotion, in order to more efficiently manage an aging workforce and to facilitate employment after state pension age.

**318. Identifying Medication Management Challenges during Older Adults' Transitions from Hospital to Skilled Home Care: A Human Factors Approach**, *Nicole Werner, Johns Hopkins University School of Medicine; Mahiyar Nasarwanji, Johns Hopkins University Armstrong Institute for Patient Safety and Quality; Ayse Gurses, Johns Hopkins University Schools of Medicine, Public Health and Engineering; Bruce Leff, Johns Hopkins University Schools of Medicine, Public Health and Nursing; Alicia Arbaje, Johns Hopkins University School of Medicine;*

**Objectives:** We used a Human Factors Engineering (HFE) approach to (1) identify barriers to successful medication management (MM) during hospital to skilled home healthcare (SHHC) transitions from the perspective of SHHC providers, patients, and their caregivers; and (2) categorize process failures associated with suboptimal MM.

**Abstract Body:** Objectives: We used a Human Factors Engineering (HFE) approach to (1) identify barriers to successful medication management (MM) during hospital to skilled home healthcare (SHHC) transitions from the perspective of SHHC providers, patients, and their caregivers; and (2) categorize process failures associated with suboptimal MM. Introduction: Older adults requiring SHHC after hospital discharge are at risk for suboptimal care transitions. MM challenges are cited as a significant contributing factor to suboptimal hospital/SHHC transitions. Methods: Qualitative ethnographic methods were used to observe and interview 22 older adults and their caregivers, and their associated SHHC provider (SHHCP) (N=15). Participants came from 9 medical and surgical units, a skilled nursing facility, and one SHHC agency. Data collection took place at multi-disciplinary rounds, the bedside, home visits, and during SHHCP office work. The HFE-based Systems Engineering Initiative for Patient Safety (SEIPS) model guided data collection and grounded theory analysis. Results: Grounded theory analysis resulted in a categorization of barriers to MM as follows: 1) complicated multi-source information management systems; 2) breakdowns in communication across healthcare settings; 4) challenges associated with identifying/communicating with primary care providers; 5) ambiguity in SHHCP and caregiver roles in MM; 6) unsupported MM strategies of SHHCP and patients/caregivers; and 7) SHHCP and caregivers delivering care with incomplete information. Conclusions: MM challenges are potential risks to older adults' safety during hospital/SHHC transitions. Understanding MM challenges using an HFE approach can guide the development of interventions to identify processes and system-level challenges that put patients at risk for suboptimal MM during transitions.

**319. Implementing Two Community-Based Fall Prevention Programs to Reach a Diversity of Older Adults**, *Erin Parker, Centers for Disease Control and Prevention; Matthew Smith, University of Georgia; Luohua Jiang, Texas A&M Health Science Center School of Public Health; Judy Stevens, Centers for Disease Control and Prevention; Luohua Jiang, Texas A&M Health Science Center; Ashley Wilson, Texas A&M Health Science Center; Marcia Ory, Texas A&M Health Science Center*

**Objectives:** Identify two differences among participants reached by two evidence-based fall prevention programs—Tai Chi Moving for Better Balance and Stepping On.; Identify two similarities among participants reached by the two evidence-based fall prevention programs.; List at least one benefit of community-based fall prevention programs.

**Abstract Body:** Background Falls are a pervasive threat to older adults' health and independence. To address this issue, the US Centers for Disease Control and Prevention (CDC) funded state health departments in Colorado, New York, and Oregon to implement clinical and evidence-based community fall prevention programs. We compare baseline and post-intervention characteristics of older adults who participated in two community-based programs—Stepping On (SO) and Tai Chi Moving for Better Balance (TCMBB)—that teach older adults behaviors to reduce their fall risk. Methods Information was collected from 336 SO and 421 TCMBB participants, attending 32 and 36 program offerings respectively. At the first and last sessions of the program, participants completed a self-administered survey including demographics and self-reported health status and were administered a standardized functional assessment test, Timed Up and Go (TUG). Results TCMBB participants were younger than SO participants (75.3 years vs. 78.7 years) and more likely to report being in excellent or very good health at baseline (50.7% vs. 34.1%). Participants in both programs showed significant functional improvements, but TCMBB participants had better (faster) TUG test scores at enrollment (11.2 vs. 13.4 seconds) and completion (9.9 vs. 11.4 seconds), while SO participants showed greater improvement. Clinical provider referrals to both programs were low (8.5% for TCMBB and 6.7% for SO). Conclusion Community-based programs can change the behavior of older adults and reduce fall-related risk. TCMBB and SO attracted participants with different age and health statuses, highlighting the importance of offering multiple fall prevention programs that appeal to diverse audiences.

**320. Improvements from Cognitive Training in Older Adults At Risk for Dementia**, *Alison Perez, University of Texas at Dallas; Justin Eroh, University of Texas at Dallas; Raksha Mudar, University of Illinois Urbana-Champaign; Audette Rackley, University of Texas at Dallas; Sandra Chapman, The Center for BrainHealth at the University of Texas at Dallas; , The Center for BrainHealth at the University of Texas at Dallas*

**Objectives:** To address the potential of cognitive training to enhance cognitive function in adults with early (eMCI) and late Mild Cognitive Impairment (lMCI).; To determine whether diagnosis of eMCI and lMCI are predictive the whether participants will respond to a cognitive training program;

**Abstract Body:** Objectives: Recent studies in normally aging adults have shown extensive benefits of cognitive training programs. Relatively few studies have examined whether training may provide the opportunity to prevent further cognitive decline in older adults at risk of developing dementia. This study is the first to address the potential of cognitive training to enhance cognitive function in adults with early (eMCI) and late Mild Cognitive Impairment (lMCI). Methods: A sample of 34 adults (50-80 years old) participated in a cognitive training program specifically designed to enhance reasoning and abstraction abilities. Participants completed 8 hours of cognitive training and cognitive testing before and after training. Individuals who improved in abstraction abilities were classified as responders and all others as non-responders. Results: 52.9% of our participants were responders to training. Diagnosis classification (eMCI/lMCI) significantly predicted whether participants were classified as responders ( $t(33)=3.149, p=.041$ ). All participants significantly improved from pre- to post-training in untrained measures of immediate ( $t(33)=3.33, p=.002$ ) and delayed memory ( $t(33)=4.97, p<.001$ ), reasoning ( $t(33)= 2.43, p=.021$ ) and fluency ( $t(30)=2.09, p=.044$ ). Discussion: SMART training significantly improved both trained and untrained cognitive abilities in adults at risk for dementia. The SMART training was most effective in the eMCI group suggesting that cognitive training programs such as SMART are most effective in the earliest stages of declining cognition. Although SMART training shows benefit to all groups, just as pharmacological interventions are more useful in the earliest stages of disease, this cognitive training may have the most potential benefits in the earliest stages of cognitive decline.

**321. Income Level, Cytomegalovirus and CD4 and CD8 T Cell Repertoire Among Adults Living in Detroit, Amanda Simanek, Joseph J. Zilber School of Public Health, University of Wisconsin-Milwaukee; Lydia Feinstein, Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina at Chapel Hill; Caroline Cheng, Department of Epidemiology, University of Michigan-School of Public Health; Jennifer Dowd, CUNY School of Public Health, Hunter College, City University of New York; Allison Aiello, Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina at Chapel Hill**

**Objectives:** To examine the association between income level and CD4/CD8 T cell ratio, effector/naïve (E/N; CCR7-CD45RA+CD27-CD28-/CCR7+CD45RA+CD27+CD28) ratio among CD4 cells and E/N ratio among CD8 cells in a community-based sample of Detroit residents.; To examine whether elevated CMV Immunoglobulin G antibody levels mediate the association between income level and alterations to the T cell compartment.

**Abstract Body:** Socioeconomic disparities in mortality in the U.S. persist and are ever widening. Researchers have hypothesized that increased levels of psychosocial stress may contribute to immune alterations linked to mortality in elderly cohorts. We examined for the first time the association between income level and alterations to the T cell compartment which may serve as markers of immune aging including CD4/CD8 T cell ratio and effector/naïve (E/N; CCR7-CD45RA+CD27-CD28-/CCR7+CD45RA+CD27+CD28+) ratio among CD4 and CD8 cells. We also examined whether elevated cytomegalovirus (CMV) immunoglobulin G (IgG) antibodies mediated these associations. Data were from a subset (N=79) of individuals in the Detroit Neighborhood Health Study, a population-based longitudinal study of 1,547 adults aged 18 or older living in Detroit with data on annual income level (low: < \$35,000 versus high  $\geq$ \$35,000), CMV IgG antibody level and each ratio outcome. We used multiple linear regression to estimate the geometric mean risk ratio comparing the geometric mean of each ratio outcome among those with low versus high income level. Low income level was statistically significantly associated with higher E/N ratio among CD4 T cells (RR: 7.16, 95% confidence interval (CI): 1.62, 31.68) and CD8 T cells (RR: 3.49, 95% CI: 1.50, 8.14) after adjusting for age, gender, race, smoking status and medication use. The association between income level and CD4 E/N ratio was attenuated and no longer statistically significant (RR: 2.59, 95% CI: 0.69, 9.72) after additional adjustment for CMV IgG antibody level. Impaired immune control of CMV may partially explain socioeconomic gradients in immune aging.

**322. Independent and Combined Effects of Cognitive and Physical Activity on Incident Mild Cognitive Impairment, Tiffany Hughes, Youngstown State University; James Becker, University of Pittsburgh; Ching-Wen Lee, University of Pittsburgh; Chang Chung-Chou, University of Pittsburgh; Mary Ganguli, University of Pittsburgh**

**Objectives:** To enhance the understanding of the independent and combined influences of late-life cognitive activity (CA) and physical activity (PA) on risk of incident mild cognitive impairment (MCI)

**Abstract Body:** There is growing interest in combined cognitive activity (CA) and physical activity (PA) intervention strategies to delay or prevent cognitive impairment in late life. However, there is sparse support from observational research that a combination of these activities has greater and/or broader benefits to risk of cognitive impairment than either alone. This study examined the independent and combined effects of CA and PA on risk for incident mild cognitive impairment (MCI). Participants were 864 cognitively normal (Clinical Dementia Rating (CDR) =0) members of a population-based prospective cohort study of MCI. We used interval censored survival modelling to examine risk of incident MCI (CDR=0.5) as a function of high vs. low CA and/or any vs. no engagement in at least moderate intensity PA. During three annual follow-up waves, 72 participants developed MCI. Compared to low CA and no PA, the greatest reduction in risk for MCI was observed in those with a combination of high CA and engagement in any PA (HR = 0.20, 95% CI = 0.07-0.52).

Engagement in any PA, even with low CA, also reduced risk (HR = 0.52, 95% CI 0.29-0.93), but high CA in the absence of any PA did not reduce risk (HR = 0.94, 95% CI 0.45-1.95) of MCI. These findings suggest that a combination of CA and PA may be the most efficacious intervention strategy to reduce risk for cognitive impairment, with the contribution to risk reduction being greater for PA relative to CA.

**323. Indicators of Resilience and Healthcare Outcomes: Findings from the 2010 Health and Retirement Survey,** *Cherie Simpson, University of Texas, at Austin School of Nursing; Amara Ezeamama, Department of Epidemiology and Biostatistics, University of Georgia; Jennifer Elkins, University of Georgia, School of Social Work; Toni Miles, University of Georgia, Institute of Gerontology*

**Objectives:** At the completion of the session participants will be able to describe the association between health efficacy and health care outcomes defined as health care utilization and self reported health improvement.; At the completion of the session participants will be able to describe the association between cumulative lifetime adversity and health care outcomes defined as health care utilization and self reported health improvement.

**Abstract Body:** Objective: To test the hypothesis that higher levels of resilience in aging adults protect from adverse health outcomes using a sample of 12,943 adults 50 to 70 years old enrolled in the 2010 Health and Retirement Survey (HRS). Methods: Multivariate logistic regression models were used to estimate odds ratios (OR) and 95% confidence intervals (CI) for indicators of resilience as predictors of healthcare utilization and improvements in self-rated health (SRH) over two years. Two indicators of resilience were defined: health efficacy (control over health) and cumulative life-time adversity (total number of adverse life events). Healthcare utilization included hospitalization and frequency of physician visits in the past two years. Findings: Risk of hospitalization declined by 9% (OR = 0.91, 95% CI: 0.89, 0.94), risk of  $\geq 20$  physician visits declined by 14% (OR = 0.86, 95% CI: 0.83, 0.89) and the likelihood of SRH improvement increased by 11% (OR = 1.11, 95% CI: 1.05, 1.18) per unit increase in health efficacy. Conversely, per unit increase in cumulative lifetime adversity, the risk of hospitalization rose significantly by 7%, (OR = 1.07, 95% CI: 1.05, 1.11) and  $\geq 20$  physician visits rose marginally by 3% (OR = 1.03, 95% CI: 1.00, 1.06), but no association with SRH. Conclusion: In this sample of adults near or in retirement, health efficacy was associated with lower healthcare utilization and improvement in SRH while greater life adversity increased the risk of healthcare utilization. Building resilience is a promising framework for reduction of healthcare utilization.

**324. Intergenerational Paradox: Invest Less but Expect More,** *Agus Surachman, Purdue University Calumet; Hartoyo Hartoyo, Bogor Agricultural University; Anne Edwards, Purdue University Calumet*

**Objectives:** To add to the knowledge of intergenerational transmission of poverty in Indonesia; To compare poor and non-poor families in Indonesia concerning intergenerational support

**Abstract Body:** Objective. This work tried to expand the analysis of intergenerational transmission of poverty by connecting the intergenerational relationship with the issue of aging in the term of family support, especially financial support from children. Method. Data were gathered from the study of Intergenerational Transmission of Poverty in Different Agro Ecological Area in Indonesia. Information from 102 married women with children (age range=21-40 years old, M=31.86, SD=5.19; poor=53%, non-poor=47%) were analyzed regarding their investment behavior toward their children's human capital and their expectation of financial support from children in their old age. Comparisons were made based on the SES of participants (poor vs. non-poor). Results. Poor participants had fewer years of education, were married earlier, had more children, and the majority were not working. They also invested less in their children's human capital ( $t=6.76$ ,  $p<.001$ ) but were six times more likely to expect financial support from their children when they became old ( $p<.01$ ). Discussion. The body of research about intergenerational transmission of poverty in Indonesia indicates that children who were born and raised in poor families tend to be poor as adults, as the consequence of low investment in human capital. The result of this analysis support and expand those findings; that there is possible cyclic disadvantage effect of poverty for both parents and children, as poor parents are more likely to ask for financial support as older adults. The bigger pressures will reside on the shoulder of poor sandwich generations. Key Words: aging, financial support, intergenerational relationship, poverty

**325. Job Profiles in Midlife Predict Daily Functioning Disability Severity in Later Life,** *Clas-Hakan Nygard, University of Tampere; Prakash K.C., University of Tampere; Subas Neupane, University of Tampere; Paivi Leino-Arjas, University of Tampere; Monika von Bonsdorff, University of Jyväskylä; mikaela von Bonsdorff, University of Jyväskylä; Taina Rantanen, University of Jyväskylä*

**Objectives:** Physical work demands in midlife are associated with disability severities in daily living activities in old age.; Promotion of midlife work demands may be essential for less disabilities in old age;

**Abstract Body:** Objectives To analyze if physical work demands in midlife are associated with disabilities in daily living activities in old age. Methods The design was a prospective follow-up study of Finnish municipal employees aged 44-58 years at baseline ( $n=6257$ ). The largest occupational groups were analyzed in 1981 and 1993 with a job description method. Thirteen different job profiles emerged from the results of cluster analysis at baseline. Disabilities in activities in daily living (ADL) data was collected in 2009 for 5 different activities using a questionnaire survey distributed among the survivors ( $n=3101$ ). Generalized linear models with binary logistic regression assumption was used to calculate adjusted risk ratios (RR) and their 95% confidence intervals (CI). The administrative work was the reference group for both gender. Results

There were no larger changes in the work from base-line until retirement. Among women, kitchen supervision (adjusted RR 3.89, CI95% 1.90-7.96), home care workers (2.60, 1.48-4.54) and auxiliary work (2.11, 1.21-3.67) and among men technical supervision (2.50, 1.19-5.22) and auxiliary work (2.35, 1.09-5.05) had risk for ADL disability in old age in comparison with administrative work. More specifically, a high amount of static (1.22, 1.07-1.47), dynamic (1.63, 1.33-2.01) and repetitive muscular work (1.36, 1.13-1.64) associated with disability in old age, while sitting at work was protective (0.63, 0.52-0.77) in comparison with low amount. Conclusion Job profiles among employees in midlife were predictive of disability severity in activities in daily living in old age.

**326. Looking to the Future: Time Perspective Mediates Age Effects on Goals**, Amy Knepple Carney, West Virginia University; Julie Hicks Patrick, West Virginia University; Nipat Pichayayothin, West Virginia University

**Objectives:** To test whether and in what ways time perspective effects the number of goals adults have; Examine whether Present or Future Time influence the age whether time perspective mediates or moderates the age --> Goals (# recent, # current) relation; This is important because it suggests ways to help middle-aged and older adults meet their personal goals

**Abstract Body:** Future time perspective is linked with the number, and type, of goals adults hold for themselves (Ebner et al., 2006; Lang & Carstensen, 2002; Tabachnick et al., 2008). Whether a positive future orientation differentially predicts goal-related outcomes relative to current positive perceptions or whether time orientation relates differently to recent versus current goals has not been extensively studied. We examined these questions using data provided by 68 adults representing emerging adulthood (M age ~ 20) and midlife (M age ~ 40). Mean age differences emerged for the goals of being more social, being happier, and appreciating beauty. Neither Positive Future nor Positive Present Time orientations moderated the association between age and goals. However, significant mediation effects emerged for Positive Future,  $b = -.70$ ,  $t(64) = 3.03$   $p < .05$ , for number of current goals. No significant mediation effects were detected for Positive Present on current goals. There is a need to examine the intricate relationship of time perspective and its effects on goal orientation. We need to understand if people have a better future outlook they are willing to make and participate in more goals.

**327. Married Individuals' Satisfaction with Saving for Retirement**, Helen Gutierrez, Oklahoma State University; Helen Gutierrez, Oklahoma State University; Douglas Hershey, Oklahoma State University

**Objectives:** The objective of this investigation was to examine how individuals' marital satisfaction level influences the quality of their shared goals and financial planning activities

**Abstract Body:** Previous studies have explored individuals' communication satisfaction with their spouse (Canary, Brossmann, & Weger, 1995; Canary, Cupach, & Serpe 2001; Givertz, Segrin, & Hanzal, 2009). However, few studies have examined individuals' marital communication patterns as they relate to financial preparation for retirement. This, despite the fact that approximately half of the adults in the United States who financially plan and save for retirement are in a committed relationship—either as a married spouse or cohabitant. The present study examined couples' involvement in financial planning activities as it relates to retirement. Participants were 59 married individuals (52 percent female), who ranged in age from 25-57 years. A hierarchically-structured path model was tested, in which individuals' financial planning involvement level was regressed on retirement goal clarity, shared goals and values with their spouse, satisfaction with spousal communication about retirement, and general marital satisfaction. The model was successful in accounting for 51 percent of the variance in couples' involvement in planning activities. This study suggests that individuals who are satisfied with both their marriage and the quality of their marital communication tend to be highly involved in retirement-linked financial planning activities. Valuable insights were revealed pertaining to the way in which spousal communication dynamics influence both the quality and nature of couples' retirement planning practices. These findings have implications for retirement counselors and intervention specialists who work with couples in an effort to establish clear goals and adaptive saving behaviors for the post-employment period.

**328. Meaning-Centered Men's Groups for Men Facing Retirement: A Preventive Intervention to Reduce Risk for Suicide**, Marnin Heisel, 1. The University of Western Ontario 2. Lawson Health Research Institute 3. University of Rochester Center for the Study and Prevention of Suicide; Gordon Flett, York University; Paul Links, The University of Western Ontario; Ross Norman, The University of Western Ontario; Sisira Sarma, The University of Western Ontario; Sharon Moore, The University of Western Ontario; Norm O'Rourke, Simon Fraser University

**Objectives:** Participants will gain familiarity with an innovative new intervention designed to enhance psychological resiliency and well-being, and decrease risk for the onset of depression, hopelessness, and suicide ideation among older men facing retirement.; Participants will learn about mental health challenges faced by older men facing retirement.; Participants will learn about meaning-centered approaches to enhancing mental health and well-being among older adults.

**Abstract Body:** Older men have the highest rates of suicide in North America and worldwide, accounting for over 80% of the nearly 9,400 North Americans over 60 who die by suicide every year. Few intervention studies have investigated suicide risk reduction among older adults to date, and nearly none has demonstrated significant reduction of suicide risk among older men. The present study describes a novel meaning-centered group intervention designed to enhance Meaning in Life (MIL) and prevent the onset of depression and suicide risk among men facing retirement. We aim to recruit 100 community-residing men, 60 years and older, who plan to retire within the coming year or who have retired within the past year, into a 12-session

course of meaning-centered group sessions designed to focus on transitions associated with retirement in the context of discussions about the meaning of work, retirement, leisure, relationships, and generativity. Eligible participants will be at potential risk for the onset of depression, hopelessness, and suicide ideation by virtue of facing retirement, a challenging life transition, and by endorsing extremely low levels of Meaning in Life (MIL), a key psychological resiliency factor shown to decrease risk for the onset of suicide ideation. The design, methods, and preliminary findings of this recently-initiated 3-year, multi-centre study will be presented, along with preliminary findings from our study eligibility assessments and from early in our intervention. Discussion will include focus on approaches we are implementing to recruit at-risk older men, group experiences, and initial findings investigating potential change in presence and severity of symptoms of depression, hopelessness, and suicide ideation and in MIL, perceived social support, and other psychological well-being variables.

**329. Measuring Driving-related Attitudes Among Older Adults: Psychometric assessment of the Decisional Balance Scale across time and gender**, Paweena Sukhawathanakul, University of Victoria; Holly Tuokko, Centre on Aging; Laura Walzak, Centre on Aging; Alexandra Jouk, Centre on Aging; Anita Myers, School of Public Health & Health Systems; Shawn Marshall, School of Public Health & Health Systems; Gary Naglie, Toronto Rehabilitation Institute

**Objectives:** The objective of this study was to determine the reliability of the Decisional Balance Scale in assessing driving-related attitudes among older adults over time

**Abstract Body:** Aging and age-related diseases may put older adults at increased risk of crashes and other unsafe driving behaviors. Considerable evidence has demonstrated that some older adults voluntarily regulate their driving (e.g., restrict driving in risky situations or stop driving altogether) and psychological processes like attitudes and beliefs play important roles in driving self-regulation among older adults. The Transtheoretical Model of Behavior Change (Prochaska & Velicer, 1997) has been used to understand the decisional balance process in which older adults weigh the pros and cons of driving (Tuokko et al., 2006). Based on this model, the Decisional Balance Scale (DBS) was developed to assess driving attitudes related to positive and negative beliefs concerning intrinsic (i.e., self; beliefs concerning one's driving) and extrinsic (i.e., other; beliefs concerning one's driving in relation to others) motivations for driving. This study examined the psychometric properties of the DBS ratings across 3 time points in a sample of 928 older drivers (Mage = 76.21) who participated in the Canadian Driving Research Initiative for Vehicular Safety in the Elderly (CanDRIVE). Results from confirmatory factor analyses revealed that a two-factor model (positive and negative attitudes) for both self and other driving beliefs provided a good fit to the data at each time point. Results also indicate measurement invariance across time and gender.

Recommendations for continued use of the DBP in future research on driving behaviours with older adults are discussed.

**330. Mediating Effects of Health Literacy and Linguistic Ability on the Relationship between Young Adult Cognition and Later-Life Pulmonary Function**, Terrie Vasilopoulos, University of Florida

**Objectives:** After attending this session, participants will be able to better understand how health literacy and linguistic ability affect the relationship between cognition in young adulthood and pulmonary function in later life

**Abstract Body:** Several previous studies have established the relationship between cognition in adolescence and young adulthood with pulmonary function in later life. However, the mechanism that underlies this relationship is unclear. The present study examined the potential mediating effects of health literacy on this relationship. Furthermore, because of previously reported links between health literacy and reading comprehension, the influence of linguistic ability on this relationship was also evaluated. This study included 616 individuals from the Wisconsin Longitudinal Study (those with complete data for all included variables); the average age was 71.3±0.9. Young adult cognitive ability was indexed by Henmon-Nelson test recorded in high school. Health literacy was measured by the New Vital Sign Health Literacy Assessment. Pulmonary function was the maximum peak expiratory flow (PEFmax) after three measurements. Linguistic ability was a composite score including tests of comprehension, recognition, and identification. All analyses were adjusted for sex, smoking, pulmonary disease diagnosis, height and education. Young adult cognition was significantly associated with PEFmax ( $\beta=0.039$ ,  $p<0.001$ ). After including health literacy as a mediator, this association was reduced ( $\beta = 0.013$ ,  $p = 0.534$ ). The indirect effect of cognition via health literacy was statistically significant (effect=0.026, 95%CI:0.011–0.042). However, the inclusion of the composite linguistic ability measure into the model attenuated this mediation effect (effect=0.008, 95%CI:-0.061–0.076). Thus, our findings suggest that, while health literacy may mediate the relationship between young adult cognition and later-life pulmonary function, this effect is at least partly explained by an individual's overall linguistic skills.

**331. Mental health service use among lesbian, gay, and bisexual older adults**, Ian Stanley, Center for Innovative Care in Aging, Johns Hopkins University; Jeffrey Duong, University of California Davis School of Medicine

**Objectives:** Describe and compare mental health service use between lesbian, gay, and bisexual (LGB) and heterosexual older adults.; Determine factors that may account for the relationship between sexual orientation and mental health service use among older adults

**Abstract Body:** Objectives: We assessed associations between sexual orientation and mental health service use among older adults and determined the mediating role of non-specific psychological distress, excessive alcohol use, and self-perceived general health. Methods: Data from the New York City Community Health Survey were analyzed. The analytic sample

comprised 5,138 adults ages 50 and over. Logistic regression modeling was used to examine associations between sexual orientation (lesbian, gay, bisexual [LGB] vs. heterosexual) and past-year mental health service use (counseling or medication), adjusting for socio-demographic and clinical characteristics. Mediation was tested using bootstrapping. Results: Among LGB older adults, 23.9% reported receiving counseling and 23.4% reported taking psychiatric medication in the past year. LGB respondents were significantly more likely than heterosexuals to have received counseling (AOR=2.16, 95% CI=1.49, 3.13) and psychiatric medication (AOR=1.97, 95% CI=1.36, 2.86). Psychological distress, excessive alcohol use, and self-perceived general health did not mediate the association between sexual orientation and mental health service use. Conclusions: LGB older adults were more likely than heterosexuals to utilize mental health services, and this association was not explained by indicators of physical, mental, or behavioral health.

**332. Sex, Health and Lifespan: Untangling the Response to Calorie Restriction in Mice, Sarah Mitchell, National Institute on Aging**

**Objectives:** Understand the underlying effects of calorie restriction in mice; Determine the differential response to calorie restriction in different strains and genders.

**Abstract Body:** Calorie restriction (CR) is the only laboratory intervention that consistently delays the onset of aging and age-related diseases. Recent evidence suggests that CR may not be universal and that the response to may dependent on more than just a reduction of calories without malnutrition. Here we performed longitudinal assessments of healthspan and assessed lifespan on male and female DBA/2J (D2) and C57BL/6J (B6) mice. One of the hallmarks of CR-mediated lifespan extension is preservation of insulin sensitivity. Here, serum insulin and glucose levels were proportionally reduced with increasing dose of CR in D2 mice, whereas 20% CR was the most effective in lowering these two parameters in B6 mice. D2 mice exhibited lifespan extension when maintained on 20% and 40% CR; however, 40% CR was detrimental to female B6 mice. 20% CR extended lifespan in both male and female B6 mice. Principal component analysis of livers of 22-month old mice showed clear separation between experimental groups based on strain, sex and diet. Interestingly, no clear separation was observed between 20 and 40% CR in females of either strain despite large difference in their lifespan, indicating that a discrete subset of genes could be implicated in CR-mediated lifespan extension instead of having a global, multidimensional alteration in gene expression profile. Our data highlight the importance to systematically examine the contributions of sex and strain of the mouse vis-à-vis CR actions to further our understanding of normal aging.

**333. Accessing JAX Nathan Shock Center Data in the Mouse Phenome Database for Genetic Analysis of Murine Lifespan and Healthspan, Luanne Peters, The Jackson Laboratory; Molly Bogue, The Jackson Laboratory; Gary Churchill, The Jackson Laboratory; Elissa Chesler, The Jackson Laboratory**

**Objectives:** To demonstrate how to access multiple large datasets on lifespan and healthspan in > 30 inbred mouse strains using the Mouse Phenome Database (MPD).; To demonstrate MPD tools available to analyze the multiple datasets.;

**Abstract Body:** The Jackson Laboratory Nathan Shock Center (JSC) of Excellence in the Basic Biology of Aging has performed broad characterization of aging in genetically diverse laboratory mice. JSC has extensively characterized over 30 commonly used inbred strains of mice for lifespan and healthspan-related phenotypes, greatly increasing the genetic diversity of the mouse models available for aging research. This is the most comprehensive well-controlled lifespan study in mammals to date. The study includes both longitudinal and cross-sectional assessments. Longitudinal data include lifespan and a host of non-invasive multi-system physiological measures. The cross-sectional study includes invasive assessments, pathology, and the collection of tissues to evaluate apoptosis and chromosome stability. Data generated from these efforts have been placed in a rich and interactive software environment, the Mouse Phenome Database (MPD; phenome.jax.org), which serves as the authoritative source for JSC data and protocols. The data may be freely accessed and analyzed by researchers interested in finding mouse models for specific aging processes, age-related health and disease states, and for genetic analysis of aging variation and trait covariation. Data from ongoing and future studies of aging and healthspan using Diversity Outbred (DO) mice, knock-out mice and other populations are being added as projects are completed. We expect that by making these data public that there will be 1) accelerated genetic analyses of aging processes, 2) discovery of genetic loci regulating lifespan, 3) identification of compelling correlations between lifespan and susceptibility for age-related disorders, and 4) discovery of concordant genomic loci influencing lifespan and aging phenotypes between mouse and humans. NIH AG038070, DA028420

**334. Mouse and primate lifespan is correlated with changes in immunoproteasome expression, produced through variable levels of interferon- $\gamma$  receptor 2, Andrew Pickering, University of Michigan; Richard Miller, University of Michigan**

**Objectives:** Using the comparative biology to identify novel pathways involved in regulation of lifespan and the aging process.; The role of different forms of proteasome in aging.; The role of MHC class I presentation and interferon- $\gamma$  sensitivity in aging and lifespan.

**Abstract Body:** Comparative biology provides powerful tools for identifying novel genes and pathways that control the rate of aging. Fibroblasts from longer lived species are more resistant to both oxidative stress and protein damage than fibroblasts from shorter lived species of the same clade. We demonstrate that amongst primates species longevity is correlated with an

elevation in immunoproteasome expression. The enhancement in immunoproteasome appears to play an important role in increasing MHC class I antigen presentation in cells from longer lived primates. In addition we establish that the increase in immunoproteasome is correlated with, and perhaps caused by, increased sensitivity to interferon- $\gamma$  signalling, which in turn is correlated with an increase in expression of the interferon- $\gamma$  receptor protein IFNGR2. We observe similar increases in immunoproteasome and IFNGR2 in the livers of long lived mouse models. This work identifies a novel pro-longevity pathway amongst primate species and laboratory mice.

**335. Cardiovascular Risk Profile Associated With Frailty: Cross-sectional Results From A Population-based Study of Older British Men,** *Sheena Ramsay, University College London; Deborah Ariyanagam, University College London; Peter Whincup, St George's University of London; Steve Iliffe, University College London; A.O. Papacosta, University College London; S.G. Wannamethee, University College London*

**Objectives:** To gain further understanding of the range of cardiovascular risk factors associated with frailty.; To understand the importance of the management of cardiovascular risk in frail and pre-frail older people.

**Abstract Body:** Background: Frailty in older age is associated with cardiovascular disease (CVD) risk. However, the extent to which frailty is associated with the CVD risk profile has been little studied. Our aim was to examine the associations of a range of cardiovascular risk factors with frailty and to assess whether these are independent of established CVD. Methods: Data come from a socially representative sample of 1622 men from 24 British towns aged 71-92 between 2010-2012. Frailty assessment was based on weight loss, grip strength, exhaustion, slowness and low physical activity. Results: Among 1622 men, 19% were frail and 54% were pre-frail. Compared to non-frail men, those with frailty had a higher odds of obesity (odds ratio (OR) 2.03, 95%CI 1.38-2.99), high waist circumference (OR 2.30, 95%CI 1.67-3.17), low HDL-cholesterol (OR 2.28, 95% CI 1.47, 3.54) and high blood pressure (OR 1.79, 95% CI 1.27, 2.54). Frail individuals had a worse cardiovascular risk profile with increased risk of high heart rate, poor lung function (FEV1), raised white cell count (WCC), poor renal function (high creatinine, low estimated glomerular filtration rate), low alanine transaminase (ALT), and low serum sodium. Some risk factors (HDL-cholesterol, blood pressure, WCC, FEV1, renal function) were also associated with being pre-frail. These associations remained when prevalent CVD cases were excluded. Conclusion: Frailty (as well as pre-frailty) was associated with a range of cardiovascular risk factors in older people, independent of established CVD. Assessing and reducing adverse cardiovascular risk is an important component of management of frail older individuals.

**336. High Levels Of The Small Chaperone HSP25 In Naked Mole-Rats May Be A Determinant Of Rodent Longevity,** *Karl Rodriguez, University of Texas Health Science Center San Antonio; Joe Valentine, University of Texas Health Science Center San Antonio; D. Alexander Kramer, University of Texas Health Science Center San Antonio; Johnathan Gelfond, University of Texas Health Science Center San Antonio; Rochelle Buffenstein, University of Texas Health Science Center San Antonio*

**Objectives:** The long lived naked mole-rat globally has a more robust molecular chaperone network than the short-lived mouse; HSP25 correlates with rodent maximum lifespan potential; Protein homeostasis is a key determinant of longevity

**Abstract Body:** Proteostasis is an integral component of healthy aging. Protein quality declines during aging, resulting in accrual of damaged or self-aggregating cytotoxic proteins, linked to several age-associated diseases (e.g. Alzheimer's Disease, Parkinson's Disease) and pathology (e.g., sarcopenia). The naked mole-rat [NMRs] lives ~5 times longer than expected based on body size and maintain good health for most of their long lives. Like other long-lived animal models, both in vivo and in vitro studies reveal that NMRs are resistant to a broad spectrum of environmental stressors. These findings suggest that NMRs possess efficient mechanisms to maintain protein quality. Here we examine key molecular chaperones [HSPs] and the heat-shock factor 1 [HSF1] transcription factor in a number of different tissues comparing protein expression between mice and NMRs. HSP70 was higher in NMR for most tissues compared to mice. For HSF1 (total and phosphorylated forms), HSP110, HSP90, and HSP70 co-chaperones, such as HSP40, protein levels showed tissue-specific trends where there was no difference, higher levels in one or the other species. HSP25 both showed higher levels of protein in NMRs compared to mice in all the tissues examined. Hence we then measured HSP25 protein content in seven rodents with ages ranging from four to 32 years in both liver and muscle, where HSP25 showed the greatest species differences between mole-rats and mice. This comparison resulted in a significant correlation with longevity suggesting that HSP25 may play a key role in age-related maintenance of protein homeostasis in long-lived animals.

**337. Scientific Basis Of Two Febrile Intervention Studies With Young And Aging Cancer Patients,** *Barbara Holtzclaw, University of Oklahoma Health Sciences Center/ College of Nursing/ Associate Dean for Research*

**Objectives:** Describe the mechanisms underlying febrile shivering. Describe the metabolic and cardiorespiratory effects of shivering on patients with compromised cardiovascular systems. Explain the scientific basis for insulative wraps as shivering prevention.

**Abstract Body:** Fever is a ubiquitous systemic host response causing shaking chills, but many clinicians minimally understand its mechanisms. Research findings that report a "blunted" febrile response in older adults is increasingly accepted as a maxim, so caregivers may fail to intervene when febrile shivering appears with older patients. Shivering plays a role in both the cause and effect of fever. Elevation of the hypothalamic set point range widens temperature gradients between



skin/core. Shivering is a host response that effectively raises core temperature to overcome the deviation. Fever is not limited to infections, yet treatment rarely goes beyond antipyretic and anti-infective drugs or cooling measures that are distressful and counterproductive. Published intervention studies are few and situation-specific. Two studies of a non-pharmacological intervention to control amphotericin B (AmB) induced febrile shivering in immunosuppressed adult patients with cancer [n = 40, 25-65 yrs. and n = 20, 26-71 yrs.], demonstrate older as well as young patients experience febrile shivering and benefit from treatment. Method: To modify heat loss from the skin to prevent shivering, three layers of terry cloth toweling were wrapped around extremities prior to administration of pyrogenic antifungal drug AmB. Measurements and Findings: Comparisons of duration and intensity of shivering, amount of meperidine for shivering suppression, and cardiorespiratory indicators of metabolic effort between treatment and control groups, found wrapped patients with lower shivering incidence, duration, and severity, heart rates and blood pressure (calculated to rate-pressure product). Translational interpretation of this work offers renewed research paths for emerging science in fever management of older adults.

**338. Signs of Water-Loss Dehydration in Older Adults: a Diagnostic Accuracy Systematic Review**, *Lee Hooper, Norwich Medical School, University of East Anglia; Phyllis Gaspar, Colleges of Medicine and Nursing, University of Toledo; Janet Mentes, University of California Los Angeles; Marcel Olde Rikkert, Department of Geriatrics, Radboud University; James Powers, Medicine, Vanderbilt University School of Medicine; David Thomas, Medicine, Vanderbilt University School of Medicine*

**Objectives:** Participants will be able to state several tests that should not be used to diagnose water-loss dehydration in elders; Participants will know and name promising tests for diagnosing water-loss dehydration, but that still need additional research.

**Abstract Body:** Introduction Water-loss dehydration is common in elders and associated with increased risk of disability, mortality, respiratory infections, urinary tract infections, unplanned hospital admissions, constipation, pressure sores, falls and impaired cognition. We need to accurately diagnose water-loss dehydration to help protect older people. Objective We aimed to assess the diagnostic accuracy of possible clinical and physical signs, symptoms and indications of water-loss dehydration in elders against serum osmolality or weight change (reference standards). Methods Structured searches were run in seven databases. Assessment of inclusion, data extraction and assessment of validity were duplicated. Where data sets included index tests and a reference standard, but were not analysed for diagnostic accuracy, reviewers analysed the data. Diagnostic accuracy of each indicator was assessed against the best reference standard, and data presented in sensitivity and specificity forest plots. Pre-set minimum sensitivity was 60%, specificity 75%. Secondary analyses created receiver operating characteristic (ROC) curves for continuous tests. Results We included 24 studies (67 tests). No index tests were reproducibly usefully diagnostic of water-loss dehydration in older people, but promising tests included expressing fatigue, missing drinks between meals, BIA resistance at 50kHz, axillary moisture, drinks intake and urine osmolality. There was sufficient evidence to suggest that some tests should not be used to indicate dehydration: dry mouth, feeling thirsty, heart rate, urine color and urine volume. Conclusions There is limited evidence of the diagnostic utility of any individual sign to indicate water-loss dehydration in elders. Individual signs should not be used in this population to indicate dehydration.

**339. Standard Laboratory Tests to Identify Older Adults at Increased Risk of Death**, *Susan Howlett, Dalhousie University, Department of Pharmacology; Michael Rockwood, Dalhousie University; Arnold Mitnitski, Dalhousie University; Kenneth Rockwood, Dalhousie University*

**Objectives:** After attending this activity, participants will be able to discuss how a frailty index score can be obtained from routinely collected laboratory tests. After attending this activity, participants will understand how frailty index scores can predict mortality in older adults. After attending this activity, participants will understand how data obtained from routine blood tests could be combined with clinical assessments of frailty to produce a frailty index score that is highly predictive of mortality.

**Abstract Body:** Methods to identify frail people often require time-consuming interactions with health care providers. We evaluated whether standard laboratory tests, on their own, or added to a clinical frailty index (FI), could identify older adults at increased risk of death. Community-dwelling and institutionalized participants in the Canadian Study of Health and Aging who also volunteered for blood collection (n=1,013) were followed for up to 6 years. A standard FI (FI-CSHA) was constructed from clinical evaluation data and a second, novel FI was constructed from laboratory data plus blood pressure measurements (FI-LAB). A combined FI included all items from each index. Predictive validity was tested using Cox proportional hazards analysis and discriminative ability by area under Receiver Operating Characteristic (ROC) curves. Of 1,013 participants, 51.3% had died by 6 years. The mean baseline value of the FI-LAB was 0.27 (SD 0.11; range 0.05-0.63), the FI-CSHA was 0.25 (0.11; 0.02-0.72), and combined FI was 0.26 (0.09; 0.06-0.59). In an age- and sex-adjusted model, with each increment in the FI-LAB, the hazard ratios increased by 2.8% (95% CI 1.02-1.04). Hazard ratios for the FI-CSHA and combined FI were 1.02 (1.01-1.03) and 1.04 (1.03-1.05), respectively. The FI-LAB and FI-CSHA remained independently associated with death in the face of the other. The areas under the ROC curves were 0.72 for FI-LAB, 0.73 for FI-CSHA, and 0.74 for the combined FI. An FI based on routine laboratory data can identify older adults at increased risk of death. Additional evaluation of this approach in clinical settings is warranted.

**340. A Open-label, No-treatment-controlled, Parallel, Pilot Phase II Study to Evaluate the Efficacy and Safety/Tolerability Profiles of G-CSF in Subjects with Mild to Moderate Alzheimer's Disease.**, *Wen-Chuin Hsu, Chang Gung Dementia Center Chang Gung Memorial Hospital, Taoyuan Chang Gung University*

**Objectives:** Granulocyte-colony stimulating factor (G-CSF) is a safe drug of older patients with Alzheimer disease (AD).; G-CSF might slow the cognitive decline in mild to moderate AD.

**Abstract Body:** BACKGROUND: Granulocyte-colony stimulating factor (G-CSF) is a growth factor linked with the blood cell proliferation and differentiation. Previous studies showed injection of G-CSF could help hematopoietic stem cell (HSCs) release from bone marrow to the peripheral blood and then migrate to repair damaged areas, e.g. heart tissue and ischemia brain tissue. G-CSF migrated stem cells to the brains and rescue the memory impairment in the animal model with Alzheimer disease (AD). DESIGN: A randomized open-label trial, Phase 2; parallel design using no-treatment group as control. The subjects with AD aged between 50 and 85 years with MMSE 10~26 and CDR 1 (mild) or 2 (moderate) were randomized. RESULTS: There was no significant difference in changes of ADAS-Cog from the baseline between G-CSF (n=10) and No-Treatment (n=11) groups with mild to moderate AD. The decline in ADAS-Cog and Instrumental ADL might be slower in Treatment group than in the No-Treatment. Enlargement of the spleen by >30% in 3 subjects (37.5%) of G-CSF group in a total of 16 G-CSF courses. There was none of splenic rupture. G-CSF is a safe drug of older patients with AD. It might slow the cognitive and ADL decline in mild to moderate AD. This study encourages further trials with larger size and longer duration to evaluate the efficacy of G-CSF on AD.

**341. Gaining Insight into the Impact of Body Fat on Cognitive Function among Older Adults**, *Chun Liang Hsu, Aging, Mobility, and Cognitive Neuroscience Lab - University of British Columbia; John Best, Aging, Mobility, and Cognitive Neuroscience Lab - University of British Columbia; Elizabeth Dao, Aging, Mobility, and Cognitive Neuroscience Lab - University of British Columbia; Jennifer Davis, Center for Clinical Epidemiology and Evaluation - University of British Columbia; Ken Madden, Geriatric Medicine - University of British Columbia; Teresa Liu-Ambrose, Geriatric Medicine - University of British Columbia*

**Objectives:** After attending this session, participants will be able to discuss our current understanding in the relationship between body fat and cognitive function

**Abstract Body:** Obesity and dementia are both increasing in prevalence worldwide. While obesity are associated with key vascular risk factors (e.g., hypertension, diabetes) for dementia, the relationship between body fat and cognitive function in older adults remain equivocal. In fact, there is evidence body fat may be neural-protective for older adults. Neuroimaging studies of otherwise healthy adults demonstrate that increased body mass index (BMI) is associated with global and regional brain atrophy, as well as altered functional connectivity. However, few studies to date have investigated neural mechanisms of obesity-induced cognitive changes in older adults. In a 12-month prospective study, we aimed to examine: 1) the impact of BMI on functional brain connectivity; and 2) the role of functional brain connectivity in the association between BMI and cognitive function. Methods: A 12-month prospective fMRI study with 66 seniors aged 70 to 80 years; 24 normal weight (with BMI≤18.50), 26 overweight (with BMI between 18.5 and 29.99), and 15 obese (with BMI ≥ 30.00). Participants performed a finger tapping task during fMRI scanning. Clinical measures of executive functions were assessed at baseline and 12 months. Results & Conclusion: Obese individuals showed decreased connectivity in the default mode network (DMN;  $p<0.006$ ), which was significantly correlated with Digit Span Test performance at 12 months ( $p<0.02$ ) and BMI ( $p<0.001$ ). Contrary to studies that report high BMI negatively impact cognitive function, we found increases in BMI indirectly lead to reduced DMN connectivity, which, in turn, lead to improved performance on Digit Span Test. This suggests DMN connectivity mediates and suppresses the effect of BMI on cognitive function, and may be involved in compensatory processes in older adults.

**342. Comparative Study of Two Drug Administration Processes in the Preparation of the Eye for Cataract Surgery**, *JinPing Hu, Peking University Third Hospital*

**Objectives:** To compare the effect of two drug administration processes on decreasing the rate of conjunctival bacterial infection among senile patients in the preparation of the eye for cataract surgery

**Abstract Body:** Methods: Participants who made surgery appointments were recruited by convenient sampling in an eye center of Beijing, China. History control group was borrowed (control group: 146 cases; experimental group: 107 cases). Patients in the control group were given the eye medication by traditional process that patients only got the drug-related education from their doctors. Patients in the experimental group were given the medication by the new drug administration process, which was cooperatively conducted by physicians and nurses and emphasized each sub-process of drug administration at drug preparation, personalization, application, and follow-up. Results: Conjunctival sac bacteria culture was conducted at two time points for both groups (the day of surgery appointment vs. 3rd day after surgery appointment which was the morning of surgery). Rates of germiculture positive for both groups at the day of surgery appointment were not significant (control group=35.6%, experimental group=36.4%;  $p>0.05$ ), while the rates were significantly different at the 3rd day after surgery appointment (control group=13.0%, experimental group=2.8%;  $\chi^2=6.48$ ,  $p=0.01$ ). Conclusions: Compared with the traditional process, the new process of administering the eye medication for senile patients in the preparation of the

eye for cataract surgery is more effective on decreasing the rate of conjunctival sac bacterial infection. The better cooperation between physicians and nurses on the drug administration process are considerable.

**343. Balance Impairments and a History of Falls Influencing Quality of Life in Community-Dwelling Older Cancer Survivors**, *Min Hui Huang, Physical Therapy Department, the University of Michigan-Flint; Tracy Shilling, Physical Therapy Department, the University of Michigan-Flint.; Kara Miller, Health Quest Physical Therapy; Kristin Smith, Life In Balance Physical Therapy; Kayle Fredrickson, Mary Free Bed Rehabilitation Hospital*

**Objectives:** To analyze the impact of balance impairments (measured by the short version of Activity-specific Balance Scale (ABC-6) and the Balance Evaluation Systems Test (BESTest)) and a history of falls (the status of being a faller vs. non-faller; a faller was a person who reported having one or more falls in the past 12 months prior to enrolling in the study) on health-related QoL (measured by the SF-36v2 Physical Component Summary (PCS) and Mental Component Summary (MCS)) in community-dwelling older cancer survivors.

**Abstract Body:** Introduction: Cancer and its treatments cause adversely outcomes in postural control systems, leading to impaired balance and increased risks of falls. Long-term declines in health-related quality of life (QoL) after the cancer diagnosis have been documented. This study examined the impact of balance and falls on QoL in older cancer survivors. Subjects: Forty-one cancer survivors (age=67.9±8.8) living in the community volunteered. Inclusion criteria were age 55 years and over, a history of cancer not involving the nervous, musculoskeletal, or integumentary systems, completion of primary cancer treatment at least 3 months, and no history of neurologic conditions. Methods: Multiple linear regression was performed with the scores of Physical Summary Component (PCS) or Mental Summary Component (MCS) of SF-36v2 separately as the dependent variable. The scores of the short version of Activity-specific Balance Confidence scale (ABC-6), Balance Evaluation Systems Test (BESTest), and the history of falls in the past 12 months were the independent variables. Age was a covariate. Significance level was  $p < 0.05$ . Results: BESTest ( $p < 0.01$ ), history of falls ( $p < 0.001$ ), and age ( $p < 0.05$ ) were significant predictors of PCS. Only age significantly predicted the MCS scores ( $p < 0.01$ ). For PCS and MCS, the adjusted R<sup>2</sup> values were 0.53 and 0.11, respectively, suggesting that the models adequately explain a small portion of PCS but not MCS. Discussion: Balance impairment and a history of falls are strong predictors of QoL, particularly in the physical domain. Clinicians should identify older cancer survivors with balance problems, inquire about falls, and initiate interventions to optimize QoL.

**344. Long-Term Consequences of an Intensive Care Unit Stay in Critically Older Patients**, *Marie-Madlen Jeitziner, Department of Intensive Care Medicine, University Hospital (Inselspital) Bern; Maastricht University CAPHRI; Sandra Zwakhalen, Maastricht University, CAPHRI; Reto Bürgin, University of Geneva; Virpi Hantikainen, University of Applied Sciences St. Gallen; Jan Hamers, Maastricht University, CAPHRI*

**Objectives:** Identify how an ICU stay influences an older person's experiences later in life.

**Abstract Body:** Worldwide, an increasing number of critically ill older patients are treated at the intensive care unit (ICU). Critically ill older patients are at risk for negative outcomes due to the combination of acute critical illness, co-morbidities, age-related vulnerability and the ICU environment. However, relatively little is known about long-term outcomes. Therefore, a prospective longitudinal study was conducted in older critically ill patients admitted to the ICU. Data on pain, anxiety, agitation, health-related quality of life (HRQoL) and the use of the resources were collected during ICU admission and 1 week, 6 and 12 months after discharge. A comparison group matched by age and gender was included. This study included 145 older patients (ICU group) and 146 participants (comparison group). Findings show that although critically ill older patients experience slightly more pain and anxiety 1 week after discharge, they did not report increased levels of pain, anxiety and agitation during the year following an ICU stay. Factors associated with pain in the ICU group during follow-up included: pain before ICU admission, pain during the ICU stay, surgical procedures, and higher doses of sedatives. HRQoL was lower in older ICU patients than in the age-matched group before and after ICU admission but remained stable over one year. More resources were used by older patients after ICU discharge, however most were able to live at home with no or minimal assistance after one year. Based on these findings we conclude that long term consequences of critically ill older patients treated in an ICU are minimal.

**345. A Fall Prevention Guideline for Older Adults Living in Long-term Care Facilities**, *Dukyoo Jung, Ewha Womans University, Seoul, Korea; Sujin Shin, Soonchunhyang University; Hyejin Kim, Ewha Womans University*

**Objectives:** This study aimed to develop a guideline covering risk factors and interventions for falls in order to prevent them from occurring in long-term care facilities

**Abstract Body:** Background: Falls are among the most frequent critical health problems for older adults over 65 years of age and often result in consequential injuries. Aims: This study aimed to develop a guideline covering risk factors and interventions for falls in order to prevent them from occurring in long-term care facilities. Methods: This study was grounded in the methodological approach of the Scottish Intercollegiate Guideline Network (SIGN) for establishing evidence-based guidelines: (1) establishment of the target population and scope of the guideline; (2) systematic literature review and critical analysis; (3) determination of the recommendation grade; (4) development of a draft nursing intervention guideline and algorithm; (5) expert evaluation of the draft nursing intervention guideline; and (6) confirmation of the final intervention

guideline and completion of the algorithm. Results: This algorithm consists of three assessment stages and three intervention stages. At the first assessment stage, if the subject is found to have a previous fall, then he/she should participate in the comprehensive intervention. The second stage provides drug management as well as strengthening and gait and balance training along with general fall prevention. At the same time, the subjects were assessed regarding further risk factors. If they had one of the remaining risk factors, they moved to the comprehensive intervention. Conclusion: This guideline can be used by nurses to screen for patients who are at a high risk of falling to provide patient interventions to help prevent falls.

**346. Walkability, Walking Behavior, and Health of Seniors Living in Tokyo, Keiko Katagiri, Graduate School of Human Development and Environment, Kobe University**

**Objectives:** To explore what aspect of walkability is important for the seniors.; To explore how walkability relates to walking behavior of the elderly; To examine walking behavior relates to improve the elderly's health

**Abstract Body:** Three Asian cities, Tokyo, Hong Kong, and Singapore, share the social issue of how to promote health behavior among seniors. We aimed to study the environmental conditions of walkability and its effect on seniors' walking behavior and health (given that the promotion of everyday walking habits is the most efficient way to promote health). In this study, we report the descriptive results of walkability, walking behavior, and health of the elderly who use senior centers in two areas of Tokyo, Nerima (located in the suburbs) and Meguro (located near the heart of Tokyo). Participants consisted of 315 seniors. Participants provided assessments of their neighborhoods' walkability, their walking behaviors, and their health status through face-to-face interviews in 2013. Walkability was assessed by three sub-concepts, safety, convenience, and comfortableness, as well as an overall score out of a hundred. Walking behavior was measured by how many days in the last week they walked for more than ten minutes. Convenience, overall walkability, and walking behavior of Meguro scored higher than those of Nerima. Safety and comfortableness significantly correlated with overall walkability scores. Only convenience correlated with walking behavior. Walkability, walking behavior, area, gender, and age were regressed on depression, revealing associations between overall walkability and walking behavior with lower depression. These preliminary results suggest that the walkability of an area promotes walking behavior, and that more walking contributes to lower levels of depression. Further examination of these variables is necessary to unravel the relevance of the relationships between walkability, walking behavior, and health.

**347. Rehabilitation Outcomes in Aging Patients with Bilateral Lower Extremity Peripheral Neuropathies- A Pilot Study, Tim Kauffman, Kauffman Physical Therapy**

**Objectives:** The reader will learn the effectiveness of physical therapy intervention for patients with bilateral lower extremity peripheral neuropathy.; The reader will learn a variety of assessment tools that are appropriate when evaluating patients with bilateral lower extremity peripheral neuropathy.; The reader will be able to discuss the importance of co-morbidities when evaluating and treating patients with bilateral lower extremity peripheral neuropathies

**Abstract Body:** Rehabilitation outcomes of aging persons with peripheral neuropathy (PN) are varied due to idiosyncratic aging changes and co-morbidities. This single case design study was completed in an outpatient physical therapy office to determine individual outcomes and optimal assessments. Charts from 15 persons, 5 females, with primary or secondary diagnosis of lower extremity PN, were reviewed. Mean age was 77.6 years, range 68 to 90 years. All complained of numbness and gait abnormality; most complained of pain. Co-morbidities ranged between 4-10 for each. The evaluating therapist chose functional assessment tools based on co-morbidities and thus were not identical for all subjects. Each subject was his/her own control. Seven subjects were excluded because of medical changes and cessation of intervention before reevaluation. Among the individualized assessments were dynamometric muscle strength, the Gait Abnormality Rating Scale, gait velocity, computerized balance testing, Dynamic Gait Index, sit to stand and ABC Scale. Seven patients improved in at least 2 of the measurement tools. The 8th subject had made good progress initially but her condition worsened and she was referred to her neurologist. Six of seven subjects who made the best gains in functional tests were treated only 10-13 visits. Physical therapists and assistants with a team approach provided all care. Conclusion: All patients were pleased to be exercising. 88% improved well on 2 or more functional assessments. There may be no gold standard in assessment tools for persons with PN. A grading scale for persons with PN may be helpful for future researchers.

**348. Cancer Survivorship Research in Medicare Advantage Enrollees: the Surveillance, Epidemiology and End Results –Medicare Health Outcomes Survey (SEER-MHOS) Linked Dataset, Erin Kent, National Cancer Institution; Rochelle Malinoff, Health Services Advisory Group; James Burroughs, Health Services Advisory Group; Gigi Yuan, Information Management Services; Marie Topor, Information Management Services; Heather Rozjabeck, Information Management Services; Anita Ambs, National Cancer Institute**

**Objectives:** 1.Describe health-related quality of life and socio-demographic and clinical characteristics of older adults diagnosed with breast, prostate, colorectal, and lung cancer and individuals with no history of cancer.; 2.Examine highlighted patient-reported outcomes of SEER-MHOS participants, including body mass index, number of recent unhealthy days, problems with balance and falls, and fall risk management.

**Abstract Body:** The Surveillance, Epidemiology, and End Results (SEER) -Medicare Health Outcomes Survey (MHOS) linkage provides cancer registry data and health-related quality of life of Medicare managed-care beneficiaries with and

without cancer. We provide descriptive data on socio-demographic and clinical characteristics of participants with a history of breast, prostate, colorectal, or lung cancer, and those without cancer. We highlight items in MHOS 2.0, including self-reported body mass index (BMI), number of unhealthy days in the past month, past-year history of balance problems/falls, and fall risk management. 258,108 individuals without a history of cancer, 1,311 males with prostate cancer, 982 females with breast cancer, 689 individuals with colorectal cancer, and 458 individuals with lung cancer were included in the analysis. A higher proportion of obesity (BMI>30 kg/m<sup>2</sup>) was observed among breast cancer patients (26.9%) than females without cancer (25.7%). The number of days individuals reported their health status kept them from performing usual activities also varied across groups; 36.9% of lung cancer patients and 21.0% colorectal cancer patients reported 14-30 days vs. 13.5% of individuals without cancer. Approximately 42.4% post-dx cancer patients and 39.4% of individuals without cancer reported problems with balance/falls. Of those that reported problems with falls/balance, 35.2% with and 34.5% without cancer reported no healthcare provider discussions/suggestions regarding fall risk management. Comparisons of reports from older individuals with/without cancer reveal challenges in providing care to aging cancer patients. Monitoring patient-reported data on health outcomes, behaviors, and care experiences can provide useful information population-level surveillance and quality improvement.

**349. Frailty Assessment and Long-Term Mortality After Cardiac Surgery: A Systematic Review, Caroline Kim, Beth Israel Deaconess Medical Center, Harvard Medical School; Sebastian Placide, Beth Israel Deaconess Medical Center; Edward Marcantonio, Beth Israel Deaconess Medical Center, Harvard Medical School; Jeffrey Popma, Beth Israel Deaconess Medical Center, Harvard Medical School; Dae Hyun Kim, Beth Israel Deaconess Medical Center, Harvard Medical School**

**Objectives:** To learn that the presence of preoperative frailty is a strong predictor of long-term mortality after cardiac surgery, independent of comorbid conditions

**Abstract Body:** Background: Current preoperative risk scores for cardiac surgery estimate short-term mortality and major complications but perform poorly in predicting long-term mortality. Frailty has been associated with long-term mortality in older patients undergoing cardiac surgery. However, a wide variation in frailty measurements may limit uptake of such measurements in clinical practice. Methods: We conducted a systematic search of Medline and EMBASE, from inception to 4/2014, to identify prospective studies that evaluated preoperative measurements of frailty in relation to long-term mortality (≥6 months) in populations (mean age ≥60 years) undergoing coronary artery bypass graft or valve surgery. Results: Of the 12 measures of frailty evaluated, 11 were associated with mortality beyond 6 months (relative risk [RR] range: 1.2-3.5 comparing the most frail versus the least frail groups), after adjusting for demographic characteristics and comorbidities. The frailty measurement frequently involved mobility (Timed Up-and-Go test, 6-minute walk test, gait speed; RR: 1.7-6.7 in 9 studies), self-reported functional status (activities of daily living, mobility disability; 1.5-3.6 in 7 studies), nutritional status (Mini Nutritional Assessment, serum albumin, weight loss; 3.4-6.7 in 5 studies), muscle strength (grip strength, chair rise; 1.6 in 3 studies), and cognition (Mini-Mental State Examination; 3.0 in 3 studies). Conclusion: The presence of preoperative frailty is a strong predictor of long-term mortality after cardiac surgery, independent of comorbid conditions. Although the choice of measurements will depend on resources available, a mobility assessment is a simple, standardized, most widely studied test of frailty. The comparative performance of each frailty measurement remains to be established.

**350. Non-Cardiovascular Mortality Risk Influences the Mortality Benefit of Statins: Meta-Regression, Caroline Kim, Division of Gerontology, Department of Medicine Beth Israel Deaconess Medical Center, Harvard Medical School; Dae Hyun Kim, Division of Gerontology, Department of Medicine Beth Israel Deaconess Medical Center, Harvard Medical School**

**Objectives:** To learn that the mortality benefit of statins depend on both cardiovascular and non-cardiovascular mortality of the population

**Abstract Body:** The current guideline recommends statin treatment mainly based on the risk of cardiovascular (CV) events, without considering the risk of non-CV mortality. To identify a population that is more likely to derive a mortality benefit from statins, we conducted a meta-analysis and meta-regression of randomized placebo-controlled trials of statins to examine whether the relative risk (RR) reduction in mortality differed by CV and non-CV mortality risks of the population. The effect of statins on total mortality was examined using: 1) random-effects meta-analysis according to the median 5-year CV and non-CV mortality risks of the study population; and 2) meta-regression to model the RR reduction associated with increase in the CV-to-non-CV mortality ratio of the population. In 18 studies including 60,145 statin-treated patients and 60,173 placebo-treated patients with and without CV disease (mean age: 55-75 years), the mortality benefit of statins diminished as the non-CV mortality risk of the population increased. In populations with low CV mortality, the pooled RR (95% confidence interval [CI]) was 0.82 (0.74,0.91) for low non-CV mortality and 0.90 (0.71,1.14) for high non-CV mortality. In populations with high CV mortality, the corresponding pooled RRs (95% CI) were 0.79 (0.72,0.87) and 0.94 (0.86,1.02). Meta-regression analysis showed that every unit increase in the CV-to-non-CV mortality ratio was associated with additional 9% reduction in RR of total mortality (0.91 [0.86-0.96]). The risks of CV and non-CV mortality may be

used together to identify patients who are less likely to derive mortality benefit from statins. Our findings should further tested using individual-level data.

**351. The relationship between executive function and attention screening of mild cognitive impairment (MCI), Taiki Komatsu, Tokyo University of Technology**

**Objectives:** the establishment of methodology for Reaction time(RT) measurement; it is possibility of screening of mild cognitive impairment;

**Abstract Body: [Purpose]** It is said that the probability of 16% per year progress to dementia, to progress to Alzheimer's dementia, especially with 8.5% MCI. The aim of this study was examined MCI and the association with executive function.

**[Method]** The subjects that average age was  $82.7 \pm 6.9$  years 15 people nursing home residents (4 male, 11 female patients). The measurement used Flanker task test as executive function test. Object is displayed simultaneously (Flanker) that type of stimulus to be presented was two (incongruent condition) arrow facing the direction opposite to the target (congruent condition). And, was performed at 4 second intervals round in random order total 120 enforcement of 60 enforcement both stimulation challenge, were calculated error rate and median reaction time. Performs a partial correlation analysis confirmed the relationship between various parameters and was divided into two groups at the cut-off value of 23 by Montreal Cognitive Assessment (MoCA). **[Result]** Total RT of Flanker task and MoCA score ( $r = -0.600$ ,  $p < 0.05$ ), congruent RT ( $r = -0.525$ ,  $p < 0.05$ ), congruent error ( $r = -0.569$ ,  $p < 0.05$ ), and was a significant correlation ( $r = -0.523$ ,  $p < 0.05$ ) in incongruent error. In addition, in the Flanker task test was a significant difference in only incongruent error ( $p < 0.05$ ). **[Conclusion]** The Flanker task test and reliable that it can be processed by the PC on conveniently be carried out relatively therefor also can be useful as a screening method for MCI.

**352. An Assessment of a Pet Therapy Program for Community Dwelling Older Adults, Cheryl Krause-Parello, University of Colorado Denver; John Kolassa, Rutgers University**

**Objectives:** To appraise a community based pet therapy program for older adults.; To explore the effect of a pet therapy on blood pressure and heart rate measurements in older adults.;

**Abstract Body:** Older adults living in the community are at risk for social isolation. Pet therapy programs have been cited in the literature to promote sociability. The aim of this research was to appraise a pet therapy program for older adults living in the community. A crossover design was used to establish a relationship among blood pressure and heart rate before and after pet therapy. A convenience sample ( $N = 28$ ) included both male ( $n = 12$ ) and females ( $n = 16$ ) whose age ranged from 60-102 ( $M = 82.9$ ;  $SD 9.62$ ). Participants completed a demographic, stress, pet attitude, and coping measures. The findings supported that systolic BP dropped in stress ( $p = 0.0220$ ) and self-health rating increased ( $p = .0210$ ). Moreover, HR dropped as health rating increased ( $p = 0.0431$ ). The result of this study supported pet therapy is of particular use for older adults who identified their health as poor.

**353. Prevalence of Prediabetes and Undiagnosed Diabetes Among Older Adults in Mexico., Amit Kumar, Department of Rehabilitation Sciences/ Departments of Preventive Medicine and Community Health UTMB/ University of Texas Medical Branch at Galveston; Rebeca Wong, Sealy Centre on Aging/Departments of Preventive Medicine and Community Health/ University of Texas Medical Branch at Galveston; Kenneth Ottenbacher, Department of Rehabilitation Sciences / Sealy Centre on Aging/University of Texas Medical Branch at Galveston; Alai Tan, Departments of Preventive Medicine and Community Health / Sealy Centre on Aging/University of Texas Medical Branch at Galveston; Soham Al Snih, Department of Rehabilitation Sciences / Sealy Centre on Aging / University of Texas Medical Branch at Galveston;**

**Objectives:** Examine the prevalence of prediabetes and undiagnosed diabetes among older adults in Mexico.; Identify the factors associated with prediabetes and undiagnosed diabetes.; Describe the prevalence of pre-diabetes and undiagnosed diabetes by gender, BMI categories, rural, and urban population.

**Abstract Body:** Objective: People with prediabetes have a high risk of progressing to diabetes. In developing countries like Mexico, without universal health insurance, high rates of undetected diabetes may exist. This study aims to estimate the prevalence of prediabetes and undiagnosed diabetes among older Mexican adults. Method: A secondary analysis was conducted using a cross-sectional sub-sample ( $n = 1827$ ) of the third wave of the Mexican Health and Aging Study collected in 2012. The outcome variable was the number of prediabetes and undiagnosed diabetes cases. Hemoglobin A1C (HbA1c) criterion was used to define the prediabetes and undiagnosed diabetes cases. HbA1c between 5.7 to 6.4% was classified as prediabetes and individuals with HbA1c  $\geq 6.5$  %, no diabetes as per self-report, and not currently on diabetic treatment were classified as undiagnosed diabetes. Covariates included demographic characteristics, BMI, central obesity, smoking, hypertension, and stroke. Logistic regressions were computed to examine the factors associated with prediabetes and undiagnosed diabetes after adjusting for covariates. Result: Prevalence of prediabetes and undiagnosed diabetes was 43.7% and 18.1%, respectively. Females had significantly higher rates of prediabetes (57%) and undiagnosed diabetes (60%). After adjusting for covariates, central obesity was associated with an increased risk of prediabetes ( $OR=1.02$ ,  $95\% CI=1.00-1.03$ ). Central obesity ( $OR=1.02$ ,  $95\% CI=1.01-1.03$ ) and hypertension ( $OR=1.32$ ,  $95\% CI=1.07-1.63$ ) were significantly associated with undiagnosed diabetes. Conclusion: This study found a high prevalence of prediabetes and undiagnosed diabetes

among older adults in Mexico, especially females. Findings suggest resources are needed to prevent, identify, and treat persons with pre- and current diabetes.

**354. Do Genetic Factors have a Role in the Association between Oral Health and Diabetes Mellitus?**, *Yuko Kurushima, Osaka University Graduate School of Dentistry Department of Prosthodontics, Gerodontology and Oral Rehabilitation; Kazunori Ikebe, Osaka University Graduate School of Dentistry, Department of Prosthodontics, Gerodontology and Oral Rehabilitation; Kenichi Matsuda, Osaka University Graduate School of Dentistry, Department of Prosthodontics, Gerodontology and Oral Rehabilitation; Soshiro Ogata, Osaka University Graduate School of Medicine, Center for Twin Research; Shinya Murakami, Osaka University Graduate School of Dentistry, Department of Periodontology; Yoshinobu Maeda, Osaka University Graduate School of Dentistry, Department of Periodontology*

**Objectives:** To evaluate genetic contribution between oral health and diabetes mellitus using middle-aged Japanese twins  
**Abstract Body:** **OBJECTIVE** There is a strong relationship between oral health and diabetes mellitus (DM). Periodontal inflammation has been reported to be the common etiology. Environmental factors and genetic factors have important roles in this association, but studies focusing on genetic confounding between them are lacking. We evaluated the genetic contribution between oral health and DM using middle-aged Japanese twins. **METHODS** Japanese twins aged  $\geq 50$  years were the study cohort. Number of teeth, masticatory function, and periodontal status were used as indicators of oral health. We diagnosed individuals with hemoglobin-A1c levels  $\geq 6.5\%$  (National Glycohemoglobin Standardization Program) as having DM. As the first step of statistical analyses, the association of each of three oral health-related measurements with DM was calculated using generalized estimating equations (GEEs). At a second step, we examined the association only for monozygotic discordant twins using co-twin control analyses. By comparing the results of these two analyses we evaluated the genetic contribution between oral health and DM. **RESULTS** The number of twins was 242 (monozygotic, 218; dizygotic, 24). The mean age was  $65.9 \pm 10.7$  years. The prevalence of DM in this cohort was 11.6%. GEE analyses revealed that only the number of teeth was significantly related to DM (odds ratio, 0.71; 95% confidence interval, 0.57–0.89). Co-twin analyses revealed no significant association between the number of teeth and DM (odds ratio, 0.98; 95% confidence interval, 0.90–1.06). **CONCLUSION** Genetic factors contribute to the association between oral health and DM as confounders.

**355. Ethnic Differences in Perception of Health Applications for Multiple Medications in Older Adults.**, *Jung-Ah Lee, University of California Irvine; Annie Nguyen, University of California Irvine; Alison Moore, UCLA; Lorraine Evangelista, University of California Irvine; Alpeh Amin, University of California Irvine;*

**Objectives:** To identify ethnic differences in perception regarding use of health applications to improve medication self-management.; To identify what factors are important to improving older adult care related to medication management.;  
**Abstract Body:** **Background:** Poly pharmacy is a major problem in older adult care. Older adults may forget to take important medications such as oral anticoagulants. Strategies to help older adults better manage their medications need to be studied. **Objective:** to identify the ethnic differences in perception of the use of mobile health applications (apps) to improve medication self-management in older adults with chronic diseases. **Methods:** We conducted group or individual interviews with English and Spanish speaking older adults taking oral anticoagulants and other medications to understand their perception and attitudes towards using health applications to manage their medications. **Results:** We had 11 English speaking (ES) and 9 Spanish speaking (SS) participants. We interviewed them separately by language. More ES participants expressed favorable views towards the use of health apps via tablets or smartphones but none of the SS participants showed they were willing to use health apps citing lack of technological knowledge or financial burden of purchasing data service on mobile devices. However, participants expressed that medication reminder apps may be helpful in managing multiple medications. Both groups showed interest in learning how to use health technology devices but expressed the need for family support to use such devices properly to manage their medication. **Conclusions:** There are some ethnic differences in attitudes toward the use of health apps in older patients with multiple medications. Family support for older adults in using health devices will be a key factor to improving older adult care regarding multiple medication management.

**356. Videogame-based physical activity in older adults with schizophrenia to improve mobility**, *Heather Leutwyler, UCSF School of Nursing; Erin Hubbard, UCSF School of Nursing*

**Objectives:** Describe the impact of a videogame-based physical activity program on frequency of vigorous physical activity in older adults with schizophrenia  
**Abstract Body:** **Objectives:** Adults with schizophrenia are a growing segment of the older adult population. Evidence suggests that they have poor mobility and low levels of physical activity contribute to their poor mobility. The purpose of this report is to describe the impact of a videogame-based physical activity program using the Kinect for Xbox 360 game system (Microsoft, Redmond, WA) on frequency of vigorous physical activity in older adults with schizophrenia. **Materials and Methods:** In our descriptive longitudinal study, once a week for 6 weeks, participants played an active videogame for 30-minutes. Physical activity was measured by self-report with the Yale Physical Activity Survey at enrollment and at the end of the 6-week program. Vigorous physical activity was defined as any activity that lasted at least 10 minutes and caused large increases in breathing, heart rate, or leg fatigue, or caused the person to perspire. Change in vigorous physical activity was analyzed with a non-parametric bootstrap with bias corrected and accelerated match-paired t-test. **Results:** At a 95%

confidence level and alpha equal to .05, we detected a significant increase in frequency of vigorous physical activity from enrollment to the end of the program for an average increase of 0.9 points. Conclusions: Our results suggest that a videogame-based physical activity program may be one way to increase the frequency of vigorous activity in older adults with schizophrenia. More frequent vigorous physical activity may improve mobility. Future studies should evaluate the frequency vigorous activity with objective measures, such as wearable monitors.

**357. Home Health Care (HHC) Nurse Interactions with Homebound Geriatric Patients with Depression and Disability.,** *Dianne LLebel, University of Rochester School of Nursing; Bethel Powers, University of Rochester; Emily Hauenstein, University of Rochester*

**Objectives:** Understand how home health care participants and after attending this poster session participants will be able to understand how nurses interact during depression treatment and care management of geriatric HHC patient with existing depression; After attending this session participants will be able to discuss the impact of therapeutic communication on home health care participants depression and disability self-care management ; After attending this poster session participants will be able to identify components of mental health promoting therapeutic work that can be integrated into formal training programs

**Abstract Body:** Purpose: Comparatively little is known about how depression is identified or which therapeutic strategies most effectively treat older HHC patients with depressive symptoms and concomitant disability. Thus, there is a pressing need to evaluate and characterize DCM in HHC, after CMS broadened depression requirements for depression assessment on the OASIS-C. Design & Methods: Qualitative exploratory descriptive design, conducted in 2 parts to explore the provision of optimum nurse care management for geriatric HHC patients. The first part, involved interviews regarding HHC nurse perceptions of depression and disability care management. The second part, the focus of this analysis, describes HHC nurses' use of care management and therapeutic strategies. Observation of nurse-patient interactions involved home visits to HHC patients, age 60+ who had depression and disability. Analysis was informed by an adapted Chronic Care Model and Peplau's Interpersonal Relationship Theory. Results: Observation visit findings demonstrated that nurses drew on existing clinical knowledge and interpersonal skills, to build relationships and foster trust. However, despite nurses abilities to make these connections, there were multiple missed opportunities to engage in therapeutic nurse behavior. We recommend that training curricula be developed for HHC nurses including: agenda setting; sustaining continuity across visits, staying engaged despite barriers, recognizing nurse fears translating into avoidant disconnections. Conclusions: There is emerging evidence that HHC agencies need to design and test interventions that include formal training of nurses to effectively use therapeutic communication as part of their care delivery repertoire, HHC is well positioned to adapt these practices into its current infrastructure.

**358. Arab Elders: Diverse Community Perspectives on Adult Day Programming,** *Faith Hopp, Wayne State University School of Social Work; Jennifer Mendez, Wayne State University School of Medicine; Amne Darwish Talab, ACCESS; Kristine Ajrouch, Eastern Michigan University Department of Sociology*

**Objectives:** By attending this session, participants will gain insight into the views of a multicultural group of older adults, caregivers, and community leaders concerning the challenges of accessing services and support in an urban area.; By attending this session, participants will learn about perceived challenges and opportunities for development of adult day programming as perceived by prospective participants.; By attending this session, participants will learn about strategies and challenges in conducting qualitative research (focus groups and interviews) in an urban multicultural community.

**Abstract Body:** Purpose: This study was designed to obtain information about the perceptions of older adults, caregivers, and community leaders concerning their interest in the development of adult day care (ADC) programming in a multicultural community in Dearborn, Michigan. Method: Focus groups (between two and eight participants) were conducted in English for older adults (two groups) caregivers (one group) and one group that included both older adults and caregivers. One of the older adults groups was conducted in Arabic. Eight interviews were conducted with religious leaders and administrators of aging services organizations. The resulting qualitative data was analyzed using an inductive approach to identify emerging themes. Results: Themes identified included those related to transportation, socialization, access to care among the multicultural community in metropolitan Detroit, the desire of seniors to feel productive and display cultural talents, and the need for adult day centers celebrating varied cultural practices and languages. Conclusion: Older adults in the Detroit area, many of whom are of Arab descent, face many challenges in accessing supportive health and long-term care services. They are excited about possibilities to support their community by developing an adult day center that celebrates diverse multicultural programming while providing needed social and medical support.

**359. Attitudes on Aging, Education, and Influences on Occupational Therapy Gerontology Practice,** *Beverly Horowitz, York College-CUNY Occupational Therapy Department*

**Objectives:** Participants will be able to: 1. Discuss relationships among student and therapists attitudes about older adults, professional education, and willingness to work with older adults, with potential implications for other health professions.; Participants will be able to: Explain differences between verbalized ageist, negative attitudes about older adults documented in focus groups and quantitative Refined-Aging Semantic Differential scores indicating positive attitudes.; Participants will



be able to: Describe how students' pragmatism can influence their "willingness to work" with older adults, with potential implications for other health professions.

**Abstract Body:** By 2030 it is anticipated that over 70 million Americans will be 65 years or older (Federal Interagency Forum on Aging-Related Statistics, 2012). Population aging is anticipated to increase health care demands, including demands for rehabilitation and occupational therapy (OT) services (National Academy of Sciences, 2001; Maiden, et al., 2010; The Institute of Medicine Report, 2008) highlighting need for more OT gerontology practitioners. This mixed method NYS study using surveys and focus groups examined relationships among OT gerontology education, attitudes about older adults, OT and student interest in working with older adults, and student and therapists identification of gerontology practice settings. Instruments included Willingness to Work with Older Adult Scales, Gerontology Education and Experience Scales, the Refined-Aging Semantic Differential (Polizzi, 2003), and the Facts on Aging Quiz (FAQ1) (Palmore, 1998). Research Results: Significant relationships were found between OT gerontology education and "willingness to work" for therapists ( $n = 85$ ) ( $\rho = .351$ ,  $p = .000$ ) and students ( $n = 115$ ) ( $\rho = .342$ ,  $p < .001$ ); a weak significant correlation was noted between positive attitudes and therapists' "willingness to work" ( $\rho = -.18$ ,  $p = .049$ ). Mean FAQI scores were 66% for therapists, 61% for students, similar to past studies. Focus group data found mixed attitudes about older adults, but 44% expressed "willingness" to work with older adults dependent on clinical experiences and opportunities. Findings have implications for OT education and gerontology practice with potential relevance for allied health education across disciplines.

### **360. Connecting Partners in the Dementia Care Triad to Knowledge and Community Resources, Jennifer Inker, Virginia Commonwealth University, Department of Gerontology; Christine Jensen, Riverside Center for Excellence in Aging and Lifelong Health**

**Objectives:** 1) To identify the agencies and organizations that have appealed for a better approach to addressing the gaps in dementia care.; 2) To confirm the identified gaps in dementia care from the family/patient perspective and that of primary care physicians.; 3) To propose recommendations to strengthen the dementia triad.

**Abstract Body:** Connecting healthcare professionals, caregivers and people with dementia (the dementia triad) to knowledge and resources that support them to manage this devastating disease on a day-to-day basis is a growing and urgent priority. There remains a clearly identified discrepancy between what families and persons with dementia report they need and what physicians, particularly in primary care, report that they can provide. This project identified the needs of family caregivers and health care providers caring for persons with dementia. Participants included 128 caregivers, who completed a survey, and 27 health care providers, who participated in a focus group and completed a survey. Caregivers reported their primary source of information about the disease was the doctor; however, the majority also reported they were primarily informed of medications and not about needed resources. Health care providers identified limited time with patients and families, and lack of awareness of community services, as their main challenges. Recommendations include strengthening the partnership between physicians, patients, and caregivers (the dementia care triad) through additional support and training for physicians and caregivers; increasing awareness of the Alzheimer's Association; greater access to programs that support both professional staff and family caregivers (e.g., "Caring For You, Caring For Me"); and utilization of technology for families and professionals to track the needs of persons with dementia.

### **361. Examining Racial-Ethnic and Gender Differences in the Income-Health Gradient: Evidence From the Health and Retirement Study, Jin Kim, Northeastern Illinois University**

**Objectives:** After attending this session, participants will be able to describe and explain racial-ethnic differences in the income-health gradient among older adults.; After attending this session, participants will be able to describe and explain gender differences in the income-health gradient among older adults.; After attending this session, participants will be able to describe and explain the relative importance of various income sources that impact health among older adults.

**Abstract Body:** The positive association between socioeconomic status and health is well-established in the policy literature. Prior research attempting to disentangle the causal pathways often rely on childhood studies since they are less susceptible to accusations of reverse causation (i.e., family income is used to purchase better health for children.) Few studies, however, rely on evidence from the older adult population to examine how lifetime earnings may impact health in later life. As such, this study extends the literature by investigating the established relationship between income and health under the presumption that lifetime earnings influence the "purchase" of better health in older adulthood, and goes further to examine racial-ethnic and gender differences in the so-called income-health gradient. The research uses data from the 1996 to 2010 Waves of the Rand Health and Retirement Study (HRS) to estimate a discrete-time hazard model of health status among older adults. The study tracks individuals ages 58 to 63 into retirement and varying health trajectories to investigate the nexus between income and health across different racial-ethnic and gender groups. The model reveals that while pension/annuity income is especially important in protecting against the risk of poor health among Hispanic, Black, and female older adults, a 1.0% increase in the replacement rate for Social Security income actually increases the odds of poor health by 1.6%. While the study validates the theory that income (from private sources) is used to purchase better health, the findings suggest a disconnect between income support policy and better health among older adults.

**362. Impact of Older Adults' Internet Use on the Cost of Informal Caregiving, Jeehoon Kim, Idaho State University; Hee Soo Joo, University at Albany**

**Objectives:** To assess the impact of older adults' Internet use on the formal and informal care hours and costs of informal caregiving; To discuss the implications of our findings with policy practitioners and gerontology researchers;

**Abstract Body:** Introduction: Internet use by older adults influences caregiving needs and their ability to maintain independence. However, little attention has been paid to whether their Internet use affects the economic burden of caregiving. The current study examines how older adults' Internet use impacts formal and informal care hours and costs. Methods: Using data drawn from the 2011 National Health and Aging Trend Study, this research uses a nationally representative sample of Medicare beneficiaries aged 65 and above with disabilities (N=2,315). Care is measured by total number of hours that older adults received in the past month, separated by formal and informal care. The Internet use is measured by older adults' online activity excluding email. We employ survey weighted generalized linear models with gamma distribution to estimate this model. We use a replacement approach to estimate informal caregiving costs. Results: About 30% of older adults went online for shopping, banking or dealing with health matters. After adjusting covariates, older adults' Internet use reduced informal care hours by 15% (19.4 hours per month,  $p=0.01$ ) and formal care hours by 2% (18 minutes per month,  $p=0.04$ ). A monthly estimated cost reduction of informal caregiving was \$2,307 per person by applying 2011 median wage of home health aide workers. Discussion: Older adults' Internet use substantially reduced time invested in informal and formal care as well as cost of informal caregiving. This implies that the online activity can be a useful tool for maintaining independence in later life, and reducing the economic burden of caregiving.

**363. Profiles of Clients in Medicaid 1915 (C) Home and Community-Based Waivers: Urban and Rural differences, Min Hee Kim, School of Social Work & Department of Sociology, University of Michigan; Philippa Clarke, Institute for Social Research, University of Michigan**

**Objectives:** By attending this meeting, I expect to discuss how resource environments contribute to differences in Medicaid Waiver's client profiles and service utilization across urban-rural areas with policy makers, practitioners, and researchers

**Abstract Body:** Background: Medicaid 1915(C) home and community based waiver programs have received attention for their role in supporting vulnerable older adults aging in place. While research has focused on inter-state differences in program delivery, little attention has been paid to within-state differences in client profiles and service utilization. Methods: Using chi-squared and t-tests, we compared demographic, health status, living arrangements, and service utilization characteristics of 18,942 clients enrolled in the Medicaid Waiver program in the state of Michigan(1998-2000) by urban and rural residence (MSA vs. Non-MSA). Findings: According to the Census, the rural population in Michigan is much older and has a higher crude death rate than urban residents. Yet, clients served by the Waiver program in urban areas were generally older and exhibited more functional health and cognition problems than those in rural areas ( $p<.05$ ). Yet, the prevalence of chronic illness, including lung disease or cancer, was much higher for rural clients ( $p<.001$ ). In terms of service utilization, urban clients stayed longer in the program on average, and were more likely to receive home health aides and skilled nursing services than rural clients ( $p<.01$ ). However, rural clients received more home makers, meal, and volunteer services. Discussion: Differences in the demographic, health and service utilization characteristics across the two populations were significant, suggesting differences in resource environments (e.g. organizational factors) that might contribute to such differences. In conditions of state funding restrictions, policy makers, researchers, and field practitioners should be cognizant of equity across urban-rural regions when designing and implementing services.

**364. Understanding Well-being in Older Adults: Findings from the National Health and Aging Trends Study and Implications for Future Research, Kyeongmo Kim, University of Maryland; Amanda Lehning, University of Maryland**

**Objectives:** Participants will be able to evaluate the validity and reliability of well-being measures in the National Health and Aging Trends Study.; Participants will be able to understand how the measure of well-being can be incorporated into future research on older adults.

**Abstract Body:** Well-being has been conceptualized as two dimensional constructs: 1) maximizing positive affect and minimizing negative affect (i.e., the hedonic dimension), and 2) achieving a sense of personal growth and meaning in life (i.e., the eudaimonic dimension). To date, existing measures of well-being may not adequately capture both of these dimensions for older adults, and limited literature has explored whether the two constructs can be integrated into one factor to measure well-being in this population. This study examined the factor structure of the 11 well-being items from the National Health and Aging Trends Study (NHATS), a nationally-representative panel study of Medicare recipients. Using data from the 2011 wave, we randomly split the community-dwelling sample into two subsamples for an exploratory factor analysis (EFA) ( $n=3,302$ ) and a confirmatory factor analysis (CFA) ( $n=3,297$ ). A weighted EFA resulted in both a single factor and a two-factor structure to measure well-being. However, weighted CFA results indicated the single factor structure is preferred ( $\chi^2(44) = 530.811$ ;  $p < .001$ ; CFI = .937; TLI = .921). Internal reliability of the single factor structure was acceptable at .74, and was significantly and negatively associated with symptoms of depression and anxiety ( $r = -.47$ ;  $p < .01$ ). Findings highlight that researchers and practitioners should be aware that assessing both constructs of well-being is crucial to understanding well-being in later life. Implications for future research using the NHATS, as well as research using other data sources and focusing on other vulnerable populations, will be discussed.

**365. Using Independence at Home [IAH] Criteria to Target VA Home Based Primary Care, Bruce Kinoshian, Philadelphia VA Medical Center Geriatric and Extended Care Data Analysis Center; Orna Intrator, Canandaigua VAMC; Rajesh Makineni, Providence VAMC; Thomas Edes, Department of Veterans Affairs**

**Objectives:** 1) Determine the size of the enrolled veteran population that meets IAH criteria (IAH-Q); 2) Determine the clinical course of those who are IAH-Q; 3) Determine access to HBPC services of the IAH-Q veteran population

**Abstract Body:** Background: The Independence at Home demonstration tests a shared savings, inter-professional team model to deliver primary care in the home within Medicare. We applied IAH qualifying criteria (IAH-Q) to the enrolled veteran population to determine the unmet need for home-centered primary care. All 139 VA medical centers operate HBPC programs. Methods: We assembled complete Medicare, Medicaid, and VA utilization and cost files for all enrolled veterans from 2008-2010. We implemented IAH-Q as follows: 1) hospitalization and post acute care in prior year (composite claims files); 2) 2 or more ADLs (use of JEN frailty index >7); and 3) 2 or more chronic conditions (using the Chronic Condition Warehouse conditions). Diagnoses from 2008 were used to identify IAH-Q for FY 2009, who were then followed through the year using the Residential History File. Results: IAH-Q enrolled veterans are frail, with a 31% mortality in the qualifying year (2008). Among 96,129 IAH-Q enrolled veterans at the start of F2009, 64,713 survive, of whom 11% are institutionalized, while among the subset of 55,221 VA users, 38,522 survive, with 11% institutionalized and 9% (range 2-16% by VISN [VA region]) receiving HBPC. Among enrolled veterans, 59% of terminal VA users received hospice services, compared to 32% of non-users. Medicare and Medicaid covered 49% of total annual costs [\$41-\$72,000 by VISN] for IAH-Q VA users. Conclusion: IAH criteria identify a frail, high cost population with high mortality. Despite a extensive coverage, a substantial share of the IAH-Q veterans are not reached by home based primary care.

**366. Buffering or Juggling? Mediation Effects of Working on Caregivers' Depression, Yeonjung Lee, University of Calgary; William Gallo, City University of New York**

**Objectives:** After attending this session, participants will be able to...identify the mediating effects of working on caregivers' depression.; After attending this session, participants will be able to...discuss the role enhancement and role strain perspectives in the relationship between caregiving and working.;

**Abstract Body:** Previous literature on the relationship between informal caregiving and caregiver well-being has indicated adverse effects across multiple health domains. Little attention has focused on the pathways through which caregiving affects health. Our research analyzes the mediating function of employment in this relationship. There exist theoretical arguments to support employment's position as both positive and negative mediator. The role enhancement perspective purports that employment buffers the stress of caregiving demands by providing a respite and links to psychosocial coping resources, which suggests that employed caregivers would report better health than those not working. Alternatively, the role strain perspective posits that work exacerbates stress by creating a caregiver identity with two significant roles, which would lead to lower well-being among employed caregivers. Using the 2006 wave of Health and Retirement Study, this study applies structural equation modeling (SEM) to test the mediating effect of working on the relationship between informal parental caregiving and depressive symptoms among older US adults. Our results suggest that although parental care has a negative effect on working, labor force participation among caregivers decreases levels of depression. The total effect of caregiving on depression is significant ( $B = 0.39$ ), as is the direct effect ( $B = 0.31$ ), although the strength of the association between caregiving and depression is weaker, suggesting that employment partially mediates the caregiving-depression association. The findings support the role enhancement perspective, and thus support policies to maintain employment.

**367. Predictors of Variation in the Depression Trajectories of Korean Middle and Older Adults during the Transition into Chronic Patients: A Growth Mixture Modeling, Eunjee Lee, Yonsei University; Heyjung Jun, Yonsei University**

**Objectives:** After attending this session, participants will be able to understand the variation in the depression trajectories during the transition to chronic patient of middle and older adults over time.; After attending this session, participants will be able to discuss the risk factors of variation in trajectories of depressive symptoms.

**Abstract Body:** This study was conducted to identify different trajectories of depressive symptoms during the transition to patients with chronic diseases and to test the association of several predictors with these variations. Four waves of Korean Longitudinal Study of Ageing (KLoSA) were used for analyses, and demographic and clinical characteristics and social and family relationships were included as predictors on the basis of previous studies. Using growth mixture modeling (GMM) and multi-nominal logistic regression with Mplus 5.21, 433 Korean middle and older adults (aged 45 and over) who experienced the transition between 1st and 2nd waves, which means that individuals were healthy at Time 1 and had one or more chronic diseases at Time 2 to 4, were examined. GMM results indicate that three distinct depression trajectory classes were specified: decreasing (17.2%), stable (61%), and increasing then decreasing (21.8%) depressive symptoms over time. In multi-nominal logistic regression, lower level of cognitive function, higher perceived limitation of activities, lower frequency of social contact and lower quality of family relationship distinguished the increasing then decreasing class from other trajectories; higher level of cognitive functioning and higher quality of family relationship differentiated the decreasing trajectory from stable class. These findings allow for improved identification of chronic patients at risk for depression

trajectories and for development of interventions. It is highly recommended to develop the Interventions tailored to individuals who experienced transition into chronic patients and also have factors related to riskier depression patterns.

**368. Factors Associated with Volunteer Participation among Racially and Ethnically Diverse Older Adults, Seungah Lee, University of Massachusetts Boston; Kimberly Johnson, Indiana University**

**Objectives:** Gain knowledge about the prevalence of volunteering among racially/ethnically diverse older adults.; Acquire an understanding of factors associated with volunteerism among Asian, Black, and Hispanic older adults and the similarities and differences in comparison to White non-Hispanic adults.

**Abstract Body:** Volunteer participation is related to human and social capital. However, much of the empirical evidence is based on homogeneous samples. This study seeks to investigate factors associated with volunteerism in a diverse population. Using data from the 2011-2012 California Health Interview Survey, we investigate volunteer participation and correlates with volunteering among White, Asian, Black, and Hispanic adults 50 and older ( $n = 27,300$ ). Results from logistic regression indicate the odds of volunteering are lower for Asians ( $OR = .46, p < .01$ ) and Hispanics ( $OR = .48, p < .01$ ) compared with Whites. Additional analysis shows interesting differences and similarities between the racial/ethnic groups. Across all groups the odds of volunteering are significantly higher for those with more than a high school education. Having good self-rated health is related to volunteering for all groups except Asians. The odds of volunteering are higher for nonsmokers and exercisers, but only among Whites. Compared to moderate alcohol consumption, nondrinking is related to lower volunteer participation only for Hispanics and Whites. While the odds of volunteering are higher for married Whites and for Whites who report being in a safe neighborhood, neither social factor is related to volunteering among Hispanics, Blacks, or Asians. Having children in the household is associated with volunteering among Whites and Blacks, but not among Hispanics and Asians. The findings suggest different social/cultural factors are associated with volunteerism among ethnically and racially diverse adults. Additional research is needed to determine ways communities can increase inclusive volunteer opportunities for minority elders.

**369. A First Assessment of the ACA: Changes in Health Insurance Coverage and Affordability among Adults Age 50-64, Zoya Gubernskaya, University at Albany, SUNY; Judith Treas, University of California, Irvine**

**Objectives:** To evaluate 2011-13 changes in health insurance coverage for adults age 50-64.; To gauge 2011-13 changes in affordability of health insurance for adults age 50-64.; To assess 2011-13 differences in coverage and affordability by nativity among adults age 50-64.

**Abstract Body:** The major goal of the 2010 Affordable Care Act (ACA) was to make health insurance affordable. We take advantage of the new data from the 2011-2013 National Health Interview Survey to look at changes in health insurance coverage and affordability for adults age 50-64. The risk of being uninsured higher during the pre-retirement years as some adults in this age group begin experiencing health decline and/or switch to part-time employment, but they are still ineligible for Medicare. We calculate weighted percentages and construct logistic regression models, paying special attention to differences by nativity. Although higher among the foreign-born (26% vs. 12%), the percent of uninsured adults age 50-64 remained stable over the 3 years. However, public health insurance usage increased slightly, primarily among the native-born (from 7.9% to 9.6%). Fewer adults age 50-64 evaluated their health insurance as "worse" compared to the previous year in 2013 than in 2011 (19.7% vs. 16.2%). Native-born were more likely to attempt to purchase insurance directly than the foreign-born (9.6% vs. 8.5%). Slightly over a half of those who tried to purchase insurance directly did, and this percent increased among the foreign-born (from 47% in 2011 to 52% in 2013). While it is more difficult to find affordable than appropriate insurance, the percent finding it "very difficult" decreased for both measures. Still, among those who tried but did not purchase health insurance the main reason was the cost (74%) followed by preexisting conditions (13%) and being turned down (11.2%).

**370. What's Age Got To Do With It?: Subjective Experiences of Multiple Sclerosis, Kyle Carr, Boston College; Renee Beard, College of the Holy Cross**

**Objectives:** Inform practice about the implications of MS on aging experiences; Inform policy about the implications of MS on aging experiences and aging in place; Apply social gerontology to the study of MS

**Abstract Body:** Multiple Sclerosis (MS) is a chronic illness impacting millions of people worldwide at a time of life that many would consider their prime years and severely impacts their aging experiences. Yet, compared to many chronic illnesses, MS continues to be overlooked by leading health organizations like the World Health Organization and Centers for Disease Control, which results in limited funding, research, media attention and, thus, public awareness. Semi-structured, in-person interviews with 17 individuals diagnosed with MS were conducted. Grounded theory techniques were utilized to collect, code, and analyze textual data. Among these unique illness narratives, a number of common themes were discovered. Core findings included the importance of early diagnosis, the role of the internet and social media on MSers ability to be proactive in the fight against MS, and the strategies used to overcome the symptoms and stigma associated with MS. The social construction of MS in the media and medical arenas as well as core sociological variables such as age and gender also shaped illness experiences in meaningful ways. It is important to understand the experiences of people with MS in order to support them in their aging experiences and to foster aging in place. This information can be used to improve both the biomedical approach to MS and the social policies aimed to support those with the condition.

**Friday, November 7**

**10:00 AM - 1:00 PM | Exhibit Hall D (CC)**

**308. Methodological Considerations in Conducting Cross-Cultural Qualitative Research: Reflections from Previous Studies in Three Asian Countries**, *Hannah Stohry, Indiana University School of Social Work, Indianapolis, IN; Karel Kalaw, Department of Sociology and Gerontology, Miami University, Oxford, OH.; Jaylene (Jiayin) Liang, Centre for Research and Expertise in Social Gerontology (CREGÉS), Concordia University, Montreal, Canada*

**Objectives:** 1. Possession of a culturally sensitive lens, a heightening cultural awareness, and thus, understanding certain social phenomena.; 2. A call for a global understanding of social realities across societies.; 3. Preparing emerging young qualitative scholars and researchers.

**Abstract Body:** Although globalization has been a buzzword since the 1990s and its prevalence is growing across disciplines, the awareness of bringing cross-cultural perspectives to the field of social gerontology is still minimal. As young scholars, the three of us have adopted phenomenology (10 informants in 2009), grounded-theory approach (20 informants in 2011), case study (5 informants in 2011), and indigenous methodology (26 informants in 2013) in exploration of the lives of older Chinese, Korean and Filipinos in the past few years. The purposes of this collaborative presentation are: to reflect on our qualitative research experiences in cross-cultural settings, to disseminate the lessons learned, to identify some similarities and differences, and to empower and communicate with other scholars who share common research interests. We demonstrate and explain how such studies inform the field and fill the literature gap, empower marginalized groups, challenge dominant paradigms and models and thus contribute to theory construction, and substantiate/complement quantitative research. For example, in terms of good old age, we find that these older Asians' experiences cannot be understood and explained by the Western concepts such as "active aging" and "independence." Meanwhile, we discuss challenges such as the appropriateness of available methodological approaches to be applied in culturally-sensitive research; the potential problem of translation cost throughout the process; and the use of indigenous knowledge and concepts to understand relevant social phenomena as experienced by older adults. Thus, these endeavors contribute to cross-cultural gerontological research and communication and promote culturally-fit research protocols.

**309. Negative Social Interactions and Perceived Stress Levels in Older Persons Aging with HIV/AIDS**, *Moka Yoo, Nell Hodgson Woodruff School of Nursing, Emory University; Marcia Holstad, Nell Hodgson Woodruff School of Nursing; Drenna Waldrop-Valverde, Nell Hodgson Woodruff School of Nursing*

**Objectives:** To examine psychosocial contributors to perceived stress levels (PSL) in older persons aging with HIV/AIDS (age >50)

**Abstract Body:** Background: Various HIV-associated challenges may trigger stress responses in persons living with HIV/AIDS, which may negatively impact health outcomes. Older persons aging with HIV/AIDS (OPAH) may face similar challenges that may be escalated with aging. In order to examine contributors to perceived stress levels (PSL) in OPAH, this cross-sectional study assessed the relationships of psychosocial challenges such as negative social interactions (NSI), stigma, and living situation (i.e., living alone) to PSL in OPAH. Method: OPAH (n=213) who completed baseline visit in an ongoing larger study that examines the effects of health literacy on medication adherence in Atlanta, GA were analyzed. Dependent variable, PSL, was measured by the Perceived Stress Scale (PSS-10). NSI (assessed by Negative Social Interactions Scale), perceived HIV/AIDS-stigma (assessed by Internalized HIV/AIDS-Stigma Scale), race, and living alone were independent variables. Gender, sexual orientation, and age were included as covariates. Results: Sixty-three percent of OPAH were African Americans. 22% of OPAH showed high PSL (PSS-10>20) and 5% showed high NSI. All participants reported high levels of stigma. 54% reported living alone. Using multiple regression, NSI was significantly associated with PSL, adjusting for independent variables and covariates [ $R^2=0.22; F[1, 211]=59.49, p<0.0001$ ]. Other variables were not statistically significant. Conclusion: These findings suggest that even with high stigma, OPAH may not experience negative social relationships, which in turn may be associated with reduced stress levels. Future studies should investigate other risk and protective factors related to negative social interactions and characterize those who may possess high levels of stress.

**310. Neuroticism and Response Time Inconsistency in Adulthood**, *Elizabeth Munoz, Department of Human Development and Family Studies, The Pennsylvania State University; Robert S. Stawski, College of Public Health and Human Sciences, School of Social and Behavioral Health Sciences, Oregon State University; Stuart W. S. MacDonald, Department of Psychology and Center on Aging, University of Victoria; Joshua M. Smyth, Departments of Biobehavioral Health and Medicine, The Pennsylvania State University; Martin J. Sliwinski, Department of Human Development and Family Studies and Center for Healthy Aging, The Pennsylvania State University*

**Objectives:** After attending this session, participants will be introduced to a novel measurement of cognitive health; After attending this session, participants will be able to understand the connection between personality trait neuroticism and cognitive health as evidenced by response time inconsistency.

**Abstract Body:** Response time (RT) inconsistency is increasingly becoming recognized as an indicator of transient lapses of attention, cognitive health status and central nervous system integrity, as well as a potential early indicator of normal and pathological cognitive aging (Hultsch et al., 2008; MacDonald et al., 2006). Little research, however, has examined

personality and psychosocial predictors of RT inconsistency. Neuroticism has emerged as an important predictor of aging-related cognitive decline, increased risk of mild cognitive impairment and Alzheimer's disease (Duchek, 2007; Wilson et al., 2005), and greater RT inconsistency among young adults (Robinson et al., 2006). The current study extended previous research by examining the relationship of neuroticism to RT inconsistency in adulthood and old age and, further, we tested negative affect (NA) and intrusive thoughts (IT) as potential mediators of this link. A sample of 317 adults (M<sub>age</sub> = 49.44, SD = 17.23, range: 19-83; 36% Black) completed self-reported measures of trait neuroticism, NA and IT, in addition to computerized RT-based processing speed tasks. Results from multiple regression analyses revealed that trait neuroticism predicted greater RT inconsistency (defined as greater trial-to-trial variability in RT) independent of average task performance, age, education, gender, race, and ethnicity ( $\beta$ s range: 0.001 to 0.074,  $p$ s < .05). NA partially mediated the neuroticism-RT inconsistency link ( $p$ s < .05), but IT did not. These results suggest that elevated neuroticism is a risk factor for increased RT inconsistency and negative affects plays an important role in explaining this association.

**311. Nursing Student Learning in a Free Standing Course: Project Results**, *Regina Phillips, Towson University; Elizabeth Crusse, Towson University; Michelle M. Kirwan, Towson University*

**Objectives:** As a result of this poster, attendees will be able to differentiate pre- and post test data about knowledge on an adapted version of the Facts on Aging Quiz; Attendees will be able to identify items on the Facts on Aging Quiz that were most often 'missed';

**Abstract Body:** Across the United States, nursing educators are being called on to better prepare nursing graduates to care for the growing numbers of older adults in the population. Gerontological nursing educators agree that pre-licensure nursing programs have an ongoing need for an increased quantity and quality of content about older adults. In addition, a variety of strategies have been identified in the literature to present this content, such as across several courses in the curriculum versus a focused, free-standing gerontological course. Yet few studies exist documenting the effectiveness of these strategies. In this baccalaureate nursing program, a free standing, senior level, nursing course was developed and implemented as part of a curricular change. In addition to student evaluations about their impressions of the course, an adapted version of Palmore's Facts on Aging quiz was used to measure knowledge about older adults at the beginning and the end of the class. Findings from this project will be presented and the next phase of this project identified.

**312. Odor Recognition Memory and Alzheimer's Disease: The Role of Neurofibrillary Tangles in the Entorhinal Cortex**, *Patricia Cintora, San Diego State University; Terrence Ellis, San Diego State University; Claire Murphy, Ph.D., San Diego State University & University of California, San Diego*

**Objectives:** To investigate the potential relationship between odor recognition memory and tangles in the entorhinal cortex of Alzheimer's disease

**Abstract Body:** Research has demonstrated that the ability to remember odors deteriorates at a very early stage of Alzheimer's disease (AD). Supporting research has found that primary regions that process olfactory information become affected in the earliest stages of the disease. A critical region is the entorhinal cortex, one of the first areas to exhibit AD pathology, specifically, neurofibrillary tangles (NFTs). It is speculated that NFTs in this region may hinder olfactory processing and encoding in the hippocampus. The current study examined whether there is a correlation with odor memory performance and number of neurofibrillary tangles in the entorhinal cortex of pathologically confirmed AD patients ( $n = 48$ ). Odor memory performance was assessed via an odor recognition memory task subdivided into two components: odor familiarity and recollection. After ratings for stimuli familiarity were obtained, participants proceeded to a recollection task and attempted to identify previously presented and novel stimuli. This latter component tested participant's ability to recognize previously encountered odors from the familiarity phase. Preliminary results revealed a significant correlation between entorhinal neurofibrillary tangles and false recognition of odors. Although preliminary, the data provides support for the hypothesis that impaired olfactory processing may reflect neurodegeneration in the brain. Further research in this area is warranted as olfactory measures may potentially provide for low cost, non-invasive procedures for aiding in the diagnosis and understanding of AD. Supported by NIH grant RO1 #AG004085 and PO1 #IAG005131. We gratefully acknowledge Dr. Lawrence Hansen and the members and patients of the UCSD Alzheimer's Disease Research Center.

**313. Older Adults' Perceptions of Memory Change Does Not Necessarily Signify Memory Loss**, *Christopher Hertzog, Georgia Institute of Technology; Ann Pearman, Georgia Institute of Technology; Gizem Hürlür, Humboldt University; Denis Gerstorff, Humboldt University; Rahel Eynan, Lawson Health Research Institute*

**Objectives:** Understand the possible geneses of subjective perceptions of memory change in the oldest old.; Learn the variables that do and do not predict subjective memory decline over time.;

**Abstract Body:** Older adult's perceptions of change in their memory performance has several possible origins, including accurate monitoring of changing memory ability, an age-related belief system about how much one's memory should change over time, and emotion-driven self-appraisals that covary with concurrent emotional states. A longitudinal study of the oldest-old, the Berlin Aging Study (BASE), provided data on predictors of subjective memory change in adults 70 and older. Given a focus on monitoring change in memory, we evaluated results for persons who had available data on memory for Times 1 and 3 through 3 ( $N = 182$ ) and predicted T3 subjective memory change from other variables, including depressive

symptoms, neuroticism, the PGC Morale Scale subscales, concurrent memory complaints, and subjective age. A structural regression model with subjective memory change at T3 as the outcome variable showed that perceived memory change was reliably correlated with several variables, including concurrent (T3) neuroticism, PGC Morale Scale subscale of Non-Agitation, current memory complaints, and subjective age. It was not predicted by concurrent levels of memory ability or prior change in memory ability (T3-T1), controlling on other predictors. The results support the view that subjective memory change does not reflect accurate memory monitoring but is instead more highly aligned with how the older adult's mood and emotional well-being at the time of testing, along with beliefs about one's own aging process. Researchers and clinicians who rely on subjective reports of memory change may be misled by older adults concerns and fears about impending memory loss.

**314. Older Mothers Use of Technology to Maintain Contact with Adult Children,** *Sangbo Nam, Iowa State University; Sangbo Nam, Iowa State University; Megan Gilligan, Iowa State University; Karl Pillemer, Cornell University; J. Jill Suitor, Purdue University*

**Objectives:** After attending this session participants will learn more about rates of older mothers' technology use to maintain contact with their adult children.; After attending this session participants will gain an understanding of predictors of older mothers' technology and also understand which factors may inhibit older mothers' technology use.;

**Abstract Body:** In the 1960's Litwak challenged Parson's assumption of the isolated nuclear family by introducing the concept of the "modified extended family" (Litwak, 1960; Parsons, 1943.) In particular, Litwak proposed that older parents would be able to overcome increased rates of geographic mobility by maintaining contact with adult offspring through technological improvements. In this research, we use data from the Within-Family Differences Study II (2008) to examine older mothers' (ages 73-85) use of modern technologies- including email, text message and instant message- to maintain contact with their adult children. Findings revealed a moderate amount of technology use among these older mothers. Approximately 30% of the 407 mothers used technology to maintain contact with at least one adult child. We also examined mother-level and adult-child level predictors of contact through the use of technology. Multilevel models revealed that mothers with higher levels of education and White mothers were more likely to use technology to maintain contact with their adult children. In contrast, mothers in poor health were less likely to use technology. Mothers were more likely to use technology to maintain contact with adult children who also had higher levels of education and lived at a greater distance. These findings indicate that although older mothers are utilizing technology to maintain contact with their adult children- this contact may be limited to a select group of individuals. Future research should consider the affordability and accessibility of technologies to older adults.

**315. Perceived Age-Related Changes Mediate Resource Effects on Aging Satisfaction,** *Daniela S. Jopp, University of Lausanne, Institute of Psychology; Yuyu Fan, Fordham University; Ying Liu, Fordham University; Marina Schmitt, Heidelberg University*

**Objectives:** To better understand what contributes to middle-aged and older individuals' satisfaction with their aging; To examine whether the roles of personal resources and age-related changes for aging satisfaction differ depending on age.;

**Abstract Body:** Individuals' satisfaction with their own aging is an important construct which was found to be related to health conditions and even mortality. As a consequence, it seems important to learn what contributes to aging satisfaction, however, the mechanisms involved are less clear to date. The present study investigated to what extent personal resources influence the experience of aging satisfaction, and to what extent their effect is mediated by perceptions of age-related resource changes. SEM analyses were conducted using a sample of 980 middle-aged and older individuals from the German ILSE Study. Personal resources included various indicators of health, cognition, and demographic characteristics, age-associated changes were assessed with the Nuremberg Self-Rating List and aging satisfaction was measured with the PGCMS Aging Satisfaction subscale. Findings supported the expected relationships, in that higher resources went along with lower perceived age-related change and higher aging satisfaction, and less age-related changes were associated with higher aging satisfaction. In addition, age-differential effects were found indicating that middle-aged individuals the direct effect of resources on aging satisfaction was much stronger than in the older adults, whereas the direct effect of age-related changes on aging satisfaction was stronger for the older adults. In sum, findings suggest an important role of resources as well as age-associated changes for the experience of aging satisfaction and that their importance may vary with age.

**316. Personality Change Preceding Diagnosis of Dementia in the Oldest-Old.,** *Tomiko Yoneda, University of Victoria; Andrea Piccinin, University of Victoria; Boo Johansson, University of Gothenburg*

**Objectives:** To assess personality change prior to dementia diagnosis using self-report measures from longitudinal data. Understanding the connection between trajectories of change in personality and cognition is valuable for early identification of dementia

**Abstract Body:** Introduction: Although personality traits are mainly consistent through adulthood, considerable changes in personality can indicate underlying neurological disease (Lautenschlager & Forstl, 2007). Previous research using informant reports has shown that approximately half of people who develop dementia show substantial personality changes prior to diagnosis (Balsis et al, 2005). Objective: To assess personality change prior to dementia diagnosis using self-report

measures from longitudinal data. Understanding the connection between trajectories of change in personality and cognition is valuable for early identification of dementia. **Methods:** The study used data from the Swedish OCTO-Twin Study, a longitudinal panel of 702 twins aged 80 and older. Among these, 408 individuals completed the Eysenck Personality Inventory at up to four occasions during a 6-year period. Analysis was restricted to 127 individuals who were cognitively healthy at the first measurement occasion and received a diagnosis of dementia during follow-up occasions. Latent growth curve analyses were run to examine the trajectory of personality change preceding dementia diagnosis. **Results:** Controlling for age, sex and education, growth curve analyses revealed a linear increase in neuroticism and stability in extraversion. Individuals who converted to dementia showed a significant increase in neuroticism preceding diagnosis of dementia. Additionally, a significant relationship was identified between years of education and neuroticism: individuals with more education increased less in neuroticism preceding dementia diagnosis. **Conclusions:** Personality change, specifically an increase in neuroticism, may be an early indicator of dementia. Higher levels of education may be protective against increase in neuroticism for individuals who develop dementia.

**317. Pilot Testing of a Safe Sex Education Website for Divorced Older Women, Lu Xing, Environment and Health Group; Xin Lu, Environment and Health Group; Paul Goulet, Massachusetts Department of Public Health; Hongtu Chen, Environment and Health Group; Sue Levkoff, Environment and Health Group; Patricia Weitzman, Environment and Health Group**

**Objectives:** The aim of this study is to develop and evaluate the usability and impact of a safe sex education website for culturally-diverse, divorced older women

**Abstract Body:** Background: HIV infections are increasing among older women, especially minority women, yet few interventions have been developed for this group. Concomitant with this phenomenon is a rise of gray divorce rates. Divorce is an independent risk factor for unsafe sex practices. With ten million older women divorced or separated and more women online, this is the first effort to develop and test a web-based safe sex intervention for divorced older women. Objective: The aim of this study is to develop and evaluate the usability and impact of a safe sex education website for culturally-diverse, divorced older women. **Methods:** A pre-post testing approach was used, followed by brief focus groups. Twenty-seven women, age 50 and older, completed pre-tests, viewed the site for approximately 45 minutes, and completed post-tests. Approximately half viewed the website with text plus short videos of older women discussing safe sex experiences and half viewed the website with text only. Participants also discussed site impact and usability in focus groups. Primary hypothesis: Older women would demonstrate increased HIV knowledge and safe sex self-efficacy after viewing the site. **Results:** Group 1 (n=18) viewed the website with only text. Group 2 (n=19) viewed the website with text and videos. In Group 1, the difference between pre-post-test HIV knowledge scores was not significant. Safe-sex self-efficacy scores were significantly improved ( $t = -1.75, P=.05$ ). In Group 2, post-test HIV knowledge scores were significantly improved ( $t=-1.76, P=.05$ ), while safe sex self-efficacy scores were marginally significant ( $t=-1.57, P=.07$ ). Qualitative findings indicated videos were well-received, and more videos were desirable. **Conclusions:** A web-based intervention can be effective in delivering safe sex education to culturally-diverse divorced older women. Videos adds interest and may increase educational effect.

**318. Positive Aspects of Caregiving for an Aged Parent, Kimberly Morton, BA, West Virginia University; Tara Rose, PhD, Alzheimer Disease Research Center, University of Southern California; Margaret Gatz, PhD, Professor, Department of Psychology, University of Southern California**

**Objectives:** After visiting the Positive Aspects of Caregiving for an Aged Parent poster presentation individuals will be able to discuss positive themes that the caregiver participants reported while they were caring for an aged parent

**Abstract Body:** Background: The purpose of the study was to examine positive aspects of caring for an aged parent. While there is research on caregiver burden for the middle generation, very little has been written about the positive aspects of caregiving and, what has been written, is more often about caregiver populations outside of the U.S., or in the clinical literature in the context of finding positive aspects to help relieve caregiver burden and stress. **Method:** Using the University of Southern California (USC) Longitudinal Study of Generations (LSOG), the current study analyzed interviews conducted at two time points with caregivers to older adults with a variety of physical and cognitive conditions, along with depression (CES-D) and caregiver burden (ZBI) scores. Qualitative data analysis was completed using Strauss and Corbin's (1984; 1990) method of identify themes. **Results:** The study found several themes that described positive aspects of caregiving for an aged parent: (1) spending time together (2) care-recipient and caregiver closeness (3) familial closeness (4) caregiver and spousal closeness, and (5) care-recipient independence and improvement. Reporting positive aspects of caregiving was not associated with scoring either lower or higher on ZBI or CES-D. **Implications:** Integrating measures and questions about the positive aspects into studies of caregiving for an older parent is important for obtaining a more complete picture of the caregiving experience. Clinicians may consider focusing on the positive themes found in this study in an effort to balance the caregiver's perspective.

**319. Positive Versus Negative Priming of Older Adults' Generative Value: Do Negative Messages Impair Memory?, Elizabeth Hagood, Davis School of Gerontology, University of Southern California; Diana Wang, Davis School of Gerontology, University of Southern California; Mollie Grossman, Davis School of Gerontology, University of Southern**



California; Kezia Rusli, Division of Occupational Science and Occupational Therapy, University of Southern California; Ramy Rashad, Dornsife College of Letters, Arts and Sciences; University of Southern California; Shivanti Kariyawasam, Dornsife College of Letters, Arts and Sciences; University of Southern California; Tara Gruenewald, Davis School of Gerontology, University of Southern California

**Objectives:** After this presentation, attendees will understand that the experimental manipulation of older adults' perceptions of their generative social value is both feasible and effective.; After this presentation, attendees will understand that experimental exposure to negative messages regarding older adults' generative value appears to impair memory relative to exposure to positive messages regarding the same.

**Abstract Body:** Exposure to aging stereotypes has been shown to powerfully influence cognitive performance among older adults. The goal of the current investigation was to test whether such effects extend to stereotypes regarding older individuals' generative (contributory) social value in a substudy of the Recording Everyday Activities, Cognition, and Health (REACH) Study. Prior to the launch of the study, mock news articles were composed which contained portrayals of older individuals as either an asset (positive prime) or a burden (negative prime) to society. The effect of exposure to either the positive or negative prime was examined in a sample of 51 older adults ( $M = 68$  years;  $R = 55-85$  years), who were randomly assigned to read one of the two articles. Those exposed to the negative prime showed significantly poorer memory performance as assessed with a verbal recall task in comparison with those exposed to the positive prime ( $d = 0.63$ ). After controlling for both baseline memory performance and for the sociodemographic covariates of age, sex, race, and education, the mean number of correctly recalled words in the positive priming group was 16.3, while those in the negative priming group recalled 13.0 words ( $B = 3.3$ ;  $p = 0.005$ ). These results indicate that negative messages regarding older adults' generative social value may impair memory relative to positive ones. The findings also point to the potential consequences of long-term exposure to such negative ideas and may indicate a need to promote more positive societal conceptualizations of older adults' generative worth.

### **320. Psychosocial and Economic Resources of African-American Centenarians: Findings from the Georgia**

**Centenarian Study**, Meneka Johnson, Iowa State University; Peter Martin, Iowa State University; Carolyn Cutrona, Iowa State University; Daniel Russell, Iowa State University; Megan Gilligan, Iowa State University; Thomas Schofield, Iowa State University; Leonard Poon, University of Georgia

**Objectives:** After attending this session participants will be able to identify the psychosocial and economic resources that contribute to optimal aging in African American centenarians.; After attending this session participants will be able to identify how age, gender, and cohort affect psychosocial and economic resources in African American centenarians.;

**Abstract Body:** This purpose of this study was to examine three types of resources (i.e., individual, financial, and social) in a sample of older African Americans in their 60s, 80s, and 100s to assess the level of resources they have available and choose to utilize. Using data from the Georgia Centenarian Study, a cross-sectional population-based interdisciplinary study of the oldest-old, participants included 127 African American older adults who were interviewed about their psychosocial and economic resources. Older African Americans reported high frequencies of varied resource types. Centenarians were significantly more likely than octogenarians and females were more likely than males to report the use of individual resources in the form of active coping. Centenarians also had lower social resources than octogenarians. Age group and education were predictors of financial resources. Further gender, age or cohort differences were not present. Active coping resources and financial resources were associated with each other indicating potential for a bi-directional relationship. Despite their lifetime of disadvantages, African-American older adults are high on psychosocial and economic resources. However, the oldest old show significantly fewer resources that may have negative effects on their quality of life. These findings can be used to more readily identify older African American individuals who may be more susceptible to reduced levels of psychosocial resources without the need for clinical assessments. Program interventions can specifically target individuals to aid them in developing skills and/or resources that will assist them with the social, financial, and psychological transitions that older African-American may face.

### **321. Purpose and Cognitive Functioning from Middle to Older Adulthood**, Nathan Lewis, Carleton University;

Nicholas Turiano, West Virginia University; Brennan Payne, University of Illinois; Patrick Hill, Carleton University

**Objectives:** The first objective was to build upon existing research linking purpose in life to a diminished risk for cognitive issues, by examining its association with aspects of cognitive functioning.; The second objective was to test whether these relationships remained consistent across age groups.

**Abstract Body:** With Alzheimer's Disease (AD) and other dementias projected to increase in upcoming years, it is imperative that groups at-risk for such cognitive decline be identified. One emerging health indicator is an individual's sense of purpose in life. Purpose in life has been shown to predict susceptibility to Alzheimer's and related cognitive disorders, but its effects on cognitive functioning more broadly have yet to be examined. This study sought to examine the impact of purpose on memory and executive functioning aspects of cognition. Participants ( $n = 3605$ ,  $Mage = 56.3$  years,  $SD = 12.29$ ,  $Range = 32$  to  $84$  years) were selected from the Midlife in the United States (MIDUS) longitudinal study. Purpose in life was associated with higher scores for memory ( $r = .17$ ) and executive functioning ( $r = .24$ ). Bootstrapping analyses were used to test purpose by age interactions, to investigate whether these relationships differed across adulthood. No significant age

moderation was found for purpose and memory ( $t = 1.77, p = .08$ ), or for purpose and executive functioning ( $t = 0.48, p = .63$ ). These findings add to the growing body of research linking purpose to cognitive health later in life by demonstrating the linkages between purpose and different aspects of cognitive functioning, a relationship that does not appear to differ substantially by age group. Future studies should attempt to explain why purpose is associated with greater cognitive functioning, and explore the potential for purpose interventions to promote healthy cognitive aging.

**322. Remains of the Day: Stress Residue and Daily Co-Occurrence of Affect in Older Adults**, Jennifer Ramsey, North Carolina State University; Shevaun Neupert, North Carolina State University; Daniel K. Mroczek, Weinberg College of Arts & Sciences and Feinberg School of Medicine Northwestern University; Avron Spiro, III, VA Boston Healthcare System and Boston University School of Public Health

**Objectives:** This study examines the effects of stress residue and daily co-occurrence of affect on stress reactivity in older adults. A lag model was employed to examine these effects two days subsequent to the original stressor reported

**Abstract Body:** Increased emotional complexity, operationalized as daily co-occurrence of affect, is related to reduced stress in older adults. Older age is associated with a greater likelihood of co-occurrence. Additionally, stress residue from one day to the next may differentially impact an individual's ability to respond adaptively to lingering stress in the absence of the original stressor. This study examined the relationship between daily co-occurrence of affect, stress residue, and negative affect in 333 participants (60-89 years) responding to a daily diary study of the VA Normative Aging Study. Co-occurrence was calculated as each participant's intraindividual correlation between positive and negative affect over the 8 days. Stress residue is "lingering" stress that remains on days subsequent to the original stressor. Stress and stress residue were entered as level 1 predictors and within-person negative affect as the outcome variable. Age and co-occurrence were level 2 variables. Lagged multi-level models revealed a main effect of stress on negative affect two days from the original stressor. We found a level 1 x level 2 (stress residue x co-occurrence) interaction only the day prior to the original stressor. Findings suggest that stress does remain up to two days after the original stressor was reported and that this stress residue has a prolonged impact on negative affect. Additionally, daily co-occurrence of affect may be an important buffering factor for older adults as the effect on negative affect is present prior to the occurrence of a stressor.

**323. Residential Mobility is Associated with Worse Social and Health Outcomes in Midlife Adults**, Nicole Usher, Suffolk University; Cynthia Davis, Judge Baker Children's Center/Harvard Medical School; Sean McCormick, Suffolk University/Judge Baker Children's Center; Sarah Trifiletti, Judge Baker Children's Center; Ayelet Barkai, Cambridge Health Alliance/Harvard Medical School; Christos Mantzoros, Cambridge Health Alliance/Harvard Medical School; Judith Crowell, Stony Brook University/Judge Baker Children's Center

**Objectives:** Examine adult residential mobility in relation to social and health functioning during midlife

**Abstract Body:** Research shows many child and adult outcomes related to childhood residential mobility (e.g., behavioral and emotional problems, poor midlife health). There is less known about adult residential mobility and its associations with adult physical/mental health. This study examines adult residential mobility in relation to social and health functioning during midlife. Eighty racially diverse midlife adults (35-55 years) of diverse SES completed two visits separated by 2 years. Twenty participants changed addresses during this time. Census data were used to calculate a neighborhood disadvantage index (i.e., percentages of families below poverty line, receiving public assistance, unemployed, and female-headed households). Neighborhood status was assessed via perceived relative standing in one's community on a 10-point status ladder. The Social Adjustment Scale assessed participants' overall social adjustment (domains: work, marital, social, economic, extended family, parental). The Block Food Frequency Questionnaire assessed participants' dietary quality. Body Mass Index (BMI) was obtained. We found no significant difference between neighborhood disadvantage scores between Visit 1 and Visit 2, suggesting participants did not move to better or worse neighborhoods. Residentially mobile participants had greater neighborhood disadvantage at both times points, reported lower perceived neighborhood status, and scored worse on social adjustment. They had higher BMIs and worse dietary quality. We found no differences between dietary quality at Visits 1 and 2, suggesting that residentially mobile participants have consistently poorer diets compared to those with stable addresses. Conclusions: Health indicators, such as poor diet and high BMI, represent another domain in which residentially mobile adults are vulnerable during midlife.

**324. Resilience and Cardiovascular Disease Risk by Race/Ethnicity**, Ronica Rooks, University of Colorado Denver; Cassandra Ford, The University of Alabama; Kate Coleman-Minahan, University of Colorado Denver; Patrick Krueger, University of Colorado Denver

**Objectives:** To understand the relationship between resilience and CVD risk by race/ethnicity among middle-aged and older adults.; To understand the Reserve Capacity Model as a conceptual framework applied to racial and ethnic, middle-aged and older adults.

**Abstract Body:** Objective: We used the Reserve Capacity Model as a framework for examining the relationship between resilience (i.e., the ability to overcome adversity), race/ethnicity, and cardiovascular disease (CVD) risk, with health behaviors, socioeconomic status, and physical health mediators. We hypothesized that (a) resilience will be inversely related to CVD risk factors, and (b) the inverse relationship between resilience and CVD risk will be stronger among Mexican-

Americans and non-Hispanic Blacks than non-Hispanic Whites. **Methods:** We tested our hypotheses with multivariate negative binomial and logistic regression models among adults aged 40-85 in the 2005-8 waves of the nationally-representative National Health and Nutrition Examination Survey (n=6,063). Resilience is measured as a series of physiological, social, and psychological variables. We measured CVD risk using clinically-measured triglycerides, total cholesterol, and hypertension. We tested for interactions between resilience and race/ethnicity related to CVD risk. **Results:** We found inverse relationships between resilience and triglycerides and hypertension in the base models, but in final models with all mediators no significant relationships existed. When resilience interacted with race/ethnicity in the relationship with CVD risk, resilience was more protective for Whites than for Blacks or Mexican-Americans. **Conclusions:** We contributed to the literature by using clinically-measured CVD risk factors in a diverse, nationally-representative sample of adults aged 40+, to better understand the relationship between resilience and CVD risk by race/ethnicity. We also broadened the dimensions of resilience adding to existing scale measures in the literature.

**325. Role Captivity and Stress Over 12-months in New vs. Ongoing Caregivers to Hip Fracture Patients, Cristan Smith, University of Maryland Baltimore County; Rasheeda Johnson, University of Maryland Baltimore; Erik Barr, University of Maryland Baltimore; Lynn Lewis, University of Maryland Baltimore; Alan Rathbun, University of Maryland Baltimore; Lisa Fredman, University of Maryland Baltimore; Denise Orwig, University of Maryland Baltimore**

**Objectives:** To compare new and ongoing hip fracture caregivers, as well as their feelings of role captivity, on the impact of Perceived Stress Scale (PSS) scores over 12-months post-fracture

**Abstract Body:** Hip fracture is an acute event, requiring some people to assume the role of caregiver unexpectedly. These new caregivers may differ from those who had been providing care prior to the event (ongoing caregivers) on perceived stress and reactions to caregiving. This study compared new and ongoing caregivers on their feelings of role captivity and the impact on Perceived Stress Scale (PSS) scores over 12-months post-fracture. Hip fracture patients and their caregivers (n=145 dyads) were assessed at the time of fracture (baseline) and 12 months later. One-third of the caregivers (n=45) were new caregivers at baseline. New caregivers were significantly (p<0.01) more likely to be the patient's spouse (94% vs. 39%), male (67% vs. 41%) and older (mean age 76 vs. 71). At baseline, ongoing caregivers reported significantly more role captivity (3.11 vs. 1.53, p<0.01), but not higher PSS (20.4 vs. 17.8 p=0.12). Longitudinal mixed effects models showed that PSS decreased at a similar rate for new and ongoing caregivers over time; after adjusting for baseline sociodemographic factors, comorbidities, depression, and caregiver status at follow-up, baseline caregiver status was not significant. When analyzed according to sample-based tertiles of role captivity at baseline, change in PSS between baseline and follow-up was -0.65, +0.08 and -3.12, respectively; these associations were significantly different between the second and third tertiles (p=0.02), but not between the first and third tertiles (p=0.12). In summary, feelings of role captivity may be more important than prior caregiving experience in associations with PSS over time in hip fracture caregivers.

**326. Safe Mobility for Older Adults in Acute Care Settings: Simulation Training for Interprofessional Providers, Angela Rothrock, University of Alabama at Birmingham; Donna Bearden, University of Alabama at Birmingham; Emily Simmons, University of Alabama at Birmingham; Patricia Sawyer, University of Alabama at Birmingham; Cynthia Brown, University of Alabama at Birmingham; Kellie Flood, University of Alabama at Birmingham**

**Objectives:** Describe an evidence-based practice program focused on simulation training for safe mobility of older patients in an acute care setting; Describe the process of coordinating unit staff and resources to deliver an educational program during clinical service.

**Abstract Body:** Simulation has long been used in formal healthcare career training programs. However, simulation is not routinely utilized for continuing education in clinical practice. The UAB Geriatric Education Center implemented a two-part "Safe Mobility" evidence-based practice program in the acute care setting. Part one included a 30-minute didactic orientation, delivered during the clinical unit monthly staff meeting. Part two included mandatory participation in a half-hour simulation session, repeated 17 times over three days. The simulation focused on the interaction of an older patient and his daughter (both actors) who were resistant to staff efforts to get the patient out of bed. A team of clinical observers rated staff performance on a battery of environmental hazards and clinical behaviors related to safe mobility. Part one participants (N=42) had a mean age of 42 with 35% between the ages of 20-29; all were female with 45% African American and 52% Caucasian. The predominant discipline was nursing (75%); others were medicine and social work. The 36 participants who completed the simulation had similar demographics. Ninety percent of part two participants (N=28) reported that the simulation increased their confidence, that they strongly agreed they would be able to apply the principles learned, and that the experience was valuable. The majority of participants rated the program as good (16.7%), very good (22.2%), or excellent (61.1%). The presentation will include details regarding the process of case development and implementation, the simulation sessions, and the process of observation, debriefing, and evaluation.

**327. Satisfaction with Aging and Overnight Hospitalization in the US Population over Age 50, Jennifer Sun, Medical Scientist Training Program, University of Michigan Medical School, Ann Arbor, MI; Department of Psychology, University of Michigan, Ann Arbor, MI; Eric Kim, Department of Psychology, University of Michigan, Ann Arbor, MI; Jacqui Smith,**

*Department of Psychology, University of Michigan, Ann Arbor, MI; Institute for Social Research, University of Michigan, Ann Arbor, MI*

**Objectives:** To determine the association between aging satisfaction and overnight hospitalizations among the US population over age 50; To propose aging satisfaction as a modifiable construct amenable to intervention; To describe the potential role of physicians and health care providers in increasing aging satisfaction

**Abstract Body:** Older adults account over half of hospital stays, but little is known about the impact of psychosocial factors on hospitalization rate among this rapidly growing segment of the population. The present study uses data from the Health and Retirement Study, a nationally representative panel study of community-dwelling adults over the age of 50 in the United States, to determine the association between aging satisfaction and the number overnight hospitalizations from 2008-2012. Over the four-year follow-up, 43.93% of the 4,735 respondents in our sample were hospitalized overnight at least once. The number of hospitalizations ranged from 0 to 76, with an average of 1.10 over four years. In the fully adjusted model (sociodemographics + baseline health + health behaviors), one standard deviation increase in aging satisfaction was associated with 11% fewer overnight hospitalizations over follow-up (RR = 0.89, 95% confidence interval [CI] = 0.83–0.95,  $p = .001$ ). The association remained after adjusting for the number of previous hospitalizations over the previous four years. After dividing respondents into quartiles based on level of aging satisfaction, the results of our analyses suggested a dose-response relationship in the core model (compared to low, low-moderate: RR = 0.67, 95% confidence interval [CI] = 0.57–0.79,  $p < .001$ ; moderate-high: RR = 0.64, 95% confidence interval [CI] = 0.52–0.80,  $p < .001$ ; high: RR = 0.45, 95% confidence interval [CI] = 0.37–0.55,  $p < .001$ ). Aging satisfaction is a modifiable construct that could be targeted to decrease the rate of hospitalizations among older adults.

**328. Satisfaction with Aging and Use of Preventive Health Services, Eric Kim, University of Michigan; Armani Hawes, University of Michigan; Hannah Giasson, University of Michigan; Jacqui Smith, University of Michigan**

**Objectives:** Attendees will learn about how satisfaction with aging is longitudinally associated with use of flu shots, cholesterol tests, mammogram/x-ray, pap smears, and prostate exams

**Abstract Body:** Objective: The Brookings Institution estimates that in 2007, only 4% of the \$1.7 trillion spent on national health expenditures was for prevention. Less than 30% of adults aged 50-64 and less than 50% of adults over age 65 are up-to-date with core preventive services. A central challenge is to identify factors that may increase the likelihood of using preventive health care services. This need is particularly critical in the current climate, given that increased access to preventive care has become available with the Affordable Care Act. We hypothesized that aging satisfaction would be associated with increased preventive health service use four years later. Method: We conducted multiple logistic regression analyses on a sample of 6,177 people from the Health and Retirement Study, a nationally representative study of U.S. adults aged 50+ (M age = 70.6; women  $n = 3648$ ; men  $n = 2528$ ). Results: In adjusted models aging satisfaction was not associated with obtaining flu shots. However, each standard deviation increase in aging satisfaction was associated with higher odds of obtaining cholesterol tests (OR = 1.10, 95% CI = 1.00–1.20). Further, women with higher aging satisfaction were more likely to obtain a mammogram/x-ray (OR = 1.17, 95% CI = 1.06–1.29) or pap smear (OR = 1.10, 95% CI = 1.00–1.21). Among men, the odds of obtaining a prostate exam increased with higher aging satisfaction (OR = 1.20 95% CI = 1.09–1.34). Conclusion: Aging satisfaction is potentially relevant and important for preventive service use after age 50.

**329. Seriousness of older suicide in South Korea: How society responds, Bum Jung Kim, University of Hawaii at Manoa**

**Objectives:** To examine factors that influence suicide among older adults in South Korea at micro, mezzo, and macro levels; To inform policymakers, community leaders, and scholars about the importance of understanding suicide risk factors and developing preventive strategies to minimize the older suicide rate.

**Abstract Body:** Suicide is a significant problem in South Korea, which has the highest suicide rate among OECD countries. A poignant statistic, the suicide rate among older adults (65+) in South Korea is not only higher than all other age groups within South Korea, but also globally. What's more, suicide in South Korean older adults is rapidly increasing, and has consequently resulted in substantial damage to society such as family bankruptcy, increase in social expenditure, and a mistakenly negative image of the nation. Previous studies examined individual risks and relevant personal factors of older adult suicide in South Korea, but few studies have conducted comprehensive examination of risk factors at both micro and macro levels of older adult suicide, nor preventive strategies at individual, community, and national levels. This study has two aims: (1) To examine factors that influence suicide among older adults in South Korea at micro, mezzo, and macro levels, and (2) To inform policymakers, community leaders, and scholars about the importance of understanding suicide risk factors and developing preventive strategies to minimize the older suicide rate. The study will first, provide background information about the importance of studying older adult suicide in South Korea and define suicide and theories of suicide. Second, the study will examine the risks of suicide at the personal and societal levels, including key factors related to older adult suicide. Finally, current policies will be investigated—5 year suicide prevention plan, facilities, and infrastructures—and implications of suicide prevention for older adults in South Korea will be provided.

**330. Sleep Disruption due to Caregiving in Women Veterans is Associated with Worse Mental Health Condition and Impaired Daily life, Yeonsu Song, Geriatric Research, Education, and Clinical Center, VA Greater Los Angeles Healthcare**

*System; Joseph Dzierzewski, VA Greater Los Angeles Healthcare System, Geriatric Research, Education, and Clinical Center, CA; Constance H. Fung, VA Greater Los Angeles Healthcare System, Geriatric Research, Education, and Clinical Center, CA; Juan C. Rodriguez, VA Greater Los Angeles Healthcare System, Geriatric Research, Education, and Clinical Center; Stella Jouldjian, VA Greater Los Angeles Healthcare System, Geriatric Research, Education, and Clinical Center, CA; Cathy A. Alessi, VA Greater Los Angeles Healthcare System, Geriatric Research, Education, and Clinical Center, CA; Jennifer L. Martin, VA Greater Los Angeles Healthcare System, Geriatric Research, Education, and Clinical Center, CA*

**Objectives:** To learn relationships between sleep disruption due to caregiving and mental health in women veteran caregivers.; To learn relationships between sleep disruption due to caregiving and daytime impairment.; To learn if there is age difference in sleep disruption by different types of caregiving.

**Abstract Body:** Despite significant negative effect of poor sleep in caregivers on their health and well-being, information on the relationship between poor sleep and health in women veteran caregivers is lacking. This cross-sectional, secondary data analysis from a large nation-wide postal survey of insomnia among women veterans examined whether poor sleep due to different types of caregiving was associated with mental health and daytime impairments. Mental health was measured using the Patient Health Questionnaire (PHQ)-4 and daytime functioning was measured with 11 questions addressing the insomnia-related impairments listed in the International Classification of Sleep Disorders-2. Among a total of 1,525 women veterans (mean age 52±15), 63 had trouble sleeping due to caring for adults (group1); 97 had trouble sleeping due to caring infants/children (group2); 1,365 had no trouble sleeping due to caregiving or were noncaregivers (group3). Caregivers in group 1 were significantly older than those in group 2 (age 54 vs. 36). In both age- and multivariate-adjusted models (i.e., age, race, marital status, employment status, comorbidity, physical activity, and subjective health status), caregivers in group1 had higher score of PHQ-4 ( $p<0.05$ ) than those in group 2 (4.97 vs. 3.56) and group 3 (4.07). Caregivers in group 1 also had more daytime impairments (e.g., fatigue, sleepiness;  $p<0.05$ ) than those in group 2 (8.23 vs. 6.83) and group 3 (7.34). Women veterans with sleep disruption due to caring for adults may have high risk for negative health outcomes. Further studies of older women veteran caregivers are needed to explore predictors of their poor sleep.

**331. Sleep-Related Behavior Associated with Cognitive Functioning and Risk of Dementia, Kathleen Bokenberger, Karolinska Institutet; Peter Ström, Karolinska Institutet; Anna K. Dahl, Institute of Gerontology, School of Health Sciences, Jönköping University; Anna L.V. Johansson, Karolinska Institutet; Nancy L. Pedersen, Karolinska Institutet; Torbjörn Åkerstedt, Karolinska Institutet**

**Objectives:** Understand the extent to which sleep-related behavior is associated with initial cognitive functioning in older adults.; Identify sleep-related factors associated with dementia risk.; Gain knowledge on the concept of deviating sleep patterns among the geriatric population.

**Abstract Body:** Background: There is a lack of research on sleep behavior prior to dementia onset while accounting for baseline cognitive status. Aim: To examine the cognitive effects of sleep behavior from a cross-sectional and longitudinal perspective. Methods: A prospective cohort study with up to 11,247 persons from the population-based Swedish Twin Registry who were at least 65 years of age and had self-reported sleep and cognitive functioning information from a telephone screening interview were followed up for a median of 11.3 years for incident dementia. Dementia ascertainment was obtained from the Swedish National Patient Register and Cause of Death Register. Ordinal logistic regression was performed for cross-sectional analyses and Poisson regression for longitudinal analyses. Results: Long sleep duration relative to moderate sleep length was associated with baseline cognitive status (OR=1.15, 95% CI=1.04-1.26) and incident dementia (RR=1.39, 95% CI=1.13-1.71), even after adjustments were made for age, follow-up time, sex and education. Compared to those who experienced premature awakening to a moderate extent, persons who responded that they “never” experienced premature awakening had an 11% greater odds of baseline cognitive dysfunction (95% CI=1.03-1.21) and 33% higher risk of dementia (95% CI=1.12-1.58). The absence versus moderate experience of repeated awakenings was related to a 23% higher dementia risk (95% CI=1.04-1.45). Conclusion: Long sleep duration and deviations in sleep patterns among older individuals is related to poorer baseline cognitive status and increased dementia risk. Characterizing sleep behavior prior to the presentation of symptoms associated with dementia may aid clinicians in identifying early stage dementia.

**332. The Assessment of Pain Amongst Older Adults with Cognitive Impairment; Experiences of Healthcare Professionals, N. Allcock, Glasgow Caledonian University; R. Docking, University of Greenwich; I. Gnass, Institute of Nursing Science and Practice; P. Schofield, University of Greenwich; E. Sirsch, University of Witten/Herdecke; C. Stewart, University of Witten/Herdecke; S. Zwakhalen, Maastricht University**

**Objectives:** The overall objective of this study is gain insight into experiences of health care professionals about the assessment of pain amongst older adults with cognitive impairment.; This study aims to identify care providers’ experiences of assessing pain in cognitively impaired older adults cognitively impaired older adults.; This study aims to identify challenges care workers face in the assessment of pain impaired older adults cognitively impaired older adults.

**Abstract Body:** Worldwide, an increasing number of pain assessment tools are available to assess pain in cognitively impaired non-verbal older adults. In daily clinical practise these tools are rarely used. A convenience sample of care workers was approached through nursing, geriatric care and professional organizations to complete an online SurveyMonkey questionnaire. This web based questionnaire was available in English, German and Dutch. Alongside socio-demographic data

the survey contained open ended and multiple-choice questions about opinions on the usefulness and usability of existing tools to identify attitudes towards assessment tools and potential barriers to their implementation from a nursing perspective. The sample (n=810) consisted of 206 healthcare professionals working in hospital care (HC), 127 working in institutional long term care (ILTC) and 38 in primary care. Study findings showed that many health care professionals (41.8%; n=302) not use any standards/guidelines or local policies in their institutions. Only 34.1% (n=201) of the respondents used an observational pain assessment tool in their current practice. Although different pain scales were applied across countries, there was universal agreement about the ease of using the tools. However, applicability in daily practise is limited. Respondents reported that there is a need to know the patient and many professionals reported the difficulty of interpreting pain scores correctly. The results of this study will be used to inform the development of a pain assessment toolkit and improve the clinical utility for use amongst cognitively impaired (e.g. dementia) older adults, a European COST collaboration. Findings of this study will be used. Acknowledgement. The authors would like to acknowledge the contribution of the COST Action-td1005

**333. Blood Metabolomic Markers Associated with Cognitive Performance During Aging: the Baltimore Longitudinal Study of Aging**, *Brittany Simpson, Clinical and Translational Neuroscience Unit, National Institute on Aging, National Institute of Health; Kim Min, Kings College London; Seth Lirette, Center of Biostatistics and Bioinformatics, University of Mississippi Medical Center; B Gwen Windham, Department of Medicine, University of Mississippi Medical Center; Luigi Ferrucci, Clinical and Translational Neuroscience Unit, National Institute on Aging, National Institute of Health; Michael Griswold, Clinical and Translational Neuroscience Unit, National Institute on Aging, National Institute of Health; Cristina Legido-Quigley, Kings College London; Madhav Thambisetty, Clinical and Translational Neuroscience Unit, National Institute on Aging, National Institute of Health*

**Objectives:** To examine associations of plasma concentrations of PC 16:0/20:5, PC 16:0/22:6, and PC 18:0/22:6 with cognitive performance in non-demented older individuals.; To investigate whether plasma concentrations of these PCs predict future cognitive impairment.

**Abstract Body:** Purpose: We tested associations of plasma concentrations of [PC16:0/20:5; PC16:0/22:6; PC18:0/22:6] with cognitive performance in non-demented older individuals in the Baltimore Longitudinal Study of Aging neuroimaging substudy (BLSA-NI). Methods: Plasma PC concentrations [PC16:0/20:5; PC16:0/22:6; PC18:0/22:6] and cognitive performance [California Verbal Learning Test (CVLT), Trails A&B, and the Mini-Mental State Exam (MMSE)] were measured in BLSA-NI participants who were non-demented at baseline (n=126, age 49-89 yrs, follow-up over 7.7 years). Associations of PCs with cognitive decline were examined using mixed-effects linear regression. PC associations with conversion to AD/mild cognitive impairment (n=37) were examined using logistic regression. Models were adjusted for baseline age, sex, education, and APOE genotype. Results: Higher baseline PC concentrations were associated with better baseline memory ( $\beta$  with 95% confidence interval subscripts: CVLT total recall: PC16:0/20:5: 0.623.686.74 p=0.019, PC16:0/22:6: 0.843.125.39 p=0.007, and PC18:0/22:6: 0.632.845.06 p=0.012; CVLT Short Delay Recall: PC16:0/20:5: 0.201.071.95 p=0.016, PC16:0/22:6: 0.200.851.50 p=0.011, and PC18:0/22:6: 0.180.811.44 p=0.012; CVLT Long Delay Recall: PC16:0/20:5: 0.261.111.96 p=0.010, PC16:0/22:6: 0.090.721.35 p=0.026 and PC18:0/22:6: 0.030.641.26 p=0.041). No associations were observed with Trails A&B or MMSE. There were no significant associations between PC concentrations and subsequent conversion to AD/MCI. Implications: Lower plasma concentrations of the candidate AD biomarkers, PC16:0/20:5, PC16:0/22:6 and PC18:0/22:6 are associated with poorer memory performance in non-demented older individuals. Altered levels of these metabolites may be an early feature of perturbed brain function during aging.

**334. Aging with MCMV maintains TCR repertoire diversity in late life**, *Megan Smithey, University of Arizona, College of Medicine; Vanessa Venturi, University of New South Wales; Miles Davenport, University of New South Wales; Janko Nikolich-Zugich, University of Arizona*

**Objectives:** Describe how lifelong persistent viral infections might impact the immune repertoire over a life time

**Abstract Body:** The human immune system is constantly challenged with acute, chronic and/or persistent pathogens. Cytomegalovirus (CMV) is ubiquitous, with seroprevalence between 45-100% worldwide. Lifelong interactions between CMV and the immune system lead to memory inflation of CMV-specific T cells, occupying up to 50% of the CD8 pool in aged humans. It has been proposed that memory T cell inflation comes at a price, with expanded CMV-specific cells impacting the maintenance of other T cells, exacerbating the age-related loss of T cell diversity. We previously showed further loss of antigen-specific precursors in aged mice that had experienced lifelong infection with murine CMV (MCMV), resulting in reduced effector function and bacterial clearance following *Listeria* challenge. Detailed analysis of the anti-*Listeria* TCR $\beta$  CDR3 repertoire of adult and old mice, and lifelong MCMV+ old mice found that CD8 effector T cells generated in old MCMV+ mice were populated by low copy number clonotypes expressing non-canonical TCR genes relative to adult and old MCMV- animals. These clonotypes showed loss of a conserved amino acid motif within their CDR3, and increased recognition of altered peptide ligands. Thus, lifelong MCMV infection appeared to increase the diversity of the CD8 T cell response to a new infection in late life, by recruitment of low avidity clonotypes with cross-reactive antigen recognition capacity. These results have profound implications for our understanding of naive T cell maintenance over a lifespan, and suggest that our evolution with CMV may include surprising benefits to adaptive immunity in late life.

**335. Increased Coagulation and Suppressed Generation of Activated Protein C in Aged Mice during Intra-Abdominal Sepsis**, Marlene Starr, University of Kentucky; Hitoshi Takahashi, University of Kentucky; Daiki Okamura, University of Kentucky; Amy Mrazek, University of Texas Medical Branch; B Mark Evers, University of Kentucky; Charles Esmon, University of Kentucky; Hiroshi Saito, University of Kentucky

**Objectives:** After attending this activity, participants will be able to understand how an impaired anti-coagulant system in the aged may contribute to excessive coagulation and death during sepsis

**Abstract Body:** Sepsis is a life-threatening clinical condition which is particularly serious among the elderly who experience considerably higher mortality rates compared to younger patients. Using a sterile endotoxemia model, we previously reported age-dependent mortality in conjunction with enhanced coagulation and insufficient levels of anti-coagulant factor activated protein C (aPC). The purpose of the present study was to further investigate the mechanisms for age-dependent coagulation and aPC insufficiency during experimental sepsis. Intra-abdominal sepsis was induced by cecal ligation and puncture (CLP) using 21 or 16 gauge (G) needles (double-puncture) on young (4-6 months old) and aged (20-25 months old) male C57BL/6 mice. Compared to young, aged mice showed significantly increased mortality (92% vs 28%), systemic inflammation, and coagulation in the lung and kidney after 21G CLP. Young mice with more severe CLP (16G) showed a mortality rate and inflammation equivalent to aged mice with 21G CLP; however, enhanced coagulation and kidney dysfunction were significant only in the aged. In young mice, increased levels of aPC after CLP was coupled with reduced levels of PC suggesting the conversion of PC to aPC; however, PC and aPC levels remained unchanged in aged mice, indicating a lack of PC to aPC conversion. Activation of fibrinolysis, determined by plasma D-dimer levels, was similar regardless of age or CLP severity and plasminogen activator inhibitor-1 (PAI-1), an inhibitor of fibrinolysis, showed severity-dependent induction independent of age. These results suggest that enhanced coagulation in aged mice during sepsis is due to dysfunction of the PC activation mechanism.

**336. Transcriptomic Profiles of Aging in Purified Human Immune Cells**, Jackson Taylor, Wake Forest Baptist Health; Lindsay Reynolds, Wake Forest Baptist Health; Jingzhong Ding, Wake Forest Baptist Health; Kurt Lohman, Wake Forest Baptist Health; Stephen Kritchevsky, Wake Forest Baptist Health; Ina Hoeschele, Wake Forest Baptist Health; David Herrington, Wake Forest Baptist Health; Yongmei Liu, Wake Forest Baptist Health

**Objectives:** Understand the common patterns of age-associated transcriptional changes in human monocytes and T cells.; Understand monocyte-specific age-associated transcriptional changes in humans.

**Abstract Body:** Transcriptomic studies hold tremendous potential towards understanding the human aging process, yet previous work has been limited by small samples sizes and mixed cell types. In this study, transcriptomic profiles and methylomic profiles of CD14+ monocytes from 1,264 individuals (aged 55–94 years), and transcriptomic profiles of CD4+ T cells from a subset (423) of the population, were utilized to identify shared and cell-specific gene expression profiles associated with age, and to explore DNA methylation as a regulator of age-related gene expression. Association analysis in 423 monocyte and T cell samples identified 415 genes and 219 genes differentially expressed with age in monocytes and T cells, respectively (FDR<0.01), with 33 genes significant in both cell types. Protein synthesis machinery gene expression declined with age in both cell types, particularly mitochondrial ribosome genes. Increasing the monocyte sample size to 1,264, we observed a decline in autophagy, protein synthesis, and oxidative phosphorylation genes with age. Age-related differences in cis-methylation did not mediate the relationship between age and expression for the majority of genes in these age-related pathways. Overall, mitochondrial ribosome gene expression tended to decline with age in both monocytes and T cells; however, the monocyte transcriptome also included a decline in expression of genes involved in other key biological processes, oxidative phosphorylation and autophagy. These results reflect the complexity of biological aging and underscore the importance of functional genomic studies using purified cells.

**337. Endothelial Health in Brain and Circulating Vascular Cell Adhesion Molecule-1: Association with Cerebral Blood Flow Dysregulation, Cerebral White Matter Damage, Mobility Impairment, and Injurious Falls in Older Adults**, Achille Tchalla, Beth Israel Deaconess Medical Center, Boston, Massachusetts.; Lewis Lipsitz, Beth Israel Deaconess Medical Center; Gregory Wellenius, Brown University; Farzaneh Sorond, Stroke Division, Brigham and Women's Hospital; Thomas Trivison, Beth Israel Deaconess Medical Center; Thierry Dantoine, Beth Israel Deaconess Medical Center

**Objectives:** sVCAM-1 high levels may be a marker of cerebral blood flow dysregulation due to endothelial damage from hypertension.; sVCAM-1 high levels may also signal the presence of cerebral microvascular disease and its clinical consequences, including slow gait speed and falls.

**Abstract Body:** BACKGROUND: Soluble vascular Cell adhesion molecule-1 (sVCAM-1) is elevated in hypertension, atherosclerosis, renal and cardiovascular disease, and is a presumed marker of endothelial dysfunction. Its relationships to abnormal cerebral endothelial function and the physiologic and clinical consequences of cerebral microvascular disease are unknown. METHODS: We studied the cross-sectional relationships between plasma sVCAM-1 levels and cerebrovascular variables, and its longitudinal relationship with falls in 680 community-dwelling participants in the MOBILIZE Boston Study who were aged 65 and older. Falls were recorded prospectively for one year on daily calendars. sVCAM-1 was measured by

ELISA assay and beat-to-beat blood flow velocity (BFV) in the middle cerebral artery during rest and in response to changes in end-tidal CO<sub>2</sub> was measured by transcranial Doppler ultrasound. **RESULTS:**The mean sVCAM-1 concentration ( $\pm$ SD) was 1048.45  $\pm$  26.03 ng/mL in normotensives, 1129.16  $\pm$  20.21 ng/mL in controlled hypertensives and 1184.00  $\pm$  32.82 ng/mL in uncontrolled hypertensives ( $p = 0.0080$ ). sVCAM-1 was associated with resting BFV ( $P = 0.017$ ) and BFV response to CO<sub>2</sub> (vasomotor range,  $p = 0.0075$ ). In a subset of subjects, sVCAM-1 was positively correlated with cerebral white matter hyperintensity volume ( $r = 0.47$  ( $p=0.0176$ )). Elevated sVCAM-1 levels were also associated with gait speed  $< 0.8$  m/sec (OR = 3.01, 95 %CI (1.56 – 5.83),  $p = 0.0011$ ), and odds of injurious falls (OR = 2.36, 95 %CI (1.35 – 4.15),  $p = 0.0028$ ). **CONCLUSIONS:** Elevated plasma sVCAM-1 levels may be a marker of cerebral blood flow dysregulation due to endothelial damage from hypertension. It may also signal the presence of cerebral microvascular disease and its clinical consequences, including slow gait speed and falls.

**338. Cognitive Assessment and Off-label Use of Antipsychotics: Challenges in Identifying At-Risk Nursing Home Residents**, Ryan Mace, Mansbach Health Tools, LLC \*(Will be attending Suffolk University's Clinical Psychology PhD program this fall); Kristen Clark, Mansbach Health Tools, LLC; William Mansbach, Mansbach Health Tools, LLC; Isabella Firth, The Beacon Institute; Jacqueline Breeden, The Beacon Institute; , The Beacon Institute

**Objectives:** To quantify the prevalence of off-label antipsychotic medication use for the behavioral and psychological symptoms of dementia in nursing home residents.; To determine whether moderately or severely demented nursing home residents are more or less likely to be prescribed antipsychotic medications than those with mild dementia.; To investigate the agreement between cognitive diagnoses posted on physician order sheets, based on various assessment methods, with cognitive levels identified by a validated objective brief cognitive test.

**Abstract Body:** The use of antipsychotic medications for behavioral disturbances in older adults with dementia is associated with increased lethality. Yet, off-label use of these drugs is frequent in US nursing home residents. To minimize health risks, methods for identifying residents with dementia should be improved. Nursing home residents (N = 231) prescribed antipsychotic medication from 17 Maryland skilled nursing facilities participated in this prospective study. Cognitive levels were reported by an objective screening tool (Brief Cognitive Assessment Tool; BCAT) and variable assessment methods (VAM) taken from physician order sheet diagnoses. Participants with dementia, and who did not have either schizophrenia or bipolar disorder, were identified as receiving off-label antipsychotics. The average BCAT score for this sample was 19.77 (SD = 14.27), which is within the range for moderate to severe dementia. Sixty percent were prescribed antipsychotic medication for off-label purposes based on VAM, and 66.8% based on BCAT scores. Of these participants, 80.1% had moderate-severe dementia and 19.9% had mild dementia based on BCAT scores. The identification of dementia differed significantly based on whether the VAM and BCAT method was used ( $p < .001$ ). The two methods of assessment disagreed on 20.9% ( $n = 44$ ) of the cognitive levels identified; moreover, the BCAT disagreed on 49.3% ( $n = 34$ ) of the non-dementia identifications made by VAM. Off-label use of antipsychotics remains high, especially for severely demented residents. Because demented residents who are prescribed antipsychotics are at increased lethality risk, it is important to use objective cognitive assessment to accurately identify them.

**339. Engaging Clinical Health Providers to Recruit Participants into a Chronic Disease Self-Management Program: Lessons Learned and Recommendations**, Christina Marsack, Wayne State University; Truemenda Green, 3National Association of County and City Health Officials; Idethia Harvey, University of Connecticut

**Objectives:** To inform individuals of the Chronic Disease Self-Management Program and its outcomes.; To identify the results and lessons learned regarding the recruitment process for the Chronic Disease Self-Management Program.; To provide a model for the implementation of the Chronic Disease Self-Management Program.

**Abstract Body:** The National Association of County and City Health Officials (NACCHO) piloted the Stanford Chronic Disease Self-Management Program (CDSMP) (Lorig, et al., 1999) among 12 local health departments in the United States. NACCHO provided capacity-building assistance to support the logistics and resources used to plan, deliver, and sustain the six-week CDSMP, which was taught in a community setting. One of the five programmatic aims was to implement a clinical linkage component that involved recruiting and engaging clinical providers in the community to refer patients with a chronic illness to the local CDSMP. Data were obtained from key participant interviews and programmatic review. A process evaluation was conducted to assess NACCHO's ability to serve as a support system for LHD-delivered CDSMP and to assess LHDs' ability to implement the requirements of hosting the CDSMP. The evaluation demonstrated that NACCHO effectively supported the CDSMP for implementation by local health departments. The evaluation also identified components that may increase: 1) recruitment of clinical providers, 2) collaboration with local health departments, 3) promotion of and referrals to CDSMP, and 4) engagement with patients. Clinicians play an important role in increasing the effectiveness and success of the CDSMP in community settings.

**340. Predictors of Benzodiazepine Use in Rural and Urban Older Adults**, Meghan Mattos, University of Pittsburgh School of Nursing; Steven Albert, University of Pittsburgh, Graduate School of Public Health; Susan Sereika, University of Pittsburgh School of Nursing and Graduate School of Public Health



**Objectives:** Describe benzodiazepine use and distress in older, rural- and urban-dwelling adults.; Create discussion about predictors of benzodiazepine use and higher rates of benzodiazepine use in older, rural-dwelling adults compared to their urban counterparts.

**Abstract Body:** Benzodiazepine use in older adults is strongly discouraged, yet they are regularly prescribed benzodiazepines for treatment of insomnia and anxiety. Although there are high rates of illicit use in rural America, less is known about prescription use in older adults based on residence. This study examines predictors of prescribed benzodiazepine use in a sample of older Pennsylvanians. The sample consisted of older adults (N=419) enrolled in Pennsylvania's Healthy Steps for Older Adults program between 2010-2011 and participated in Pennsylvania's Pharmaceutical Assistance Contract for the Elderly. Predictors included sociodemographic variables and benzodiazepine use. Benzodiazepine use was confirmed by prescription pick-up; distress was measured by EuroQoL-5D subscore for anxiety/depression, dichotomized as no distress/distress. Univariate and multivariate binary logistic regression and stratified contingency table analyses were performed. The sample was 79.0±6.3 years old, mostly female(88.5%), White(92.1%), high-school educated(58%), and of urban residence(85.9%). Rural adults had significantly higher benzodiazepine use(28.3%) versus urban adults(12.8%)( $X^2=9.691, p=.005$ ). Older adults using benzodiazepines reported "no distress"(25.6%) significantly more than those not taking benzodiazepines(10.6%)( $X^2=15.501, p<.001$ ). Regression analyses supported the association between rural residence and use(univariate OR=2.70,95%CI=[1.42,5.12];multivariate OR=2.99,95%CI=[1.46,5.82]; $ps<.05$ ). Benzodiazepine use was associated with no distress (univariate OR=0.35,95%CI=[0.20,0.60];multivariate OR=0.33,95%CI=[0.19,0.58]; $ps<.05$ ). Similar to illicit benzodiazepine use, older, rural adults had significantly higher prescribed benzodiazepine use compared to their urban counterparts. Older adults that reported taking benzodiazepines and no distress may indicate they are receiving the medication's therapeutic effects. Findings suggest that other factors may be relevant for benzodiazepine use in rural areas, such as prescribing differences based on less access to mental health services or specialists.

**341. Wheelchair Art Quilts Increase Resident-to-Resident Socialization Among Older Adults with Dementia, Ann Mayo, University of San Diego; Margaret Loomis, ArtsEtc; Janet Bernhard, ArtsEtc; Lynda Ozgur, ArtsEtc; Mary Ellen Dellefield, La Jolla Veterans Hospital; Jane Georges, La Jolla Veterans Hospital**

**Objectives:** Participants will be able to describe how an innovative art intervention research study improved resident-to-resident socialization among older adults with dementia.

**Abstract Body:** Background One third of all older adults with dementia spend their last years of life in skilled nursing facilities (SNFs). Advanced cognitive impairment and diminished senses leave the impression to many that these residents are no longer persons, contributing to their social isolation. Interventions to increase socialization are desperately needed. Methods This participatory action study tested the feasibility of using wheelchair art quilts (colorful, tactile, person-oriented quilts fitted over wheelchair backs made by volunteer textile artists) to increase socialization at the unit level (SNF secured unit housing 30 older adults with dementia). Forty-five minute group observations were conducted five times (one pre, four post) over 80 days using four trained observers placed in different locations on the unit. Socialization data was collected using an adapted version of the CARES Observational Tool, a checklist of socialization items (i. e., eye contact, use of name), as well as, observational notes. Measured at the group level, socialization behaviors were analyzed using descriptive statistics and observational notes were analyzed using thematic analysis. Results All 30 residents allowed quilts to be placed on their wheelchairs. There was a 58% increase in resident-to-resident socialization group mean scores. Thematic analyses revealed that residents complimented each other regarding their quilts and regarded the quilts as their personal property by the last observation period. Conclusions Wheelchair art quilts increased resident-to-resident socialization. While this feasibility study was an effective first step, more research needs to be conducted in additional SNFs to further test the effectiveness of the intervention.

**342. LTPAC Nursing Assistants Connecting Resident Care and Technology: User Evaluation of Touch Screen Point-Of-Care, Rebeck Meehan, Kent State University;**

**Objectives:** a.To document the end user's (nursing assistants) experience of a wall-mounted touch screen point of care (POC) system in a LTPAC setting.; a.To document the end user's (nursing assistants) experience of a wall-mounted touch screen point of care (POC) system in a LTPAC setting. b.To identify areas for improvement in the POC or processes around using the POC to optimize quality of care.

**Abstract Body:** The adoption rate of health information technology (HIT) among LTPAC facilities has been gradual, due in large part to lack of eligibility for federal financial incentives through the Health Information Technology for Economic and Clinical Health (HITECH) Act. Moreover, as revenue for LTPAC services decreases, facilities need to find ways to efficiently and accurately capture documentation of services to maximize their reimbursements. It is essential for LTPAC staff to have easy to use, efficient and effective technologies to support their role in providing quality care. This pilot study uses a qualitative method to examine the end user's (nursing assistants) experience of a newly implemented (within 6 months) wall mounted, touch screen point-of-care system in a LTPAC facility in the mid-western United States. Nursing assistants (n=26) reported satisfaction with the system, ease of use, and a more effective data capture experience than compared to using a paper chart. Frustrations included not being able to access the system if a computer 'froze' resulting in

potential data inaccuracies because of the lag time between care given and documentation of that care. Recommendations for improvements included more efficient screen parameters for data entry; ease of correcting errors; ergonomic concerns for reaching the screen and entering data. Additional recommendations included new filters for third shift (overnight) employees, to save data entry time based on the commonly used data fields at a time when residents were typically asleep. Implications regarding data privacy of screens (currently placed along common hallways) and quality of care are discussed.

**344. ApoE-ε4 Genotype and Gait Cadence in Older Adults**, *Kamiah Moss, University of Texas at Arlington; Olanrewaju Adumatioge, University of Texas at Arlington; Wyn Taylor, University of Texas at Arlington; Vale Shannon, Center for Healthy Living and Longevity; John Biggan, University of Texas at Arlington; Christopher Ray, University of Texas at Arlington*

**Objectives:** Discuss the relationship of ApoE-ε4 Genotype and gait cadence in older adults; Discuss ApoE-ε4 Genotype implications as a predictor of gait related disorders and as a potential diagnostic.

**Abstract Body:** Abnormal gait is prevalent in older adults, especially when the aging process may include diseases that affect their cognitive and physical abilities. Previous studies have taken the ApoE genotypes (especially ε4, which is linked to a higher risk of Alzheimer's) and evaluated gait speed decline in the elderly. Due to a lack of understanding between the relationships of genetic and gait components (temporal and spatial characteristics) in aging, cadence was taken as a factor of gait and assessed with the ε4 genotype. Cadence was chosen for its rhythmic element in assessing gait. We hypothesized that slower cadence patterns would be associated with one of three ApoE genotypes, particularly ε4. 49 older adults were tested for the alleles using buccal swabs and had their gait diagnostics evaluated using the GAITRite mat. TaqMan assays were designed for the ApoE polymorphisms and processed by quantitative PCR. An initial ANOVA determined all cadence scores to be statistically significant ( $p < 0.05$ ) among all subjects. The 2-way ANOVA showed lower cadence scores for elderly males than females for both carriers and non-carriers of ε4. A regression analysis was also performed that showed the variation of each genotype due to cadence values (0.02% for non-ε4 carriers 26.1% for ε4 carriers). Results suggested that elderly males were at a greater risk of abnormal or odd gait than the females. In addition, lower cadence scores due to the ApoE-ε4 genotype were a possible predictor of cognitive decline.

**345. Functional Mobility as a Fall Risk Predictor in Active Nursing Home Residents**, *Heidi Moyer, Angelo State University; S. Kyle Severe, Angelo State University; Jeff Gale, Angelo State University; Heather Braden, PT, MPT, GCS, PhD, Angelo State University*

**Objectives:** By the end of this presentation, the audience will be able to identify functional mobility measures that can accurately identify fall risk in the appropriate patients.; By the end of this presentation, the audience will be able to select a functional mobility outcome measure out of a list that is most appropriate for their patient.; By the end of this presentation, the audience will be able to identify the importance of fall risk assessment in relation to functional mobility outcome measures in elderly patients.

**Abstract Body:** Purpose: To assess factors related to fall risk in highly functioning, long term nursing home residents. Subjects: 18 nursing home residents, 60+ years old, who are able to ambulate 15 feet modified independent/independently, without past medical history of stroke or hospital discharge 6 weeks prior to testing. Methods: A single visit to the place of resident of the subject took place over the course of an hour. 8 outcome measures were recorded at this time: Mini-Mental Status Examination, Gait Speed, lower extremity manual muscle testing screen, ankle plantar flexion/Dorsiflexion range of motion, hand grip strength, Timed up and Go, Timed-5 Chair Sit-to-Stands, and assistive device assessment. Anthropomorphic data was gathered from the facility charts. These data included: age, height, BMI, gender, marital status, ethnicity, number of oral medicals, types of active diagnoses, and fall history. Data Analysis: SPSS version 21 was used to obtain Pearson's correlations and significance levels. Results: Significant correlations with falls include: Modified sit to stand time (.585), TUG time (.475), gait speed (.457), right dorsiflexion ROM(-.436), and right dorsiflexion strength (-.504). Conclusions: Standard functional mobility tests including the tug, and gait speed tests were verified in their connection to fall risk. A modified sit to stand was also found to be connected to fall risk as well as dorsiflexion strength and range of motion, but only in the right ankle. Systolic blood pressure was also a surprising connection that will need to be looked at in more detail.

**346. Web-based Teaching Strategies to Minimize Wrong Attribution of Medication Side-Effects**, *Debra Newell, Solutions Consulting; John Carlson, Baylor/Scott & White*

**Objectives:** Participants will identify medication side effects mimicking disease symptoms; Participants will demonstrate critical thinking skill in diagnostic assessment;

**Abstract Body:** As interdisciplinary students learn about the process of triage, problem solving, and diagnosis when approaching patient cases, medication use can add to the complexity of seemingly straight-forward symptoms. Drug side effects are often mistaken for symptoms of disease and several "wrong" paths are explored before identifying and correcting the offending issue. Given that the Geriatric population is subject to drug-disease interactions, often use multiple medications, and can be more susceptible to the adverse consequences of drugs, it is critical that students learn to recognize and keep a medication side effect in the front of the choice set. Our teaching approach is to use web-based case learning

strategies to walk students through a critical thinking process to establish the skill necessary to appropriately diagnose and treat geriatric patients taking medications. The web-based modality is used to ensure uniformity in the way the material is taught, to track progress and provide formative feedback, and develop a summative scoring indicative of the students level of learning.

**347. Neuroimaging Substrate Of Gait Dysfunction In Mild Cognitive Impairment. Results From The Gait And Brain Study,** *Robert Nikolov, email: robert.nikolov@sjhc.london.on.ca, Gait and Brian Lab, Parkwood Institute and University of Western Ontario; Simona Nikolova, Roberts Research Institute; Robert Bartha, Roberts Research Institute; Manuel Montero-Odasso, Gait and Brain Lab, Parkwood Institute and Lawson Health Research Institute*

**Objectives:** To demonstrate the neuroanatomical substrate of distinct “motor signature” in mild cognitive impairment (MCI) using MRI; To examine how gait may differ by cognitive subtyping between amnesic(a-MCI) and non-amnesic MCI (na-MCI) and the associated brain areas;

**Abstract Body:** Introduction We aim to demonstrate the neuroanatomical substrate of distinct “motor signature” in mild cognitive impairment (MCI) and how they differ by cognitive subtyping between amnesic (a-MCI) from non-amnesic MCI (na-MCI). Through examining which brain regions are correlated, potential mechanisms behind cognitive sub-classification and disease progression are presented. We postulate that brain volume, in addition to gait performance and other biometric markers can assist in the identification of the substrate of gait dysfunction of MCI. Methods Our study consisted of 31 MCI participants (18 a-MCI). Motor function was evaluated by assessing quantitative gait performance using an electronic walkway. The effect of cognition on gait performance was evaluated using the dual-task paradigm: walking while talking. T1-weighted anatomical images of the brain were acquired using 3.0 Tesla MRI. Results A-MCI yielded significant correlation with gait variability and verbal memory performance to white matter motor networks and grey matter (cingulum, thalamus, frontal, temporal, precuneus). Na-MCI presented correlation to age (temporal, frontal, precuneus, and putamen) and blood pressure in cerebellum. When grouped together, age correlations were dominant in hippocampus, amygdala, cerebellum, and cingulum. Conclusions a-MCI patients have a stronger correlation of gait disturbances to motor-sensory regions of the brain. Gait variability is a subtle measurement that has correlations to brain volume in the a-MCI group. This higher risk group may have underlying motor degeneration in addition to cognitive impairment. Na-MCI presented correlation with high blood pressure.

**348. Technology to Support Family Caregiving: Acceptance and Willingness to Pay,** *Marci Nilsen, University of Pittsburgh, School of Nursing; Yun Jiang, University of Pittsburgh, School of Nursing; Annette DeVito Dabbs, University of Pittsburgh, School of Nursing; Judith Tabolt Matthews, University of Pittsburgh, University Center for Social and Urban Research; Karen Courtney, University of Victoria, School of Health Information Science; Scott Beach, University of Victoria, School of Health Information Science; Richard Schulz, University of Pittsburgh, University Center for Social and Urban Research*

**Objectives:** 1. After attending this session, participants will be able to identify caregiver characteristics that influence their likelihood of using mobile devices to monitor and manage their care recipient’s health.; After attending this session participants will be able to identify caregiver characteristics that influence their willingness to pay for mobile devices to monitor and manage their care recipient’s health.

**Abstract Body:** Recent data from a national web-based survey of 512 family caregivers were used to examine caregiver characteristics that influenced their likelihood of use and willingness to pay for personal and community-based technologies including mobile devices, health kiosks, and wearable camera systems. This poster focuses on caregivers’ acceptance and willingness to pay for mobile devices to track care recipients’ health parameters and provide decision support for health management. Caregivers were adults (18-64 years) caring for parents (79%), spouses (10%), or other relatives (11%) with a variety of health conditions. Ordinal logistic regression showed higher acceptance rates for mobile devices among caregivers with the following characteristics: African American ( $p < .001$ ), Hispanic ( $p = .004$ ), dealing with conditions other than Alzheimer’s disease ( $p < .001$ ), have positive technology attitudes ( $p < .001$ ), searching the internet for caregiving information (“sometimes”  $p = .046$ ; “often”  $p = .009$ ), currently utilizing commercially available caregiving technologies ( $p = .003$ ). Linear regression showed significant associations between willingness to pay higher amounts out-of-pocket for mobile devices and the following caregiver characteristics: income ( $p = .038$ ), currently utilizing commercially available caregiving technologies ( $p < .001$ ), searching the internet for caregiving information (“sometimes”  $p = .008$ ; “often”  $p = .037$ ). Thirty-five percent of caregivers were not willing to pay anything out of pocket, whereas 65% of caregivers were willing to pay a median of \$25 per month. Patterns of results for health kiosks and wearable camera systems were similar. Although acceptance of these technologies is relatively high, particularly among current technology users, willingness to pay may be a formidable obstacle to adoption unless third-party payers cover costs.

**349. Incidence of Geriatric Syndromes and Frailty in Community-dwelling Older Men,** *Naomi Noguchi, Centre for Education and Research on Ageing, Sydney Medical School, University of Sydney; Robert Cumming, School of Public Health, University of Sydney; Fiona Blyth, Centre for Education and Research on Ageing, Sydney Medical School, University of Sydney; David Le Couteur, Centre for Education and Research on Ageing, Sydney Medical School, University*

of Sydney; Vasi Naganathan, Centre for Education and Research on Ageing, Sydney Medical School, University of Sydney; , Centre for Education and Research on Ageing, Sydney Medical School, University of Sydney

**Objectives:** To determine the incidence of Geriatric Syndromes of poor mobility, falls, incontinence, and cognitive decline in a representative sample of community-dwelling older men.; To determine the incidence of frailty in a representative sample of community-dwelling older men.

**Abstract Body:** Background: Geriatric Syndromes of poor mobility, falls, incontinence, cognitive decline, and frailty are common health conditions among older people. Less is known about the frequency of these conditions in men than in women. Moreover, there has been no study in men or women to date in which the incidence of all these conditions has been examined in one population. Methods: The Concord Health and Ageing in Men Project (CHAMP) involves a representative sample of 1705 community-dwelling men aged 70 and over in a defined geographic region in Sydney, Australia. Geriatric Syndromes and frailty were assessed by questionnaire and clinical examination at baseline and at 5-year follow up. Results: Among 1705 participants at baseline, 382 died, 369 declined follow up, and 954 were followed up over 5 years. Among men aged 70 to 74 years who were free of each condition at baseline, 5-year incidence of poor mobility, falls, incontinence, cognitive decline, and frailty were 3%, 5%, 7%, 10%, and 3% respectively. Among men aged 85 to 89 years, the corresponding incidence were 18%, 23%, 13%, 30%, and 47%. Conclusions: The incidence of Geriatric Syndromes and frailty are not high in men in their 70s, but increases substantially after the age of 85 years. The health status and need for health services of the 'older old' are different to those of the 'younger old'. This needs to be considered when planning health services.

### **350. Visual Environmental Cues and Wayfinding Performance Within a Virtual Senior Residence, Jennifer Ohman, Grand Valley State University; Rebecca Davis, Grand Valley State University**

**Objectives:** The learner will identify the effect of salient cues on older adults' ability to find their way.; The learner will compare performance between men and women in cued and uncued environments.

**Abstract Body:** Wayfinding, or the ability to navigate to a specific location, can be impacted by aging. The fear of getting lost can impact the size of one's world and cause it to become smaller. The purpose of this study was to determine if salient visual cues affected wayfinding performance over time in a sample of cognitively intact older adults. Forty community dwelling adults aged 62 to 86 were asked to use a joystick to navigate through a large scale virtual simulation of a senior living center (VSL). The VSL contained 2 cue conditions: one without cues and one with salient cues (CC1 and CC2). The participants were given 5 trials for 2 consecutive days to find a target within each cue condition. Wayfinding performance was measured by latency (time) to find their way. Repeated measures ANOVA showed that the participants' ability to find their way improved with salient cues as evidenced by a significant effect of cue condition ( $F=20.855$ ,  $df=1$ ,  $p < 0.001$ ). Wayfinding ability was better as the trials progressed ( $F=145.511$ ,  $df= 3.687$ ,  $p < 0.001$ ), and participants' latency improved between the days ( $F=94.423$ ,  $df=1$ ,  $p < 0.001$ ). A significant effect of trial by gender was also found ( $F=2.987$ ,  $df=4$ ,  $p= 0.021$ ), showing that males have a steeper learning curve regardless of cue condition. This study shows the importance of salient cues in helping older adults find their way.

### **351. Association between Inattention, Impulsivity and Physical Function in Older Adults with Type 2 Diabetes, Erin Olson, Harvard Medical School; Edward McAuley, University of Illinois at Urbana-Champaign**

**Objectives:** Critically examine how physical functioning is related to a complex infrastructure of executive functioning, especially in older adulthood.; Be able to define and conceptualize sub-sections of executive functioning, which may influence other aspects of health status in older adulthood.; Cue critical thinking regarding possible interdisciplinary therapies targeting cognitive function, physical function and their relationship in older age.

**Abstract Body:** Growing evidence indicates a dynamic a relationship between cognitive function and physical performance in mid- and late-life, especially as functional limitations, disability, and comorbidity increase. This study examined the relationship between executive function performance and physical function in older adults with metabolic disease. Older adults ( $n = 125$ ,  $\text{Mage} = 62.1 \pm 6.4$ ) with type 2 diabetes ( $n = 107$ ) and/or metabolic syndrome completed assessments of physical function, physical activity, fitness, and executive function. The flanker paradigm was used to measure inhibitory control. Using a principal component analysis of flanker variables, a two-component solution emerged— "inattention" and "impulsivity"—which explained 76.6% of the variance. Demographics, physical activity, fitness, glycosylated hemoglobin and cognitive factors of inattention and impulsivity were entered into a heirarchical linear regression to explain variance in physical function tests related to balance [ $F(8,118) = 2.288$ ,  $p < .05$ ] and agility [ $F(6,118) = 7.108$ ,  $p < .01$ ]. Only inattention ( $\beta = -.208$ ,  $p < .05$ ) was a significant contributor to total balance scores. Income ( $\beta = -.309$ ,  $p < .01$ ) and physical activity ( $\beta = -.239$ ,  $p < .01$ ) were significant determinants of agility in the final model. These data suggest that inhibitory control may be an indicator of balance and agility in older adults with type 2 diabetes.

### **352. Bright Light Exposure for Individuals with Dementia: Effect on Depression and Agitation, Lisa Onega, Radford University; Thomas Pierce, Radford University; Lora Epperly, Commonwealth Care of Roanoke, Inc.**

**Objectives:** Identify the effect of bright light exposure on depression in older adults with dementia.; Identify the effect of bright light exposure on agitation in older adults with dementia.

**Abstract Body:** Many older adults with dementia living in long-term care facilities experience depression and agitation, which cause angst and personal suffering. Prior to this research, evidence was inconclusive but indicated that bright light exposure may reduce depression and agitation in long-term care residents with dementia. The purpose of this study was to determine if the degree of improvement in depression and agitation scores over the course of eight weeks was significantly greater in persons with dementia receiving bright light exposure than in persons with dementia receiving placebo light exposure. Forty-seven individuals participated in the study, with 23 in the bright light group and 24 in the low level light group. Results revealed that 30 minutes of bright light exposure twice every weekday for eight weeks was associated with significant improvement in levels of depression and agitation in comparison to changes observed in a low intensity light exposure control condition. Participants randomly assigned to the bright light condition showed statistically significant improvement in eight of nine measures of depression and four of four measures of agitation. This effect was large in magnitude and would clearly be noticeable in everyday life. For participants in the control group, significant improvement was observed for only one of the nine measures of depression and for none of the four measures of agitation. These findings support the use of bright light therapy for older adults with dementia to decrease depression and agitation and thereby improve their quality of life.

**353. Study of Cardiac Autonomic Nervous System in Older Adults with Different Frailty Status, Saman Parvaneh, 1 interdisciplinary Consortium for Advanced Motion Performance (iCAMP), Department of Surgery, University of Arizona, USA 2 Arizona Center on Aging, University of Arizona, USA; Bijan Najafi, 1 interdisciplinary Consortium for Advanced Motion Performance (iCAMP), Department of Surgery, University of Arizona, USA; Jane Mohler, 1 interdisciplinary Consortium for Advanced Motion Performance (iCAMP), Department of Surgery, University of Arizona, USA**

**Objectives:** The objective of this research was to assess the cardiac autonomic nervous system in older adults across frailty categories

**Abstract Body:** Background: Clinical frailty leads to a progressive homeostatic dysregulation in physiological systems, including cardiac autonomic nervous system (CANS). Reduction of heart rate variability (HRV) and sympathovagal balance (SVB) reflect this multisystem homeostenosis. Our objective was to develop HRV and SVB algorithms based on acquired ECG data using a body-worn sensor, across Fried frailty categories in older adults. Methods: A four hour uni-channel ECG was recorded using an FDA-approved wearable-sensor in 49 elders aged 65 and above. After ECG data inspection, 16 individuals were excluded due to 20%/+ ectopic beats. Remaining subjects were classified as non-frail (n=16) and pre-frail/frail (n=17) using Fried's criteria. A custom algorithm extracted QRS complexes from the ECG and calculated frequency domain measures of HRV. Percentage of spectral density in low frequency (pLF: 0.04-0.15Hz) and high-frequency (pHF: 0.15-0.4Hz), as well as their ratio (LF:HF) were calculated. Results: pLF was significantly lower (p=0.01) in frail subjects (3.65±2.35), compared to non-frail subjects (6.86±4.15). pHF showed a decreasing trend (p=0.16) from non-frail (2.35±2.07) to frail (1.57±0.85). LF:HF (as an indicator of SBV) also demonstrated a trend of reduction (p=0.07) from non-frail (3.68±1.87) to frail (2.63±1.39) Discussion: Reduction in pLF of pre-frail/frail compared to non-frail, indicates a reduction in global HRV, in line with aging studies. pHF and LF:HF values suggest that frailty impairs the parasympathetic CANS, and the sympathetic/parasympathetic CANS balance (SVB). ECG based frailty assessment have high potential in geriatrics; however, further studies are warranted to validate findings in a larger sample.

**354. Impact of Physical Activity Behavior on Residential Care/Assisted Living Residents' Physical Function, Lorraine Phillips, University of Missouri; Gregory Petroski, University of Missouri**

**Objectives:** After attending this session participants will be able to discuss the impact of physical activity on physical function and disability in residential care/assisted living residents.; After attending this session participants will be able to identify factors amenable to intervention that affect physical activity in residential care/assisted living residents.;

**Abstract Body:** This study examined the influence of intra- and extra-individual factors related to physical activity (PA) on disablement in residential care/assisted living (RC/AL) residents. Data from 224 adults aged 65-100 across 34 RC/AL communities were used to test whether PA and antecedents to PA exerted direct or indirect effects on physical function and disability in activities of daily living (ADLs), controlling for demographic and health-related variables. Participants completed questionnaires and physical performance tests, and wore the Fitbit Motion Tracker® to capture daily PA. The fit of a series of models to the data was analyzed using 2-level path models with residents nested within facilities. Factor analysis methods were used to create composite variables for PA antecedents (attitudes towards aging, exercise self-efficacy, and exercise expectancies) and physical function (upper and lower body performance). The fit of the initial theoretical model was poor:  $\chi^2(25, N=224) = 246.4, p < .001$ ; comparative fit index (CFI) = 0.28. Eliminating demographic and health-related variables generated a better-fitting model:  $\chi^2(3, N=224) = 7.1, p = .07$ ; CFI = 0.93. In the final model, more positive PA antecedents were associated with greater PA (standardized path coefficient = 0.29), which in turn was associated with better physical function (standardized path coefficient = 0.46). The association between physical function and ADL performance was moderate (standardized path coefficient = 0.20). Unexpectedly, a greater number of facility PA programs predicted poorer ADL performance (standardized path coefficient = -0.12). Interventions should target PA antecedents and PA behavior to improve physical function and disability in RC/AL residents.

**355. Occupational Cognitive Requirements and Late-life Cognitive Aging**, Lindsay Pool, Department of Epidemiology, School of Public Health, University of Michigan; Jennifer Weuve, Rush Institute for Healthy Aging, Department of Internal Medicine, Rush University Medical Center; Robert Wilson, Rush Alzheimer's Disease Center, Department of Neurological Sciences and Department of Behavioral Sciences, Rush University Medical Center; Ute Bültmann, Division of Community and Occupational Medicine, Department of Health Sciences, University Medical Center Groningen, University of Groningen; Denis Evans, Rush Institute for Healthy Aging, Department of Internal Medicine, Rush University Medical Center; Carlos Mendes de Leon, Rush Institute for Healthy Aging, Department of Internal Medicine, Rush University Medical Center

**Objectives:** Determine whether adulthood cognitive activity contributes to late-life cognitive aging by estimating the association between the cognitive requirements for main lifetime occupation and a longitudinal global measure of cognitive function for participants

**Abstract Body:** Background: Early-life and late-life cognitively stimulating activity are associated with late-life cognition. However, the degree to which cognitive activity throughout adulthood affects late-life cognitive aging remains mostly unknown. In this analysis, we focus on occupational cognitive requirements as marker of adulthood cognitive activity. Methods: Occupational cognitive requirements were measured using main lifetime occupation information for 7,637 participants aged > 65 years of the Chicago Health and Aging Project (CHAP). This information was linked with standardized data on worker attributes and job characteristics from the Occupational Information Network (O\*NET). Ratings of cognitive processes required in 10 work-related tasks were used to create a summary measure of occupational cognitive requirements (range 0-7). Linear mixed models were used to estimate the association between the occupational cognitive requirements score and a global measure of cognitive function (z-score). Results: Type of lifetime occupation was well-distributed across five categories: managerial (21%), administrative support (27%), service (15%), labor (26%), and homemaker (11%). The average occupational cognitive requirements score was 2.2 (SD 0.9). In adjusted analyses, the occupational cognitive requirements score showed a curvilinear association with late-life cognition at baseline, including a strong linear association ( $\beta=0.22$ ;  $p<0.0001$ ) and a weaker negative quadratic association ( $\beta=-0.04$ ;  $p<0.0001$ ). Higher occupational cognitive requirements score was associated with slower decline in global cognitive function over time ( $\beta=0.004$ ;  $p=0.004$ ). Conclusion: Findings suggest that occupational cognitive requirements are associated with better cognition and a slower rate of cognitive decline in older age. Therefore, adulthood cognitive activity may contribute to cognitive reserve in late life.

**356. Longitudinal Associations between Perceived Stress and Caregiver Cognitive and Functional Outcomes**, Alan Rathbun, University of Maryland School of Medicine; Erik Barr, University of Maryland School of Medicine; Cristan Smith, University of Maryland School of Medicine; Rasheeda Johnson, University of Maryland School of Medicine; Lynn Lewis, University of Maryland School of Medicine; Lisa Fredman, University of Maryland School of Medicine; Denise Orwig, University of Maryland School of Medicine

**Objectives:** This study aimed to examine longitudinal associations between perceived stress and prospective changes in cognitive and physical functioning among older caregivers to patients hospitalized for hip fracture

**Abstract Body:** The Stress Process Model (SPM) suggests that caregivers experience greater psychological strain, and consequently, poorer health outcomes. However, some studies have found better outcomes among caregivers compared to non-caregivers. Participants (n=125) with 12- and/or 24-month follow-up visits were identified from a cohort of informal caregivers to patients hospitalized for hip fracture (N=145 dyads). The longitudinal associations between the Perceived Stress Scale (PSS; baseline mean = 19.8) and the following outcomes was assessed: Instrumental Activities of Daily Living (IADLs), gait speed, memory (i.e., Hopkins Verbal Learning test; HVLT), and executive functioning (i.e., Digit Speed Substitution task; DSST). These measures were converted to z scores to permit between-outcome measurement comparisons and account for potential confounding by time. Linear mixed-effects models estimated the longitudinal associations between time-varying PSS and each outcome, adjusting for caregiver and care-recipient characteristics. The analytic sample included older (mean age=72.1; SD=9.3) female (51%) and male (49%) spousal caregivers (52%). Increases in perceived stress were associated with better performance in memory and executive functioning. Adjusted beta coefficients were 0.13 [0.01 – 0.26] and 0.08 [-0.04 – 0.20] for HVLT and DSST, respectively. Conversely, stress was associated with non-statistically significant increases in IADL limitations: 0.03 [-0.07 – 0.14]; but not slower mean gait speed: -0.01 [-0.11 – 0.11]. Among older caregivers, greater stress equated to better memory; yet, was not significantly or consistently associated with executive and physical functioning. These findings imply that perceived stress does not have a uniformly negative impact on hip fracture caregivers' health, as would be suggested by the SPM.

**357. An Objective Method for Fall Risk Assessment in Hospitalized Older Adults Using Wearable Technology**, Javad Razjouyan, Postdoctoral Research Fellow Interdisciplinary Consortium for Advanced Motion Performance (iCAMP) Southern Arizona Limb Salvage Alliance (SALSA) Associate Member Arizona Center on Aging (ACoA) University of Arizona, College of Medicine; Cindy Rishel, University of Arizona College of Nursing & the University of Arizona Medical Center, USA; Saman Parvaneh, interdisciplinary Consortium on Advanced Motion Performance (iCAMP), Department of Surgery, University of Arizona, USA & Arizona Center on Aging, University of Arizona, USA.; Jane Mohler,

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**Objectives:** To explore the practicality of using an innovative wearable sensor to monitor activity behavior of hospitalized patients; To explore the association between sleep quality or activity behavior during night time, with risk of falling; to identify sensitive activity related parameters for falls and risk of readmission in hospitalized patients.

**Abstract Body:** More than 500,000 falls happen each year in U.S. hospitals, resulting in 150,000 injuries. We assumed risk of falling was associated with patient activity patterns and quality of sleeping. To validate this hypothesis, patients from a hematology/oncology unit at UAMC, where a high rate of falls was reported, were requested to wear an innovative BioPatch sensor during their entire hospital stay. The sensor includes a 3D accelerometer and was attached to subject's chest. An algorithm was designed to evaluate activity behavior during night time (11pm till 7am) and identified surrogate parameters for quality of sleeping, including duration and frequency of lying postures (supine, prone, and left/right sides). In addition, the longest posture (LP), longest singular bout in lying position without interruption, was estimated. Twenty-eight patients (mean age:  $59.8 \pm 2.84$  years) were recruited and classified as low risk (n=16) or high risk of falling (n=12) based on Hendrich II criteria. The high risk group had remained less in the lying posture (21%,  $p=0.051$ ) and had shorter LP (35%,  $p=0.057$ ), when compared to fallers. The proposed technology was perceived as easy to use, acceptable, and highly comfortable by both patients and nursing staff. The results demonstrated practicality of using a wearable technology to evaluate patient's activity behavior while hospitalized to assess fall risk. In addition, results revealed an association between risk of falling and night time activity behavior in hospitalized patients.

### **358. Things That Matter to Residents in Nursing Homes and the Nursing Care Implications, Nila Reimer, Indiana University School of Nursing**

**Objectives:** After attending this poster presentation, participants will be able to describe the complementary nature of residents' positive and negative experiences revealing what was most important to them while living in nursing homes.; After attending this poster presentation, participants will describe a Person-centered Care Framework for guiding care of residents in nursing homes.; After attending this presentation, participants will be able to describe new ideas that expand on current person-centered care strategies.

**Abstract Body:** Integration of person-centered care has improved quality of care in nursing homes. However, care that includes things that matter from residents' perspectives needs investigation. The purpose of this qualitative study was to describe things that residents state matter to them while living in nursing homes. The findings revealed residents' positive and negative experiences that provide ideas for expanding on current person-centered care strategies used in nursing homes.

### **359. Frailty Syndrome: Implications for Practice, Sheria Robinson, Wayne State University; Susan Bushinski, Wayne State University**

**Objectives:** Describe frailty syndrome.; Review benchmarks for diagnosis.; List four evidence-based guidelines for treatment.

**Abstract Body:** Background: Frailty is chronic, progressive, syndrome characterized by dysregulation of multiple body systems and a low-grade inflammatory state. Patients with a frailty diagnosis are more likely to have adverse outcomes such as increased hospitalizations, falls, decreased functional status, institutionalization, and death. Purpose: To describe the Syndrome of Frailty, provide benchmarks for diagnosis, and to summarize best evidence-based guidelines for treatment. Methods: Forty articles were selected from a review of literature using key words (frailty, frailty syndrome, failure to thrive). CINAHL and PUBMED data bases were explored without date restrictions to capture historical development of nomenclature. Articles were selected based on criteria of contributions to best-evidence based guidelines, standards of care, and relevance to advanced practice nursing. Results: Treatment is best focused on the "prefail" or early frail phase, or even before a diagnosis is made. All older adults should be considered at risk and offered preventative care based on treatment goals of increased physical activity, increased strength, increased exercise tolerance, and increased nutrition. There is no cure for the syndrome once the benchmarks for the diagnosis of Frailty Syndrome have been met. Treatment goals for the acute care phase should include end of life discussions and planning with the patient and family.

### **360. The Health and Functional Characteristics of Older Adult Primary Care Patients with Lumbar Spinal Stenosis, Catherine Schmidt, Massachusetts General Hospital Institute of Health Professions; Pradeep Suri, VA Puget Sound Health Care System; Dennis Anderson, Beth Israel Deaconess Medical Center, Department of Orthopedics; Dan Kiely, Spaulding Rehabilitation Hospital; Rachel Ward, Health and Disability Research Institute, Boston University School of Public Health; Laura Kurlinski, Health and Disability Research Institute, Boston University School of Public Health; Jonathan Bean, Associate Professor, Department of Physical Medicine and Rehabilitation, Harvard Medical School**

**Objectives:** To identify the severity of health and functional characteristics among older adult primary care patients at risk for mobility decline with LSS

**Abstract Body:** Background: LSS is a leading cause of mobility limitation and disability experienced by older adults. NC is a characteristic self-reported pattern of symptoms that leads to impaired walking and contributes to mobility decline for individuals with LSS. Methods: This is a secondary data analysis of a longitudinal, prospective cohort study of older primary care patients at risk for mobility decline. Fifty participants received a lumbar spine computed tomography scan (CT) and underwent a comprehensive assessment of neuromuscular impairments and patient-reported and performance-based mobility tests. Based on the presence(+) or absence(-) of NC and CT LSS findings participants were separated into four groups (NC+/CT+, NC+/CT-, NC-/CT+, NC-/CT-). Participants with NC+/CT+ were viewed as having LSS. Results: NC was present within 20% (n=10) of participants, of which 50%(n=5) met criteria for having LSS. Self-reported pain, comorbidities and patient-reported function varied significantly across the 4 groups. On average participants within the group NC+/CT+ experienced greater pain, based on the Brief Pain Inventory, 3.8(2.0), greater comorbidities, 6.1(1.1), and lower function, 30.4(5.6), based on the Late-Life Function and Disability Instrument. The magnitude of difference for mean values in 400-meter walk, habitual gait speed and Short Physical Performance Battery for the group NC+/CT+ exceeded established clinically meaningful differences when compared across groups. Conclusion: Participants with LSS had greater comorbidities, pain and worse physical function than older primary care patients without LSS. Additional studies are needed to identify the modifiable impairments that underlie mobility status among older adults with LSS.

**361. Factors Predicting Civic Engagement Among Older Adult Nursing Home Residents, Skye N. Leedahl, University of Rhode Island; Alicia M. Sellon, University of Kansas**

**Objectives:** Discuss different types of civic engagement opportunities available to nursing home residents.; Describe factors that predict different types of civic engagement for nursing home residents.; Discuss strategies for increasing civic engagement among nursing home residents.

**Abstract Body:** Civic engagement has been shown to positively influence individuals' physical functioning and psychological well-being. In nursing home settings, it is unknown what predicts civic engagement for residents. This paper describes characteristics and examines factors that predict civic engagement (i.e., group membership, participation in resident council meetings, volunteering within facilities, and voting behavior) among older adult residents. Methods: This study included a random sample of older adult nursing home residents (M age = 83.07) with moderate/high cognitive ability (N = 140) in Kansas. Residents answered questions from standardized surveys during in-person interviews. Binary logistic regression analyses were conducted to identify significant and non-significant demographic, health, and social predictors associated with four different measures of civic engagement. Results: The most common civic engagement activity reported was membership in social/community groups (67.9%). Nearly one-third of residents (27.1%) reported volunteering within the facility (e.g., helping in dining room, sitting with residents who were sick). Results showed that depression (OR, 1.07, p<.05) and social support (OR, 1.03, p<.05) predict resident council participation and group membership. Age (OR, 0.93, p<.01), socioeconomic status (OR, 1.20, p<.05), and ADL limitations (OR, 1.51, p<.01) predict volunteering. Social trust (OR, 0.94, p<.05) predicts voting behavior. Non-significant predictors included gender and social network size. Implications: Results suggest that providing adequate mental health treatment and social support is important for improving participation in community groups and resident council. Strategies for increasing civic engagement and related health and well-being outcomes that inform nursing home and community programming and policy efforts are discussed.

**362. Comparative Effectiveness of the Safety and Cost of Veterans Affairs Medical Foster Home Program: A Nested, Matched, Case Control Study of Outcomes, Cari Levy, University of Colorado and the Denver Veterans Affairs Medical Center; Farrokh Alemi, Washington DC VA Medical Center; Thomas Edes, VA Central Office**

**Objectives:** Learners will understand outcomes among participants in the VA Medical Foster Home (MFH) program, an alternative to nursing home placement, compared to those of Veterans who reside in Veterans Administration (VA) nursing homes known as Community Living Centers

**Abstract Body:** Objective: To compare outcomes in the VA Medical Foster Home (MFH) program, an alternative to nursing home placement, to those of Veterans in Veterans Administration (VA) nursing homes known as Community Living Centers (CLC). Methods: A nested, matched, case control design was used to analyze 817 MFH residents matched to 3 CLC residents on odds of mortality, 6-month interval before and after enrollment and history of the outcome. The MFH and 3 randomly matched CLC cases are contrasted based on odds of hospitalizations due to anxiety, delirium/other cognitive impairment, adverse effects of medical care, adverse medication events, falls, depression, pneumonia, other bacterial infections, septicemia, skin infection, or suicide/self-injury. Results: Compared to matched CLC cases, MFH residents were more likely to be hospitalized due to delirium/other cognitive impairment (OR=1.52, CI 1.08-2.15), and pneumonia (OR=1.80, CI 1.01-3.21). In contrast, MFH residents were less likely to be hospitalized for anxiety (OR=0.34, CI 0.23-0.52), depression (OR=0.31, CI 0.23-0.41), other bacterial infections (OR=0.59, CI 0.34-1.00), skin infection (OR=0.36, CI 0.16-0.80), suicide/self-injury (OR=0.10, CI 0.05-0.20), pressure ulcers (OR=0.34, CI 0.16-.72) and adverse effects of medical care (OR=0.20, CI of 0.05-0.82). Subjects did not differ in rates of adverse medication events, falls, other injuries, septicemia, and upper tract infections. Conclusions: MFH enrollment is associated with a lower likelihood of hospitalizations for psychiatric diagnoses, adverse effects of medical care and some infections. A higher rate of



hospitalization for pneumonia and delirium may represent diagnoses that are more difficult to manage in a private home care setting.

**363. Engaging Community Stakeholders in Fall Prevention for Older Adults: Moving from Research to Action,** *Maureen Markle-Reid, McMaster University; Cathy Dykeman, Halton Regional Health Department; Holly Reimer, McMaster University; Carol Goodall, Hastings Prince Edward County Health Unit; Lorna Boratto, Oxford County Public Health Unit; Helene Gagne, Oxford County Public Health Unit; Susan Bonomo, York Region Community and Health Services; Chris Bowes, North Bay Parry Sound District Health Unit*

**Objectives:** Understand community service providers' knowledge of, attitude about, and use of fall preventing (FP) practices for older adults; Understand the extent to which diverse senior-serving community organizations are ready to implement FP practices.

**Abstract Body:** Purpose: Falls are a leading cause of injury and death among seniors. A community-wide approach to fall prevention holds the potential to reduce the economic and personal burden associated with fall-related injuries. The purpose of this study was to understand: (1) community service providers' knowledge of, attitude about, and use of FP practices for older adults, and (2) perceived barriers and facilitators to implementing FP practices within and across senior-serving community service organizations. Methods: A purposive sample of 84 community service providers, in varied roles within diverse senior-serving community organizations (both health and non-health), completed a structured questionnaire as part of a larger mixed-methods study. The purpose of the questionnaire was to assess knowledge, attitudes, and use of FP practices. Results: Almost all (90%) reported already implementing at least one evidence-based FP practice. Three-quarters (75 %) rated FP activities as beneficial to their clients, and 80% would provide FP if given the opportunity. However, only 37% felt very confident and only 34% felt knowledgeable about implementing FP practices. Less than one quarter (21%) felt that staff in their organization had the necessary knowledge and skills, and only 10% felt that their organization had the necessary resources to support implementation of FP practices. Participants perceived many benefits to collaboration. Conclusion: Community service providers supported FP practices, but knowledge and resources limited implementation. Engagement of community providers in FP can be optimized through translating FP evidence to better fit community settings, fostering collaboration among community organizations, and providing implementation expertise and supports.

**356. Encore Careers, The Retiree – Human Services Connection: Preliminary Evaluation Findings of Older Adults Impact on Organizations.,** *Emily Smith Goering, The University of Maryland, Baltimore; Amy Cohen Callow, University of Maryland Baltimore School of Social Work; Andrea L. Jones, University of North Carolina Wilmington*

**Objectives:** Participants will become familiar with a model that supports civic engagement and meaningful work for retirees.; Participants will learn about themes related to the impact of encore career programs and retirees on human service agencies.

**Abstract Body:** Initiatives supporting work transitions for retirees, often referred to as 'encore careers' offers a model that support civic engagement and meaningful work for older adults (Civic Ventures, 2005; Cullinane, 2006). Few studies on encore career programs exist. This research explores the contributions that retirees bring to human service agencies when engaged in encore career work. This poster presents newly analyzed data from the perspective of staff at organizations employing one encore career model. The national ReServe program, ReServe Maryland implemented in 2012, connects skills and knowledge of experienced professionals 55 and older who are interested in giving back to their community through work with nonprofits in need of additional human resources. ReServists are paid a \$10.00/hr stipend. Data from surveys was collected from 9 (50% response rate) organizations participating in the program and from interviews with 7 employees, at 6 organizations, who had the most experience with the ReServe Program. Preliminary themes identified based on a nascent thematic analysis process include: 1) Benefits received from ReServists; 2) Impact on capacity building through access to specialized skills and human capital to enhance organizational processes and programs, 3) Expectations regarding encore career programmatic design needs. Themes are further supported by survey data. Preliminary results may inform research on program design and policy development related to encore career program support and funding.

**365. A faculty training and mentoring program in aging research: Special issue of Educational Gerontology.,** *Chandra Mehrotra, The College of St. Scholastica; Aoen Townsend, Case Western University; Barbara Berkman, Columbia University*

**Objectives:** To present examples of aging research funded by federal agencies.; To create widespread awareness of the training model and its outcomes.; To stimulate faculty training in aging research in a variety of disciplines.

**Abstract Body:** Given the untapped potential of social work faculty to conduct aging research, we designed, implemented, and evaluated a faculty training and mentoring program in aging research. To create widespread awareness of the program and its outcomes, we published a Special issue of Educational Gerontology: An International Journal in April 2014. This poster presents the journal's Table of Contents and abstracts of the papers to illustrate participants' experiences with the program and how it contributed to their ability to conduct aging research. In particular, the participants share the steps they took to secure grant support from agencies such as National Institutes of Health, Centers for Disease Control and Prevention, and Alzheimer's Association, and the research they conducted with this support. Program participants also describe how they

involved students in their research projects, what activities the students undertook, and how the students benefited from these experiences. Since the visiting faculty played a key role in the program as instructors and mentors, we have also included a paper focusing on their reflections regarding why they agreed to serve as faculty, in what ways they contributed to the training activities, how their work in the program affected them, and what suggestions they would give to junior faculty. The proposed poster will augment our dissemination efforts regarding the training program and the Special Issue.

**366. The Provision of Palliative Care Consultations In Nursing Homes and End of Life Hospitalizations, Susan C. Miller, Center for Gerontology & Health Care Research School of Public Health Brown University; Roshani Dahal, Brown University; Orna Intrator, University of Rochester**

**Objectives:** Audience members will describe the mechanisms involved in providing palliative care consultations in nursing homes.; 2) Audience members will describe how the initiation of palliative care consultations is associated with end-of-life hospitalizations;

**Abstract Body:** While palliative care (PC) consultations provided in hospitals or outpatient settings are associated with lower acute care use, the impact of PC consults in NHs is largely unknown. This study examines whether the initiation of PC consults in NHs and their volume are associated with NH end-of-life hospitalization practices. For the years 2000 through 2010 we obtained annual NH PC consult data from 7 exclusive providers of NH PC consults within 25 counties (in 4 states). 335 NHs (and 2955 NH years) with and without PC consults are included. Independent variables include the start of PC consult provision (i.e., 1% or more of unduplicated residents received a consult) and the volume (number with consults per 100 residents). Using NH fixed-effects regression analyses (controlling for study year and facility-level casemix, staffing and occupancy) we examined the longitudinal relationship between changes in consult use and the proportion of NH decedents with: any hospitalization and 2+ hospitalizations in the last 60 days of life. With initiation of PC consults there was a 2.5% decrease in the proportion of decedents with any hospitalization in the last 60 days of life (AOR -0.025; 95% CI -0.384,-0.012), and a 1.9% decrease in 2+ hospitalizations (AOR -0.019; 95% CI -0.030,-0.008). No statistically significant associations were observed between volume and study outcomes. These novel findings are important to NH researchers, educators and administrators since they form the basis for subsequent resident-level research and suggest the importance of introducing PC expertise in NHs to enable avoidance of end-of-life hospitalizations.

**367. Cross-National Aging Research: An Example on Productive Activities in U.S., China, and Korea, Nancy Morrow-Howell, Harvey A. Friedman Center for Aging, Washington University in St. Louis; Tim McBride, Harvey A. Friedman Center for Aging, Washington University; Ben Cooper, Institute for Public Health, Washington University in St. Louis; Yu-Chih Chen, Harvey A. Friedman Center for Aging, Washington University in St. Louis; Yi Wang, Harvey A. Friedman Center for Aging, Washington University in St. Louis; Huajuan Chen, Harvey A. Friedman Center for Aging, Washington University in St. Louis; Dongmin Wang, Harvey A. Friedman Center for Aging, Washington University in St. Louis; Ching-Ying Lai, Harvey A. Friedman Center for Aging, Washington University in St. Louis**

**Objectives:** Audience will have a deeper knowledge of methods for doing cross-national research.; Audience will have a deeper appreciation for the complexity.;

**Abstract Body:** Introduction. Cross-national aging research is needed to study issues across different socio-cultural contexts. The objective of this study is to develop methods for using country-specific data sets for cross-national comparison. We used productive activities (working, volunteering, and caregiving) across three countries (US, China, Korea) to understand more about the challenges and potential of this type of research. Methods. Using data from the Health and Retirement Study, the China Health and Retirement Longitudinal Study, and the Korea Longitudinal Study of Ageing, this study developed a sequence of methods for cross-national analysis. Specifically the methods included: defining the concepts of the three productive activities; creating a list of potential variables; rating the relevance of each variable; developing criteria for selecting variables for analyses; cleaning the data to produce rate/intensity measures for each productive activity. Detailed flowcharts and tables were produced that compare activity across the three countries. Findings. Three challenges were identified in conducting cross-national aging research: (1) differences of cultural context (e.g. in China, volunteering is an emerging concept with most volunteer activities occurring outside formal institutions); (2) variations in operationalization (e.g. definition differences across the data); and (3) variations in measurement (e.g. differences in response options). Implications. Given the difficulty of drawing conclusions without taking account of cultural interpretations in a global context, analysts should include team members who are familiar with the culture and language of the region of study. Researchers also need to determine whether data sets are valid for cross-national comparisons given some of the data limitations.

**368. Assessing Alzheimer's Disease Awareness Among Diverse Racial and Ethnic Population Groups in Salt Lake City (SLC), Frederic Mugiraneza, The University of Utah; Kara Dassel, The University of Utah; Katherine Supiano, The University of Utah; Michael Caserta, The University of Utah**

**Objectives:** To show the need for research aiming at establishing national base-line data on public knowledge and awareness of Alzheimer's disease and its psychosocial and financial implications before the awareness campaigns suggested in national and state Alzheimer's disease plans.

**Abstract Body:** Assessing Alzheimer's Disease Awareness Among Diverse Racial and Ethnic Population Groups in Salt Lake City (SLC) Frederic Mugiraneza, MD, Kara B. Dassel, PHD, Kathie Supiano, PHD & Michael Caserta, PHD Alzheimer's disease (AD) is predicted to grow substantially over the next five decades. Based on these projections, it is imperative that individuals, families, and communities are aware of this disease in order to be able to successfully prepare for the associated psychosocial and financial challenges. The "Utah State Plan for Alzheimer's Disease and Dementia", states the need for Utah to be "dementia-aware". However, there is no baseline data available regarding AD knowledge in the state. In addition, minority old adults are 1.5 to 2 times as likely to develop AD as their white counterparts. Therefore, the goal of this pilot study is to assess AD knowledge in adults in five racial and ethnic groups in SLC. Through convenience sampling, participants received a demographic questionnaire and the Alzheimer's Disease Knowledge Scale (ADKS). The sample (N = 90) was 58 % female, 41 years old and with 16 years education on average. The mean score on the ADKS was 20.9 (SD=4.0) (out of 30). One-way ANOVA revealed a significant difference, with white participants scoring higher, between the mean scores of the white subgroup and those of other racial and ethnic subgroups except the American Indians. There were no significant differences between the mean scores of the four other racial and ethnic groups. In conclusion, although white respondents scored higher on average than respondents from other racial and ethnic groups, the findings of this study reflect a relatively low knowledge-base of AD among a sample of SLC residents across all racial and ethnic groups.

**369. Effects of Patient Centered Medical Home Plus Transitional Care for Complex Older Adults, Mary Naylor, University of Pennsylvania School of Nursing; Karen Hirschman, University of Pennsylvania School of Nursing; Elizabeth Shaid, University of Pennsylvania School of Nursing; Ronald Barg, University Pennsylvania Health System - Clinical Care Associates; Kathryn Bowles, University of Pennsylvania School of Nursing; Mark Pauly, University of Pennsylvania School of Nursing**

**Objectives:** To provide researchers and clinical partners with details on rolling-out and scaling of evidence-based innovations targeting high risk older adults in the primary care setting

**Abstract Body:** With a goal of increasing the value of primary care among high-risk, community-dwelling, chronically ill older adults, an innovative delivery model combining two-evidence-based approaches—the Patient Centered Medical Home (PCMH) and the Transitional Care Model (TCM)—was designed and piloted. The combined model extended the PCMH beyond traditional office boundaries to include home care visits, telephone follow-up, and, when needed, hospital and post-acute care visits. The model is characterized by a partnership between patients and clinicians and emphasizes co-management by a primary care clinician and an advanced practice nurse in implementing a plan of care designed to meet each patient's goals and move patients from higher to lower risk. Patients received the combined intervention for an average of 60 days. Preliminary testing included 54 high-risk patients; mean age of 78 and 70% female. On average, patients had 10 documented chronic conditions and were prescribed 12 daily medications. Thirty five percent of the sample had depressive symptoms present at baseline. Among the 14 patients who had hospitalizations in the 30 days prior to enrollment, one patient was rehospitalized by 30 days following hospital discharge. Ninety days following implementation of the intervention, eight patients had been hospitalized nine times. Three of these nine hospitalizations were planned. After this ninety day period, hospitalization rates more closely approximated rates those reported for similar high-risk populations. This session will describe the complexity of care needs of this high-risk sample as well as the facilitators and barriers identified during the implementation of this combined delivery model.

**370. Evaluating the Cost Effectiveness of the Elder Abuse Forensic Center Model, Michael B. Nichol, University of Southern California; Joanne Wu, University of Southern California; Zachary D. Gassoumis, University of Southern California; Kathleen H. Wilber, University of Southern California**

**Objectives:** To define and discuss the outcome measurements of elder abuse cases;; To define and discuss the cost differences in processing elder abuse cases between the elder abuse forensic center model (EAFC) approach and Adult Protective Service (APS) usual care;; To define and discuss the estimation of an incremental cost-outcome ratio (ICOR) to determine the cost effectiveness of the elder abuse forensic center model.

**Abstract Body:** Elder abuse forensic centers (EAFCs) use a multidisciplinary team approach to address complex elder abuse cases. To date, no evaluation has assessed the cost for EAFCs to achieve their outcomes. This study evaluates the cost effectiveness of the Los Angeles County EAFC. We analyzed case files for 41 randomly selected cases seen at the Los Angeles County EAFC and 39 propensity-matched APS usual care cases from April 2007-December 2009 to obtain data on time spent processing cases and achieving outcomes. Salaries were obtained from publicly available sources and used to estimate case processing costs. Mean case processing costs are \$1,101.80 for the EAFC model and \$153.30 for usual care. The proportion of cases submitted to the public guardian is 39% for EAFC and 8% for usual care, which generates an ICOR of \$3,059.68. The ICOR indicates that an additional EAFC case submitted to the public guardian costs an additional \$3,059.68 over the cost of usual care. The proportion of cases that are granted conservatorship is 24% for EAFC and 3% for usual care, with an ICOR of \$4,516.67. The proportion of cases successfully prosecuted is 17% for EAFC and 0.2% for usual care, with an ICOR of \$5,645.83. There were no differences in recurrence rates within one year of case closure. These results indicate the EAFC model incurs greater case processing costs but yields large incremental differences in

outcomes compared to usual care. This information can inform the sustainability of the model and the feasibility of replication across the U.S.

**371. Is Polypharmacy Associated with Cognitive Impairment in Later Life? : A Community-based Cross-sectional Study**, Hirotooshi Niikawa, Tokyo Metropolitan Institute of Gerontology / Researcher; Chiaki Ura, Tokyo Metropolitan Institute of Gerontology / Researcher; Fumiko Miyamae, Tokyo Metropolitan Institute of Gerontology / Researcher; Naoko Sakuma, Tokyo Metropolitan Institute of Gerontology / Researcher; Mutsuo Ijuin, Tokyo Metropolitan Institute of Gerontology / Researcher; Kae Ito, Tokyo Metropolitan Institute of Gerontology / Researcher; Shuichi Awata, Tokyo Metropolitan Institute of Gerontology

**Objectives:** Participants in this poster presentation will be able to know how polypharmacy is associated with cognitive impairment in later life.; Participants will be able to discuss about the potential healthcare risk of polypharmacy in later life.; Participants will be able to gain insight into this unique study based on interviews. Most studies about polypharmacy have been using questionnaires or medication records. Those methods tend to exclude those who do not take a prescribed medication or are not registered with medical institutions. This interview method, on the other hand, can include them in the study, and is, therefore, able to show more representative demographic data on the elderly living at home in the community.

**Abstract Body:** Background: Polypharmacy is one of the major health care issues in later life. Objectives: To examine the association between polypharmacy and cognitive impairment in a community-dwelling elderly population. Methods: A postal questionnaire was sent to all residents (N=7,682), aged 65 years and older in an urban residential district in Tokyo, to examine socio-demographic and health-related variables. Then, 3,000 residents were randomly selected from this population. Trained nurses and researchers interviewed each participant at home to gain information on prescribed medications and cognitive functions, which were measured by the Japanese version of the Mini-Mental State Examination (MMSE-J). Multivariate logistic regression analyses were performed to examine the association between the number of medications and cognitive impairment after potential confounding factors were controlled. Results: Out of 1,341 residents who agreed to the interview, 1,317 participants completed the whole process. The mean (standard deviation) MMSE-J score was 27.1(3.3) for all participants. 10.8% of participants was below the cut-off criterion of 23/24. The proportion of people who take more than six medications was 37.2% for all participants; 57.5% for those less than 24 on MMSE-J and 34.5% for those 24 and more ( $\chi^2 = 21.3$ ,  $p < 0.001$ ). Multivariate logistic regression analyses showed that the number of medications was associated with cognitive impairment after controlling potential confounding factors (age; sex; education; history of neuropsychiatric diseases including dementia, depression, and other neurological diseases; using psychiatric medications; and number of illnesses) (OR: 1.95; 95%CI: 1.17-3.24). Conclusion: Polypharmacy might be associated with cognitive impairment in later life.

**372. Perception Of Condom Use Among The Elderly People In Densely Populated high Risk Neighbourhood In Nigeria**, King Odor, Deakin University

**Objectives:** This study therefore examined Perception of condom use among the elderly people in densely populated high risk neighbourhood in Nigeria

**Abstract Body:** HIV/AIDS is a growing public health challenge in Africa, the pandemic affects everybody including the elderly. To combat HIV/AIDS infection, condom-use is effective measure to interrupt its transmission. However, perception of the elderly about condom usefulness has been limited due to inadequate information. Moreover the sexual pattern this sub-group engages in is relatively unknown. The study was cross-sectional in design. A multi-stage-stratified-random-sampling technique were adopted to select 400 respondents aged 65years and above in Ibadan-Nigeria. A pre-tested questionnaire developed from results of 10 focus-group-discussions (FGD) was used to collect information. FGD and questionnaire data were analyzed thematically and descriptive/chi-square statistics respectively. Twenty-five percent of the participants who were sexually active, one year preceding the study had extramarital-sex. Among the subgroup that had extramarital-sex, few (6.8%) used condom in the episode. More males (5.3%) than females (1.5%) used condom in last extramarital-sex ( $p < 0.5$ ). Low condom-use was attributed to condom not-worthwhile (34.5%) and not meant (50.0%) for elderly. Non-condom use was due to confidence in traditional herbs perceived to prevent HIV/AIDS. Similarly, FGD participants were unanimous in their opinion that sex could not lead to pregnancy. While, majority (60.3%) posited patronizing traditional healers and believe (10.3%) herbs/concussion-use could prevent HIV/AIDS rather than condom-use. Risky sexual engagement among the elderly could be a distortion to HIV/AIDS reduction, because condom-use among this population is unimportant based on perception. In order to mitigate HIV/AIDS in Africa information on safe-sex practices for the elderly are needed to address this misconception.

**Saturday, November 8**

**11:45 AM - 2:45 PM | Exhibit Hall D (CC)**

**306. The Association Between Physical Activity and Risk of Depression Among Older Adults Using MEPS 2009,**

*Fawaz Alotaibi, Virginia Commonwealth University, School of Pharmacy*

**Objectives:** Determine the association between regular physical activity and the risk of depression among older adults using MEPS 2009.; Quantify the prevalence of community dwelling older adults who are at high risk of depression in a nationally representative sample.

**Abstract Body:** Background: Depression is a major public health concern among older adults. Depression worsens many medical conditions including asthma, angina and arthritis. Objectives: To determine the association between regular physical activity and the risk of depression among older adults, and to quantify the prevalence of older adults who are at high risk of depression. Methods: The 2009 Medical Expenditure Panel Survey (MEPS) was used as data source. The dependent variable was risk of depression (a Kessler index score of 6 or higher), the primary independent variable was level of physical activity, and potential confounders included demographic and socio-demographic variables. Descriptive statistics were calculated and the association between physical activity and risk of depression was assessed using a logistic regression model with backward selection method at p-value 0.05, while the prevalence of older adults who are at high risk of depression was assessed using the weighted mean and t-test at p-value 0.05. SAS version 9.4 was used for the analyses. Results: Out of 4875 older adult survey participants, 1254 were at high risk of depression. Females were more likely to be at high risk of depression than males. After adjusting for demographic and socio-demographic characteristics, those who do not engage in physical activity are twice more likely to be at high risk of depression than those who regularly exercised (OR: 2.16 and 95% CI 1.805- 2.612). Conclusion: The results suggest that weekly physical activity may play an important role in risk for depression among older adults.

**307. The Association between Social Isolation and Chronic Disease Burden,** *Sharon Qi, Department of Health Policy and Administration, The Pennsylvania State University; Elizabeth Munoz, Department of Human Development and Family Studies, The Pennsylvania State University; Jennifer E. Graham-Engeland, Department of Biobehavioral Health, The Pennsylvania State University; Christopher G. Engeland, Department of Biobehavioral Health, The Pennsylvania State University; Joshua M. Smyth, Departments of Biobehavioral Health and Medicine, The Pennsylvania State University; Mark Sciegaj, Departments of Biobehavioral Health and Medicine, The Pennsylvania State University; Martin J. Sliwinski, Department of Human Development and Family Studies and Center for Healthy Aging, The Pennsylvania State University*

**Objectives:** From attending this session, participants will be introduced to social isolation as a modifiable risk factor for chronic disease burden.; From attending this session, participants will understand the role that social isolation has in predicting an individual's outpatient cost, primary care visits, and total chronic conditions.

**Abstract Body:** Social isolation represents a potentially modifiable risk factor for chronic health conditions. Previous studies have only examined the association between social isolation and single chronic health conditions. Less is known about the link between social isolation and the burden of multiple comorbid health conditions. In this study, we examined the association between social isolation and summary measures of chronic disease burden based on self-reported medication use for chronic health conditions. Specifically, we implemented Clark and colleagues' (1995) chronic disease score to calculate three summary variables: total cost, total outpatient cost, and total primary care visits; we also calculated a total sum score of the number of chronic conditions reported by each participant and measured social isolation using the PROMIS social isolation scale. Our sample consisted of 285 diverse adults  $M_{age}=46.90$ ,  $SD=10.96$ , range: 25-65; 36% male; 59% black; average chronic conditions=1.04,  $SD=1.43$ , range: 0-8. Bivariate correlations indicated that social isolation was positively associated with outpatient cost ( $r=.13$ ), primary care visits ( $r=.15$ ), and total chronic conditions ( $r=.16$ ,  $ps < .05$ ). Age was not associated with social isolation but was positively associated with all disease burden variables ( $rs = .17$  to  $.34$ ,  $ps < .05$ ). Regression analyses that controlled for age, gender, race/ethnicity, and education revealed that social isolation was uniquely associated with more frequent primary care visits ( $B = .02$ ,  $p < .05$ ) and with chronic conditions ( $B = .04$ ,  $p < .05$ ); these effects were age invariant. Our results indicate that besides being associated with chronic conditions, social isolation also places a burden on individuals associated with primary care visits.

**308. The Civic Engagement of Older Japanese Citizens as Long-term Care Support Volunteers: A Qualitative Study in Tokyo,** *Yumika Shirase, National Institute of Population and Social Security Research*

**Objectives:** After attending this session participants will be able to understand the long-term care support volunteering program in Japan.; After attending this session participants will be able to understand why Japanese older citizens are engaged in volunteering activities.; After attending this session participants will be able to discuss effective programs to encourage older citizens to participate in volunteering.

**Abstract Body:** Background: As people 65 years and older account for approximately 25% of the Japanese population, they are not just regarded as individuals needing care themselves but also as a potential support system for the oldest members of society. X City, in suburban Tokyo, introduced the Kaigo Shien (long-term care support) Volunteer Program, which enables volunteers to earn evaluation points based on hours of engaging in long-term care support activities, and to exchange the

accumulated points for cash (up to 5,000 yen per year). This qualitative study analyzes the organizational aspects of the volunteers' participation and what motivates them. Method: Participant observation and semi-structured interviews (N=15) were conducted from March to June 2014. The interviews explore what volunteers do and how they feel about their activities. Transcripts of the interviews were analyzed using the grounded theory approach. Findings: All the interviewees hoped to partially assist older people in the community after they retired from paid work or had finished raising children. Volunteers participated in the program by one of following three forms: joining a non-profit organization, joining a neighborhood group, or participating as individual volunteers. Discussion and Conclusion: This program met the needs of older volunteers and simultaneously provided them with an opportunity to decide how to spend the rest of their lives. They did not necessarily expect cash rewards, but they appreciated the evaluation points, viewing them as a form of gratitude for their contribution. After receiving points, the participants were encouraged to continue volunteering.

**309. The Effect of Age on Executive Functioning in Geriatric Hoarding Disorder**, Mary Dozier, VA San Diego Healthcare System San Diego State University/University of California, San Diego Joint Doctoral Program in Clinical Psychology; Dawn Schiehser, VA San Diego Healthcare System; Catherine Ayers, VA San Diego Healthcare System

**Objectives:** To investigate age-related differences in executive functioning in older adults with hoarding disorder

**Abstract Body:** Hoarding disorder (HD) is a chronic and progressive psychiatric condition. Previous studies of executive functioning in midlife and geriatric adults with HD have demonstrated impairment in both populations. This is the first investigation of age-related differences in impairment in adults with HD. The purpose of this study was to use the Wisconsin Card Sort Task (WCST-128) to examine age-related differences in executive functioning due to HD. Participants included 109 adults meeting DSM-5 criteria for HD. The mean age of the overall sample was 64.2 (SD=7.4;range=50-86;median=64). The sample was mostly female (72%) and Caucasian (81.5%). Age-based differences were investigated by comparing older and younger participants, using the median age to differentiate the two groups. There were no age-related differences in anxiety or depression (measured by the Hospital Anxiety and Depression Scale), or hoarding severity (measured by the Clutter Image Rating, the Saving Inventory-Revised, and the UCLA Hoarding Severity Scale). Using U.S. Census age-matched T scores, we found that the older HD group exhibited significantly more impairment in total errors, perseverative responses, perseverative errors, nonperseverative errors, and conceptual level responses (all  $p's < .01$ ) than the younger HD group. Further, our older HD group demonstrated significantly higher percentages of impaired responses for total errors, perseverative responses, perseverative errors, and conceptual level responses (all  $p's < .05$ ). Compared with our younger HD group, the older HD group demonstrated executive functioning problems, including attention, inhibition, and set shifting, suggesting that as adults age these constructs may form an increased barrier to psychotherapeutic interventions for HD.

**310. The Effect of Sleep Medication Use and Poor Sleep Quality on Risk of Falls in Community-Dwelling Older Adults**, Yaena Min, Virginia Commonwealth University; Patricia Slattum, Virginia Commonwealth University

**Objectives:** The objective was to evaluate the association between sleep medication use, sleep quality, and falls in adults 65 or older.

**Abstract Body:** Objective: Psychotropic medications are associated with risk of falls in older adults. However, very few studies have assessed the impact of poor sleep and sleep medication use on the risk of falls. The objective was to evaluate the association between sleep medication use, sleep quality, and falls in adults 65 or older. Methods: This was a 6 month prospective cohort study of older adults residing in independent living senior housing. Sleep quality was assessed with the Pittsburgh Sleep Quality Index (PSQI) and a medication review was conducted. Falls were collected over 6 months by calendar. Logistic regression modeling was used to examine the effect of sleep problems, sleep medications, and both on the risk of falls after controlling for covariates. Statistical analysis was performed using SAS 9.4 statistical software. Results: Among 113 community-dwelling older adults (female= 76.1%, mean age  $\pm$ SD= 81.1  $\pm$ 8.6), 46.9% fell at least once during 6 months. Sleep medication use (adjusted odds ratio, AOR=2.65; 95%CI=1.04-6.72) predicted prospective falls but not poor sleep quality. Compared to participants reporting good sleep quality and no sleep medication use, those who report poor sleep quality and sleep medication use had an increased risk of falls (AOR= 3.86 ; 95%CI =1.18-12.60). The other two groups had no significantly greater risk for falls. Conclusion: A combined effect of sleep quality and sleep medication use on the risk of falls suggests that medication effectiveness may be an important factor to consider in understanding the risk of falls associated with sedative medications.

**311. The Effects of Daily Lifestyle Determinants on Well-Being in Younger and Older Adults**, Jonathan Rush, University of Victoria; Amanda Kelly, University of Victoria; Mai Stafford, Medical Research Council; Scott Hofer, University of Victoria; Angela Njenga, University of Utah

**Objectives:** To better understand how daily behaviours and events account for day-to-day fluctuations in well-being in younger and older adults.; To determine if different behaviors play a different role in accounting for well-being at different stages of life (i.e., young adulthood versus older adulthood).

**Abstract Body:** There are many behaviours and activities that we engage in on a daily basis that play a role in our well-being. Much previous research has demonstrated that our lifestyle choices account for a portion of our general levels of well-being. However, the experience of well-being is a dynamic process that fluctuates regularly across time. It is still unclear how

much our daily behaviours account for these fluctuations in well-being. Furthermore, different behaviours may play a different role in accounting for well-being across the life-course. The present study utilized a 14-day intensive repeated measurement design to examine the effects of daily lifestyle determinants on well-being in younger and older adult samples. Many daily behaviours and events significantly predicted well-being in both the younger and older samples (e.g., physical activity, time spent outdoors, helping others/volunteering). However, the younger and older adult sample differed in the amount that other behaviours accounted for well-being (e.g., healthy eating, time spent with friends). In combination, the daily lifestyle behaviours accounted for as much as 32% of the daily variation in well-being among older adults and 21% of the daily variation in well-being among younger adults. These results demonstrate that much of the variation in well-being within an individual can be accounted for by the behaviours and activities that they engage in on a daily basis. Gaining a better understanding of the behaviours that consistently coincide with an improved sense of well-being is critical to the promotion of lifestyle choices that foster well-being across the life-course.

**312. The Effects of Social Support from Older Adults Toward Their Children or Partners on Role Identities: A Longitudinal Investigation**, Aya Toyoshima, Graduate School of Human Sciences, Osaka University.; Shinichi Sato, Graduate School of Human Sciences, Osaka University; Jun Nakahara, Tokyo Woman's Christian University, Japan Society for the Promotion of Science: Research Fellowship for Young Scientists

**Objectives:** To examine the hypothesis that receiving and providing social support promotes role identities, which influence subjective well-being for older adults in the context of symbolic interaction theory; To examine whether receiving social support from and providing it to a wife or husband enhances marital identities among older adults.; To examine whether social support provided by older parents to their children enhances parental identities more than receiving support does.

**Abstract Body:** Social support promotes older adults' subjective well-being by boosting positive identities, as indicated by symbolic interaction theory. The current study hypothesized that a relationship of receiving and providing social support between husband and wife enhances marital identities. Moreover, parental identities should be more enhanced among older adults when providing social support for their children than when receiving support. This is because providing support better fits their parental roles. We conducted a longitudinal survey of older adults (>60 years). Participants were assessed four times over two years (First: January–February, 2012. Second: September–November, 2013. Third: May–June, 2013. Fourth: February–March, 2014.). The total sample consisted of 355 older adults (240 men and 115 women). We examined the effect of social support at the first wave on the trajectory of role identities in a growth curve model. In the model of marital relationships, receiving and providing support were significantly associated with the intercept of marital identity ( $\beta = .49, .50$ ), and there was no significant difference between the social support coefficients. In the model of parent-child relationship, both supports were significantly associated with the intercept of parental identity ( $\beta = .26, .87$ ), and the “providing support” coefficient was higher than the “receiving support” coefficient ( $p < .01$ ). These results suggest that social supports between family members promote role identities in family relationships. Especially, providing support for children is associated with enhanced subjective well-being because of its corresponding influence with parental roles.

**313. The Impact of Mixed Stereotype Messages on Older Adults' Levels of Dementia Worry**, Joie Molden, University of Colorado Colorado Springs; Molly Maxfield, University of Colorado Colorado Springs

**Objectives:** The objective of this research was to better understand how aging stereotype messages impact older adults' anxiety about developing dementia

**Abstract Body:** A common fear of growing older is the seeming inevitability of age-related memory loss. Recent research, however, suggests that psychosocial influences might be important contributors to poorer memory performance among older adults. Specifically, both positive and negative aging stereotypes are hypothesized to have significant impact on myriad areas of functioning, including memory performance (Levy, 2009). As concern with memory ability grows, so too does anxiety over the possible development of dementia—an experience termed dementia worry (DW; Kessler, Bowen, Baer, Froelich, & Wahl, 2012) or anticipatory dementia (Cutler & Hodgson, 1996). No known research exists examining the impact of aging stereotype messages on older adults' DW. In this study, older adults were randomly assigned to one of five conditions, each of which primed participants with different proportions of positive versus negative aging stereotype content. Participants were administered brief memory test batteries before and after priming, and were administered the Fear of Alzheimer's Disease Scale (FADS; French et al., 2012) post-priming to assess DW. Exposure to higher proportions of negative stereotype content elicited greater levels of DW. At the same time, actual memory performance was not significantly correlated with DW. Mean FADS scores did not differ by gender, but did correlate significantly with affect such that positive affect was associated with higher FADS scores; the inverse was true for negative affect. A positive correlation between age and DW approached significance. Results suggest that the content of age-related stereotypes is a powerful force with the potential to impact older adults' cognitive-related anxieties.

**314. The Impact of Red Light Running Camera Flashes on Younger and Older Drivers' Attention and Oculomotor Control**, Timothy Wright, Florida State University; Walter Boot, Florida State University; Neil Charness, Florida State University; Thomas Vitale, Florida State University

**Objectives:** To explore the distracting effects of RLRC flashes on drivers' attention and oculomotor control.; Examine age-related differences in the distracting effects of RLRC flashes.; Examine differences in the distracting effects of RLRC flashes as a function of RLRC flash salience, and potential interactions with age.

**Abstract Body:** Recent empirical evidence suggests that the flashes associated with red light running cameras (RLRC) distract younger drivers, pulling attention away from relevant roadway information and delaying visual processing (Sall, Wright, & Boot, 2014). Considering the perceptual and attentional declines that occur with age, older drivers may be especially susceptible to the distracting effects of RLRC flashes, particularly in situations in which the RLRC flash is highly salient (e.g., at night). The current study examined potential age and situational effects on RLRC flash capture. Two experiments utilized both covert (inhibition of return) and overt (eye movements) indices of attention in simulated driving scenes. Salience of the flash was manipulated by varying its luminance and contrast with respect to the background of the driving scene (either day or night scene). Results across both experiments suggest that simulated RLRC flashes capture observers' attention, but, surprisingly, no age differences in attention capture were found with either covert or overt markers of attention. An analysis examining early and late eye movements revealed that older adults may have been strategically delaying their eye movements in order to avoid capture by the flash. Findings have theoretical implications for understanding age differences in attention capture with more realistic and familiar stimuli and inform future work that will examine how the distracting effects of RLRC flashes influence driving behavior.

**315. The Impacts of Service Experiences on the Trajectories of Self Rated Health, Functional Limitations, and Activities of Daily Living among Veterans,** *Miles Taylor, Florida State University; Stephanie Urena, Florida State University; Benjamin Kail, Georgia State University*

**Objectives:** To understand the role of combat related experiences in later life health trajectories among veterans  
**Abstract Body:** Using the 2013 Veteran's Mail Survey linked to the Health and Retirement Study, we use latent class analysis to examine multiple trajectories of self rated health, functional limitations, and activities of daily living over a decade. Among veterans, we find substantial variation in trajectories and explore the independent impacts of combat, exposure to the dead and wounded, and exposure to environmental hazards, net of sociodemographic controls. When combat is examined alone it is associated with universally poorer health across our three outcomes. The impact of combat is reduced once exposures are included, suggesting exposures during combat fuel this association and that not all combat experiences are equally detrimental for health. Further, the impact of exposures are independent, with environmental hazards predicting moderately poor health while exposure to death/wounded predicts only the worst health trajectories. Interestingly, historical period of wartime service (i.e. WWII, Korea, and Vietnam) was not significant, suggesting research using period of service among veterans was primarily capturing the effects of combat and other wartime exposures. These findings suggest that examining disaggregated levels of health over time is important in understanding the effects of service related experiences and for timing specific health interventions. We hope to expand analyses to 1) examine depressive symptoms as an additional outcome capturing mental health, 2) incorporate selection effects of early life factors into service experience in these models, and 3) examine current health behaviors as covariates to understand the pathways through which these service experiences impact health trajectories.

**316. The Longitudinal Effects of Internet Use on the Depression of Korean Older Adults,** *Myoung-Yong Kim, Human Life Research Center, Yonsei University; Hey Jung Jun, Yonsei University*

**Objectives:** This study was to examine the longitudinal effects of internet use on Korean older adults' depression.; This study was to examine whether the effects of late-life Internet use on depression was mediated by the social relationship satisfaction.; This study was to assess whether there were any gender differences in the effects of Internet use.  
**Abstract Body:** The purpose of this study was to examine the longitudinal effects of internet use on Korean older adults' depression, with focus on the effects of social relationship satisfaction. Furthermore, we assessed whether there were any gender differences. A sample of Korean older adults aged 60 years and older, drawn from the Korea Welfare Panel Study (KOWEPS) across three waves of large scale longitudinal data starting from 2010 to 2012, were used for the analysis. The results from path analysis demonstrated that for men, not only did internet use in 2010 had a positive effect on depression levels in 2012, but the positive effects were partially mediated by the positive effects that internet use in 2010 had on social relationship satisfaction in 2011. The results were consistent even after controlling for various socio-economic factors and the base level of depression at time 5. However, interestingly, internet use did not have any significant positive effects on the depression levels of older Korean women. These results suggest that the benefits of internet use at late life vary depending on gender, which stem from differences that men and women have in terms of social relationships and social support. The findings imply that as older men tend to suffer more from decreases in social relationships and social support, internet use could be a useful method to prevent depression in late life for elderly men, suggesting that policies which encourage elderly internet use and that increases in internet education are essential.

**317. The Neighbourhood Environment and Use of Neighbourhood Resources in Older People With and Without Osteoarthritis: Results from the Hertfordshire Cohort Study,** *Erik Timmermans, Department of Epidemiology and Biostatistics, EMGO+ Institute for Health and Care Research, VU University Medical Center, Amsterdam, The*



Netherlands.; Suzan Van der Pas, Department of Epidemiology and Biostatistics, EMGO+ Institute for Health and Care Research, VU University Medical Center, Amsterdam, The Netherlands.; Cyrus Cooper, MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton General Hospital, Southampton, United Kingdom; Laura Schaap, Department of Health Sciences, Faculty of Earth and Life Sciences, VU University Amsterdam, Amsterdam, the Netherlands; Mark Edwards, MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton General Hospital, Southampton, United Kingdom; Dorly Deeg, MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton General Hospital, Southampton, United Kingdom; Elaine Dennison, MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton General Hospital, Southampton, United Kingdom

**Objectives:** The results provide some support for the environmental docility hypothesis, which suggests that the less competent the individual, the greater the impact of environmental factors on that individual.; Older people with osteoarthritis perceive more neighbourhood problems than older people without osteoarthritis.; Perception of more neighbourhood problems is associated with more use of public transport in older people without osteoarthritis, whereas perception of more neighbourhood problems is associated with less use of public transport in older people with osteoa

**Abstract Body:** This study aimed to examine whether the associations of perceived and objective neighbourhood characteristics with the use of neighbourhood resources are stronger in older people with osteoarthritis (OA) than in older people without OA. Data from the Hertfordshire Cohort Study were used. American College of Rheumatology classification criteria were used to diagnose OA in older people from Hertfordshire, United Kingdom. Use of neighbourhood resources was assessed using the Home and Community Environment instrument. Participants were asked about their perceptions of neighbourhood cohesion and neighbourhood problems. Objective neighbourhood deprivation was assessed using the Index of Multiple Deprivation score 2010 of census area of residence. Associations were examined using logistic regression analyses and were adjusted for several confounders. Of the 404 participants (71-80 years), 110 (27.2%) persons had OA in knee, hand and/or hip. Older people with OA perceived significantly more neighbourhood problems than older people without OA. A significant modification effect of OA showed that perception of more neighbourhood problems was associated with more use of public transport in older people without OA (OR=1.20, 95% CI=1.04-1.39), whereas more perceived neighbourhood problems were associated with less use of public transport in older people with OA (OR=0.60, 95% CI=0.40-0.91). Regardless of OA, objective neighbourhood deprivation was not significantly associated with use of neighbourhood resources in older people. The perception of neighbourhood problems has a greater influence on the use of neighbourhood resources by older people with and without OA than objective neighbourhood deprivation. These results could be used to guide environmental interventions.

### **318. The Prevalence of Elder Abuse in Western Part of Rajasthan State in India: A Random Sample Survey, Dr. Alok Mohta, Dr. S.N. Medical College & M.D.M Hospital**

**Objectives:** To assess the prevalence of Elder abuse in community dwelling elderly in Western Part of Rajasthan State.; To educate elders about their rights and informing them of ways to access services.;

**Abstract Body:** 1.Introduction:- Elder abuse is a term referring to any knowing, intentional or negligent act by a Care giver or any other person that causes harm or severe risk of harm to vulnerable adult. The types of abuse are Physical, Psychological Financial & Sexual. It's a refusal or failure by those responsible to provide food, shelter, health care and protection for a vulnerable elder. 2.Objective:- To assess the prevalence of elder abuse in community dwelling elderly in western part of Rajasthan state of India. Our objective was also to educate elders about their rights and informing them of ways to access services and adequate places in case of need, ensuring that information is not denied to elders so that they can have the possibilities to make their own Personal choices. 3.Methods:- A total number of 2016 subjects were included in survey conducted over a span of one Year. The survey conducted among community dwelling elderly in western part of Rajasthan state. Both rural & urban area included randomly. A questionnaire was prepared based on living Conditions, family structure, financial support and types of neglect. The survey based on interview and observation based. 4.Results:- The observations obtained were analyzed statistically. A significant number of elderly show some or other form of elder abuse. The prevalence rate came as 42/1000 elderly facing abuse. The psychological & financial abuse were commonly encountered. In more than 50% cases, Close Family persons (son, daughter in law, spouse) were responsible. The survey is random, covered a limited area and sample size may not be large enough hence the study may not be very scientific & authentic in terms of results but certainly it signifies the emerging magnitude of problem in a community of growing aging population. 5.Conclusion: The Western part of Rajasthan state in India is mostly Desert & arid. Though the wave of development has changed the scenario but still the life in this part is hard task, particularly in rural area where younger people go to cities in search of employment & leave their elderly parents home alone, facing the harshness of day to day life & eventually neglect. The Govt. has launched various schemes and laws to safeguard the financial need, Medical aid & to prevent abuse & neglect but the elderly should be informed about these in order to know their rights.the key person in rural area villages particularly the "Gram sevaks" (servants to villages) responsible for informing and help in implementing various govt. schemes can play a major role by guiding & educating elderly about their rights & govt. plans & laws beneficial for them. This will be a cost effective approach too.

**319. The relationships between cardiovascular events, risk factors, and sleep duration: Longitudinal study, Daiki Kobayashi, St Luke's International Hospital**

**Objectives:** This study investigate the relationship sleep duration and cardiovascular events, its risk factors and related measurement by longitudinal analyses with large data

**Abstract Body:** Background: The goal of this study was to examine the relationship between cardiovascular events, risk factors, and sleep duration considering change of sleep duration over time with longitudinal data analyses. Methods: A retrospective longitudinal study was conducted involving individuals aged 20 years or older who underwent annual health check-ups at St. Luke's International Hospital, from 2005 to 2010. Data collected included self-reported demographic, clinical and health habits information (including sleep duration; <6, 6-7, 7-8, 8≤); baseline examination; and laboratory measures each year. We conducted mixed effects analyses to examine the associations between sleep duration and cardiovascular risk factors and event longitudinally. Results: A total of 31,830 participants were enrolled. 70.1% of them changed their sleep duration and 365 participants developed cardiovascular events during follow-up periods. Compared to those with less than 6 hours sleep, those who sleep longer were less likely to have cardiovascular events [odds ratio (OR) 0.62 (95%CI: 0.38-0.99) for 6-7 hours, OR 0.55 (95%CI: 0.32-0.94) for 7-8 hours and OR 0.68 (95%CI:0.34-1.34) for 8≤ hours group] and to report excessive alcohol consumption [OR 0.74 (95%CI: 0.67-0.82)]. Long sleep duration was associated with a lower likelihood of diabetes and related measures, a higher likelihood of hypertension and dyslipidemia over time. Conclusion: Individuals with more than 8 hours sleep duration significantly were less likely to have cardiovascular events than other group. For risk factors, longer sleep duration was associated with development of hypertension and dyslipidemia , but protective against to diabetes.

**320. The Role of Cognitive Control in Older Adults' Cognitive Reappraisal: Detached and Positive Reappraisal, Meng Huo, Department of Human Development and Family Sciences, the University of Texas at Austin; Renlai Zhou, Department of Psychology, Nanjing University; Robert Kennison, Department of Psychology, California State University, Los Angeles**

**Objectives:** To understand how different aspects of cognitive control impact different subtypes of cognitive reappraisal in older age; To think about implications of this study for development of cognitive training interventions for the elderly.;

**Abstract Body:** Older adults compared to younger adults are more likely to regulate their emotions by engaging in cognitive reappraisal. However, depending on the type of cognitive reappraisal used, whether detached or positive, their efforts to regulate emotions are sometimes met with success and other times with failure. It has been suggested that the well-known age-related decline in cognitive control might be the culprit behind the poor use of detached reappraisal by the elderly. However, this possibility has not been thoroughly investigated. Also, studies have not examined which aspects of cognitive control (shifting, updating or inhibition) might be relevant to cognitive reappraisal. In the present study, 41 older participants (aged 55-72 years) were tested on cognitive control and their abilities to use detached and positive reappraisal. The study employed standardized emotional stimuli selected from the International Affective Picture System (IAPS) and a multi-method approach (subjective ratings and physiological measures) to assess effects of regulation. The results showed that detached compared to positive reappraisal relied more heavily on cognitive control, specifically mental set shifting. Results of this study have important implications for development of cognitive training interventions for the elderly.

**321. The Unequal Burden of Oxidative Stress: An Intersectional Approach to Understanding Social Disparities in Telomere Length in Older Adults, Lauren Brown, Leonard Davis School of Gerontology, University of Southern California; Belinda Needham, School of Public Health, Department of Epidemiology, University of Michigan; Jennifer Ailshire, Leonard Davis School of Gerontology, University of Southern California**

**Objectives:** After attending the session participants will be able to describe population variation in telomere length by the intersection of race and gender in the Health and Retirement Survey.; After attending the session participants will be able to identify Blacks as having significantly longer telomeres than both Whites and Hispanics in a population based sample.; After attending the session participants will be able to determine that group differences in telomere length vary with age.

**Abstract Body:** Background: Telomere length (TL) is a biomarker of aging and oxidative stress. Prior studies examined gender and race/ethnic differences in TL with mixed findings, but have not considered intersections of race and gender. This study takes an intersectional approach by examining the combination of race and gender, indicators of identity and social status, to determine the inter- and intra-group differences in TL. Methods: TL was assessed in a nationally representative sample of 5,861 Whites (82.9%), Blacks (9.2%), and Hispanics (8.0%) [53.6% female, mean(SD) age: 66.9(9.8) years] from the 2008 Health and Retirement Study. ANOVA was used to establish intergroup differences in TL. Pairwise linear regression models were used to estimate age adjusted intragroup differences. Finally, models were adjusted for demographic measures (marital status, occupational status, income, wealth) and health behaviors (BMI, smoking, physical activity) to determine if they accounted for group differences. Results: We observed differences in TL by gender (p=0.005) and race (p<0.001). After adjusting for age, Blacks had longer telomeres than both Whites and Hispanics, with Black women having the longest telomeres. White men had the shortest telomeres. Race/ethnic and gender differences in TL varied with age. Demographic characteristics and health behaviors did not account for group differences. Implications: Results reveal complex and unexpected interactive effects of gender and race in TL with age. These findings suggest the importance of

investigating disparities in TL using multiple dimensions of identity and social status as an important distinction to understanding population variation in oxidative stress.

**322. Tilting at Windmills: The Effects of Previous-Day Anticipatory Coping on Daily Cognitive Interference Across Older Adulthood**, Brent Nara, North Carolina State University; Shevaun Neupert, North Carolina State University

**Objectives:** Past work has demonstrated that cognitive interference travels together with daily stressors (Stawski, Mogle, and Sliwinski, 2009), but no study to date has sought to explain the consequences of anticipatory coping for future stressors on daily cognitive; We examined whether endorsing adaptive strategies (problem analysis and planning) for managing upcoming stressors predicted an increase in self-reported cognitive interference (following performance on everyday cognitive tasks) the day after endorsing sai; We also examined age differences in these relationships across older adulthood.

**Abstract Body:** Methods: 43 older adults ages 60-96 completed two brief tasks of everyday cognition, a measure of cognitive interference, and a measure of anticipatory coping daily for eight days. Results: Multilevel modeling determined a main effect for anticipatory coping, a main effect of age, and an anticipatory coping X age interaction. Older-old adults were more likely to experience higher cognitive interference, as were those who elected to use anticipatory coping. Older-old (M + 1SD) participants experienced more cognitive interference than younger-old (M - 1SD) participants when they used problem analysis or planning to prepare for a future interpersonal stressor. Discussion: Our culture values planning and problem-solving, but our data suggest that this comes at a cost. As age increases, investing executive functional resources into coping for a future stressor may distract from cognitive performance in the present.

**323. Trait Mindfulness in Older Adults Predicts Change in Loss Aversion in the Iowa Gambling Task**, Kateri Noble, The Catholic University of America; Katy O'Neil, The Catholic University of America; Kendra Seaman, The Catholic University of America; Chelsea Stillman, Georgetown University; Eileen Rasmussen, Georgetown University; Darlene Howard, Georgetown University; James Howard, The Catholic University of America and Georgetown University

**Objectives:** Determine the relationship between mindfulness and real-world decision making

**Abstract Body:** As people live longer independently, they must increasingly make difficult decisions in the face of age-related cognitive changes. To date, many studies report beneficial effects of mindfulness on cognition in older adults, particularly regarding the amelioration of stress and subsequent benefits to executive function (Moynihan et al., 2013). However, not all studies report positive effects associated with greater mindfulness. Recent findings have shown that lower trait mindfulness is associated with better implicit sequence learning in both young and older adults (Stillman, Feldman, Wambach, Howard, Jr., & Howard, 2014). The present study examined the relationship between trait mindfulness as assessed by the Mindfulness Attention Awareness Scale (MAAS, Brown & Ryan, 2003) and decision making as assessed by the Iowa Gambling Task (IGT, Bechara, H. Damasio, Tranel, & A. R. Damasio, 1994) in 83 healthy older adults. In the IGT, participants choose between decks of cards on a series of trials with loss aversion defined as avoiding decks with frequent punishments. Results indicated a significant increase in loss aversion with practice,  $F(4, 328) = 5.48, p < .001$  and this increase in loss aversion was related to mindfulness. Specifically, there was a significant negative correlation ( $r = -.246, p = .025$ ) between trait mindfulness and the development of loss aversion, such that those lower in mindfulness showed a greater increase in loss aversion. Thus, low trait mindfulness in older adults is associated with increased learning of loss aversion in a task related to real-world decision making.

**324. Translation of a BRI Care Consultation Intervention for Rural Individuals with Dementia and their Caregivers**, Michelle M. Hilgeman, Tuscaloosa VA Medical Center; T. Scott Martin, Tuscaloosa VA Medical Center; Mark E. Kunik, Houston VA Health Services Research and Development Center of Excellence; Branka Primetica, Benjamin Rose Institute; David M. Bass, Benjamin Rose Institute; Tiffany Sexton, Benjamin Rose Institute; A. Lynn Snow, Tuscaloosa VA Medical Center

**Objectives:** Identify unmet care needs of individuals with dementia and their caregivers in a rural clinical setting.; Relate current findings of this clinical demonstration to the published research "Partners in Dementia Care," a version of BRI Care Consultation.; Discuss modifications in the research and service protocols to enhance use of evidence-based programs for rural settings.

**Abstract Body:** The vast majority of efficacious, non-pharmacological evidence-based programs "remain on the shelf" after initial testing and go unused by clinicians in health and community organizations (Gitlin, 2013). This poster describes a large-scale community implementation of one evidence-based program in the VA, BRI Care Consultation, which is a telephone-based coaching intervention for individuals with dementia (IWD) and their caregivers. A unique feature of this implementation is its focus on families in 27 rural counties of Alabama, where there are limited health and community services. 115 IWD and 111 caregivers participated in the Telephone Assisted Dementia Outreach clinic where BRI Care Consultation was delivered over 16-months. Initial needs assessments revealed needed assistance with: arranging services (49%), memory problems and difficult behaviors (47%), and emotional/physical health strain (38%). Nearly one in three caregivers also (31%) expressed concerns about their capacity to provide care. Several key modifications were made to BRI Care Consultation to enhance its utility for rural settings: 1) reduced role of a partnering community agency due to a lack of service resources, 2) longer telephone coaching sessions with caregivers, and 3) incorporation of more psychotherapeutic

elements for those in acute distress. Other adaptations altering the Care Consultation Information System (CCIS) used to deliver the program are also described: reordering assessment domain presentation; considerations in when a care domain was triggered as a problem; and a simplified approach for integrating the CCIS and the VA electronic medical record. Systematic translation efforts like this one are critical for increasing access to evidence-based care.

**325. Understanding Everyday Task Challenges for Older Adults with and without Disabilities**, *Christina Harrington, Georgia Institute of Technology; Tracy Mitzner, Georgia Institute of Technology; Wendy Rogers, Georgia Institute of Technology*

**Objectives:** Synthesize and assess the data that exists on the everyday activity limitations for older adults aging with and without pre-existing disabilities (e.g., vision, hearing, and mobility); Assess the current use of assistive technology by older adults for activity performance.; Demonstrate a critical unmet need for assistive support.

**Abstract Body:** The 65+ population is growing rapidly, with this age group expected to reach 21% of the population by 2050. With increased longevity of life spans, the number of older adults living with disabilities is projected to double from the year 2000 to 2040, becoming 4.2% of the population. Given these increases in the aging population, there is a need to know more about everyday activity challenges for older adults who have age-related limitations and those who have both a disability and age-related limitations. To develop solutions that facilitate successful aging, an understanding of the range, frequency, nature, and distribution of these limitations is required. This archival analysis integrated existing data on the functional limitations and challenges experienced by older adults with and without pre-existing disabilities. Longitudinal research study reports were reviewed for statistics pertaining to activity limitations including the Women's Health and Aging Study, the National Health and Aging Trends Study, the National Long-Term Care Survey, and the American Community Survey, as well as information from the National Institute on Aging, Federal Interagency on Age-Related Statistics, and the Census Bureau. Findings suggest that older adults both with and without disabilities reported significant task limitations in activities involving mobility (walking, getting in/out of bed/chairs, doing laundry, shopping, doing housework) and transportation (attending religious services/club meetings). Results also indicate that technological solutions to activity limitations exist; yet there is a rather low usage rate. These data provide guidance for the development of user-centered design solutions and education and training deployment.

**326. Valuation of Life: Comparing Japanese and German Old and Very Old Individuals**, *Takeshi Nakagawa, Osaka University, Graduate School of Human Sciences; Daniela Jopp, University of Lausanne, Institute of Psychology; Yasuyuki Gondo, Osaka University, Graduate School of Human Sciences; Jonathan Lehrfeld, Fordham University; Christoph Rott, Heidelberg University, Institute of Gerontology; Frank Oswald, Heidelberg University, Institute of Gerontology*

**Objectives:** To examine how old and very old individuals differ in their valuation of life.; To understand how cultural context affects the above relationship.; To examine age and cultural effects on predictors of valuation of life.

**Abstract Body:** Research on valuation of life (VOL) investigates how strongly individuals feel attachment to their lives. Studies still try to determine how VOL develops with advancing age and which factors contribute to VOL. Studies mostly focus on person factors (e.g., age, health), but it is also possible that societal/cultural aspects play a role. This study investigated mean levels and predictors of VOL in Japanese and German old and very old individuals. A total of 620 population-based participants (n = 310 per country) were matched by age, gender, education, and instrumental activities of daily living (IADL). Mean age of the total sample was 76.4 years (range: 65-92). VOL was assessed with 4 items from the Positive VOL Scale (Lawton et al., 2001). Findings revealed that there were no significant age differences between young-old, old-old, and oldest-old individuals, but Germans reported higher VOL levels compared to the Japanese. Regression analyses suggested significant roles of demographic, social, and health variables in the prediction of VOL. Among the young-olds, social contact, subjective health, and IADL were significant predictors in both cultures; education only mattered for VOL in the Japanese young-olds. Among the old-old, number of children was significant in both samples, but health predictors varied. No significant predictor was found for the oldest old, maybe due to small sample size. In sum, the extent to which older individuals value their lives seems to depend on global characteristics (e.g., health), but levels and the importance of specific aspects (e.g., education) may depend on age and culture.

**327. Dissection of the Progenitor and Thymic Microenvironment in Aged Mice by Parabiosis**, *Heather Thompson, Department of Immunobiology and the Arizona Center on Aging, College of Medicine, University of Arizona; John Davies, Department of Immunobiology and the Arizona Center on Aging, College of Medicine, University of Arizona; Vesna Pulko, Department of Immunobiology and the Arizona Center on Aging, College of Medicine, University of Arizona; Janko Nikolich-Zugich, Department of Immunobiology and the Arizona Center on Aging, College of Medicine, University of Arizona*

**Objectives:** Dissect defects in the hematopoietic progenitor population compared to the thymic microenvironment that occur with age; Understand immune dysfunction with age; Understand where interventions can improve immune function

**Abstract Body:** As the immune system ages, multiple defects occur as a result fewer naïve T cells are available to response to new infections. Consequently there is an increase in morbidity and mortality from infectious disease associated with aging. The defects that occur in aging are both cell intrinsic as well as cell extrinsic. Our goal is to identify areas of the aging

immune system where we can intervene to improve immune function. To systematically understand the overlapping defects present in the aging immune system, including hematopoietic stem cell as well as lymphocyte progenitor function versus defects present in the thymic stromal microenvironment, we have begun to use parabiosis to join the circulation from different animals together. When wild type mice are parabiosed to RAG (recombination activation gene-1) knockout mice that lack mature B and T cells, we can test the contributions of the lymphocyte progenitors compared to the impact of the thymic microenvironment. When old mice were parabiosed to RAG knockouts we observed that old progenitors were able to effectively seed and reconstitute T cell development in the RAG knockout parabiont. Interestingly, the seeding of the RAG thymus was relatively consistent between the isochronic and heterochronic pairs despite the profound differences in cell numbers remaining between wild type adult and wild type old thymi through day 56 of parabiosis. This suggests that the old progenitor cells have the capacity to make T cells when given an empty adult thymic microenvironment in which to develop.

**328. Metabolomics Analysis of the Effects of Rapamycin Treatment and Intermittent Feeding on Skeletal Muscles from Young and Old Rats Using Liquid Chromatography/Mass Spectrometry**, Yu-Hsuan Tsai, University of Florida Department of Chemistry; Timothy Garrett, University of Florida; Richard Yost, University of Florida; Christy Carter, University of Florida

**Objectives:** Rapamycin-treated animals showed increased relative lean mass and decreased fat mass compared with IF suggesting that this compound may positively regulate lipid metabolism in muscle. Here, we present the first metabolomics analysis using high performance

**Abstract Body:** Rapamycin, an inhibitor of the target of rapamycin (TOR), increases mammalian lifespan but less is known regarding its direct effects on muscle lipid metabolism. We have demonstrated that male Fisher 344 × Brown Norway rats aged 6 and 25 months treated with rapamycin (1mg/kg 3X per week) or intermittent feeding (IF) showed reduced food consumption and body weight. Rapamycin-treated animals showed increased relative lean mass and decreased fat mass compared with IF suggesting that this compound may positively regulate lipid metabolism in muscle. Here, we present the first metabolomics analysis using high performance liquid chromatography/mass spectrometry (HPLC/MS). Thirty-one extensor digitorum longus (EDL) and soleus (SOL) lipid extracts were analyzed by a Thermo Scientific Q Exactive Orbitrap in positive and negative ion modes. Results were processed by XCMS and principal component analysis (PCA) was performed. Separation by principal components (PC) between the treatment and age within each muscle type were observed from negative ion mode data. PCA on the SOL revealed separation between IF and rapamycin-treatment at both ages. For the 6 month group, another unique PC distinguished EDL controls from the IF and rapamycin-treatment groups. Separation between age groups within IF was also observed within EDL. Investigation on the loadings of the separating PCs and the identification of the significant metabolites and lipids are in progress and critical for generating hypotheses regarding the efficacy of rapamycin and IF on maintenance of muscle metabolism quality during the aging process.

**329. TGF- $\beta$  impairs CD4 and Antibody Responses in Old Mice to Increase Chikungunya Virus Disease Severity and Viral Persistence**, Jennifer Uhrlaub, Department of Immunobiology and the Arizona Center on Aging, University of Arizona College of Medicine; Vesna Pulko, Department of Immunobiology and the Arizona Center on Aging, University of Arizona College of Medicine; Victor DeFilippis, Vaccine and Gene Therapy Institute, Oregon Health and Science University; Janko Nikolich-Zugich, Department of Immunobiology and the Arizona Center on Aging, University of Arizona College of Medicine

**Objectives:** Are aged mice more susceptible to CHIKV infection?; Do aged mice mount effective immune responses to CHIKV?; Can disease severity in old mice be reduced through augmentation of the immune response?

**Abstract Body:** Chikungunya virus (CHIKV) is a mosquito-borne Alphavirus endemic to Africa, India, and Asia, which causes sudden onset of fever, rash, and debilitating poly-arthritis in peripheral joints, which can persist for years, particularly in older individuals. The virus has been spreading around the world, including North America, with >100,000 confirmed cases of autochthonous CHIKV infection in the Caribbean by 2013, followed by the first confirmed transmissions of CHIKV in the U.S. in 2014. In response to the increased geographic distribution of CHIKV and the likelihood that elderly immune-naïve populations may experience severe and life-threatening disease, we have developed a mouse model of age-related vulnerability to CHIKV infection. We demonstrate reduced ability of old mice to mount effective immune responses to CHIKV and control viremia, leading to increased disease severity and viral persistence in the joints. Ineffective immune responses were due, in part, to uncoordinated cytokine production. Specifically, MIG and TGF $\beta$ , were identified as key contributors to impaired CD4 and antibody responses against viral epitopes in old mice. Moreover, neutralization of TGF $\beta$  restored both CD4 and Ab responses, improved viral clearance from the joints and reduced joint pathology. These results provide a valuable tool for further mechanistic dissection of age-related vulnerability to CHIKV and point to possible targets in CHIKV disease treatment.

**330. Genotype-by-Age Interactions of Circulating miRNAs in Normal and Ames Dwarf Mice**, Berta Victoria Martinez, Burnett School of Biomedical Sciences, College of Medicine, University of Central Florida; Joseph M Dhahbi, Department of Biochemistry, University of California at Riverside; Yury O Nunez-Lopez, Translational Research Institute for Metabolism and Diabetes, Florida Hospital; Lina Spinel, Burnett School of Biomedical Sciences, College of Medicine,

University of Central Florida; Michal M Masternak, Burnett School of Biomedical Sciences, College of Medicine, University of Central Florida

**Objectives:** We aim to characterize age-associated circulating miRNAs in serum of N and df/df mice

**Abstract Body:** There is evidence that miRNAs circulating in the bloodstream can be taken up by cells and alter expression of targeted genes. Aging involves changes in many cellular processes that are potentially regulated by miRNAs. To determine the role of circulating miRNAs in aging, we used deep sequencing to characterize circulating miRNAs in serum of normal (N) and Ames dwarf (df/df) mice at the age of approximately 4 and 20 months. Our analysis showed genotype specific changes in the levels of 43 circulating miRNAs during aging. A group of 38 miRNAs remains unchanged during aging in df/df mice, whereas 6 and 32 miRNAs increase or decrease, respectively, with age in N mice only. A second group of 5 miRNAs increase with age in df/df whereas 3 of them significantly decrease in old N mice and the other 2 miRNAs do not change. The predicted targets of the miRNAs, which decreased in N mice but did not change in df/df animals, are significantly enriched for signaling pathways (such as insulin, MAPK, Wnt, Notch, mTOR, and TGF-beta) and 11 types of cancer. In addition, previous studies reported several of these miRNAs being involved in cell signaling and tumor suppression in both mice and humans. Other miRNAs that we found increased in N mice but unchanged in df/df animals, have been associated with inflammation, proliferation, and cancer. Importantly, about 50% of circulating miRNA families that show genotype-by-age interaction in long-living df/df mice were similarly modulated by calorie restriction intervention known to extend rodents lifespan.

**331. Sexual Dimorphism in Neuroinflammation from Inhaled Particulate Matter in Older Mice, Nick Woodward, University of Southern California; mafalda cacciottolo, University of Southern California; David Davis, University of Southern California; Costas Sioutas, University of Southern California; Todd Morgan, University of Southern California; Caleb Finch, University of Southern California**

**Objectives:** After attending this session, participants will have an enriched understanding of the neuroinflammatory effects of particulate matter exposure from air pollution.; After attending this session, participants will have a greater understanding of how responses to air pollution are modulated by both sex and age.

**Abstract Body:** Air pollution, ubiquitous in urban environments, is responsible for large-scale morbidity and mortality in older populations. However, air pollution's effects on physiology are still largely unknown. Particulate matter, a component of air pollution, is a primary factor in the detrimental health effects of air pollution. In this study, male and female C57BL/6NJ mice, ages 3 and 18 months, were exposed to rearsolized nanoscale particulate matter (nPM, diameter <200nm) three days a week, for ten weeks. Immunohistochemical analysis of the corpus callosum showed profound sex and age differences in the neuroinflammatory response, measured by the astrocytic marker, GFAP. Male corpus callosum GFAP levels increased 23% by nPM exposure in the 3 month group. The 18 month controls showed a 74% increase over young controls (ANOVA  $p < 0.039$ ). Interestingly, a plateau effect was observed with age, where nPM did not increase GFAP beyond the age-related increase. There was no change in 3 month treatment females, yet similar increases (70%) in the 18 month controls (ANOVA  $p < 0.0001$ ). Unlike the males, no age plateau effect was observed, with the female treatment group increasing 150% over controls. Western blot analysis of the cortex shows similar results, with 3 month, but not 18 month, males responding to nPM treatment, while the 3 month females remained insensitive to treatment. These pronounced differences in nPM responses based on age and sex, are of importance when considering efforts to minimize harm from air pollution in the population.

**332. Views of Primary Care Physicians and Home Care Nurses on the Causes for Readmissions in Older Adults, Allen Shih, Yale School of Medicine, Yale University; Kathy Tynan-McKiernan, Yale New Haven Hospital; Bianca Buurman, Section of Geriatric Medicine, Department of Internal Medicine, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands; Mary Tinetti, Gladys Phillips Crofoot Professor of Medicine (Geriatrics) and Professor of Epidemiology (Chronic Diseases), of Faculty of Arts and Sciences and of Investigative Medicine; Section Chief, Geriatrics; Grace Jeng, Associate Professor of Medicine, Section of Geriatrics, Yale School of Medicine**

**Objectives:** To elicit qualitatively the views of primary care physicians and home care nurses concerning reasons why older adults are readmitted.; Describe how the views of primary care physicians and home care nurses are similar and different.;

**Abstract Body:** Interventions to reduce readmissions have largely focused on enhancing discharge communication between the hospital and patients and outpatient providers - primarily primary care physicians (PCPs), and ensuring early postdischarge patient visits to PCPs. Much of the posthospital care is provided by home care nurses (HCNs), requiring interaction between the HCNs and PCPs. Despite their key role in posthospital care, little is known concerning the views of PCPs and HCNs on reasons for hospital readmissions. To study qualitatively the perspectives of PCPs and HCNs, we conducted open-ended phone interviews with 10 PCPs and 10 home care nurses who cared for patients aged 65 and older who were readmitted to the hospital within 30 days of discharge. We categorized patient-, provider-, or system-related responses on reasons for readmissions. While PCPs and nurses both mentioned disease progression and multimorbidity as contributors, nurses further described other psychosocial factors like home environment, patient motivations, and family situation as reasons for readmission. For provider-level factors, PCPs often deflected responsibility for the readmissions to specialists, hospitalists, and emergency physicians. Nurses expressed frustration about the lack of communication and

working relationships between them and PCPs. The poor relationship between HCNs and PCPS may play a bigger role in readmissions than currently appreciated. Additionally, medical providers other than PCPs may be responsible for ensuring appropriate postdischarge care and reducing avoidable readmissions. Study results suggest that current approaches of addressing readmission rates may not address all the core problems.

**333. Creating a Palliative Community: Connecting Science to Culture Change**, Casey Shillam, Western Washington University; Hope Corbin, Assistant Professor, Western Washington University; Devyani Chandran, Western Washington University; Bree Johnston, PeaceHealth Medical Center; Rebecca VanGlubt, Western Washington University; Rebecca VanGlubt, Western Washington University; Heather Prieto, Western Washington University; Melissa Haun, Western Washington University

**Objectives:** Describe the methodology employed to capture break-out discussions crafted to democratize the process of local health policy making by equalizing contributions and honoring all participants' perspectives equally.; Present the three key findings of the Summer Institute.; Provide best practices for engaging academic, healthcare, and community partners in establishing palliative care priorities for the community.

**Abstract Body:** Palliative care is specialized health care to improve quality of life for patients with serious illness and their families through prevention and relief of suffering by treating pain and other physical, psychosocial, and spiritual symptoms. The Palliative Care Initiative is an ongoing partnership with Western Washington University and community partners in educational and non-profit organizations in Northwest Washington to promote community palliative care. A 3-day Summer Institute was held to engage in a participatory process to capture participant voices about diverse needs, strengths and opportunities for improvement of palliative care in the community. Researchers employed qualitative data collection and analysis methodologies. Nearly 100 participants self-selected into 4 of 12 different breakout groups led by a session facilitator and recorded by a team of three faculty researchers and three student research assistants. Multivoting techniques were used to capture specific stakeholder interest in individual themes and to prioritize themes that captured larger group interests. This carefully crafted process intended to democratize local health policy making by and honoring all participants' perspectives. Real-time thematic analysis with member-checking revealed three key areas of focus: 1. Seeking financial support to ensure sustainability of the Palliative Care Initiative; 2. Establishing a workgroup to explore resources to support an outpatient palliative care service and resource center; 3. Creating a platform for programs to participate in the Palliative Care Initiative through research, teaching, service and practice. Findings from this study, as well as techniques employed, may provide useful insights for service providers, researchers and policy makers.

**334. Life-Space Mobility and Cognitive Decline Among Older Mexican Americans Aged 75 Years and Older**, Seraina Silberschmidt, University of Geneva; Soham Al Snih, Division of Rehabilitation Sciences / Sealy Center on Aging / University of Texas Medical Branch; Amit Kumar, Department of Preventive Medicine & Community Health / Division of Rehabilitation Sciences. University of Texas Medical Branch; Mukaila Raji, Department of Internal Medicine / Division of Geriatrics / Sealy Center on Aging. University of Texas Medical Branch.; Kyriakos Markides, Department of Preventive Medicine & Community Health / Sealy Center on Aging. University of Texas Medical Branch; Kenneth Ottenbacher, Department of Preventive Medicine & Community Health / Sealy Center on Aging. University of Texas Medical Branch

**Objectives:** Determine the trajectory of cognitive decline among older Mexican Americans.; Determine whether the relationship between life-space is modified or mediated by comorbid conditions.

**Abstract Body:** Objective: To examine the association between life-space mobility and cognitive decline among older Mexican Americans with normal or high cognition at baseline. Methods: We used data from the Hispanic Established Population for the Epidemiological Study of the Elderly to examine change in Mini Mental State Examination (MMSE) scores over the 5-year period as a function of life-space mobility. All participants (N=436) had MMSE scores  $\geq 21$  at baseline and complete data on socio-demographic, socio-economic, and environmental, medical conditions, depressive symptoms (CES-D), and activities of daily living (ADLs). Life-space assessment (LSA) was assessed by asking the participants: "during the past 4 weeks, have you been to other rooms in your home besides the room where you sleep (level 1); been to an area outside of your home (level 2); been to places in your neighborhood other than your own yard or apartment building (level 3); been to places outside your neighborhood but within your town (level 4); and been to places outside your town (level 5)." Results: The mean LSA score of participants was 43.1 (SD=14.0) and the mean MMSE score was 24.7 (SD=12.3). Mixed Model analyses showed that participants in the lowest life-space (level 1) experienced a greater cognitive decline over time (estimate = -1.32, standard error = 0.3,  $p=0.0001$ ) compared to participants in the highest level (4-5), after adjusting for all covariates. Conclusion: Lower life-space mobility was independently associated with steeper decline in cognition over 5 years among older Mexican Americans with normal or high cognition at baseline.

**335. LA Seniors Get "On the Move": A Pilot Evaluation of a Media-Based Intervention Aimed to Improve Physical Activity**, Kia Skrine Jeffers, UCLA School of Nursing; Scott Kaiser, Motion Picture & Television Fund; Ivy Lee, UCLA Division of Geriatrics; Phyllis Willis, Watts Labor Community Action Committee; Daniel Araiza, UCLA Division of Geriatrics; Laura Trejo, UCLA Division of Geriatrics; Catherine Sarkisian, UCLA Division of Geriatrics/VA Greater LA Healthcare System

**Objectives:** To describe the associations between exposures to a theoretically-grounded television series entitled "On the Move", and changes in physical activity among racial/ethnic minority seniors

**Abstract Body:** Background: Regular physical activity is an important determinant of future health, quality of life (QOL), and maintenance of functional independence for older adults. Less than 25% of US adults ages 65 and older participate in regular physical activity, with racial minority seniors having the lowest rates. Objective: We partnered with the City of Los Angeles Dept. of Aging to develop a theoretically-grounded television series, "On the Move" (OTM), which documented the increased physical activity experiences of a group of previously sedentary seniors. This pilot evaluation aimed to identify associations between exposures to OTM and changes in physical activity among our sample. Methods: 12 participants met at a Senior Center for 6 consecutive weekly sessions. The participants viewed and discussed 1 episode per week with an RN study staff member, and shared experiences that impacted their physical activities during the previous week. We used accelerometers to collect objective data about the participants' number of steps per week, and conducted a 1-month follow-up to collect data from the participants' accelerometers. Results: Between baseline and 6 weeks, participants increased their steps a mean of 1,577 steps/day (st. dev. 1,391.82). 10 participants had 3 or more days per week with 3000 steps/day. Conclusions: Further research is needed to determine the psychological mediators that may be attributed to these outcomes, and the long-term impact on health, QOL, and functional independence among seniors.

**336. Improving Oral Health of Long-Term Care Residents: A Virginia Dental Association Project Initiative, Lyubov Slashcheva, Virginia Commonwealth University School of Dentistry; Patricia Bonwell, Lucy Corr Village Dental Clinic; Frank Iuorno, Virginia Dental Association**

**Objectives:** Demonstrate a process for identifying Long-Term Care residents in need of oral healthcare services.; Design a model for provision of needed oral healthcare services to Long-Term Care residents.; Discuss the importance of access to preventative oral healthcare services for decreasing morbidity and financial burden for Long-Term Care residents.

**Abstract Body:** Older adults are retaining their natural dentition and oral needs have shifted from denture care to brushing, flossing, oral-health therapy, and restorations. Despite the high prevalence of oral disease, the percentage of Long Term Care (LTC) residents with unmet oral needs ranges from 80%-96%. Oral-health funding for this population is a barrier. Medicare and, in Virginia, Medicaid do not cover routine oral healthcare for adults. Research supports links between oral-health and cardiovascular disease, diabetes, mental health, arthritis, and pneumonia. These chronic conditions are prevalent in the LTC population. Such links support the need and importance of providing oral care to maintain overall health of LTC residents. To improve access to oral care needed by LTC residents, the Virginia Dental Association created a LTC Access to Care Task Force to address oral health disparities of LTC residents across the state. A mini pilot project was conducted in one LTC facility utilizing a model developed for the provision of oral-healthcare in LTC facilities statewide. Dentists, dental hygienists, assistants, and dental students provided exams, extractions, denture relines, debridements and referrals. In half a day, 52 LTC residents were provided over \$6,000.00 of oral-healthcare by 12 volunteer oral-health specialists. Residents in need of further oral-care treatment will be coordinated with VDA dentists. These findings support development and implementation of this pilot model to increase access to oral-health care and improve quality of life for LTC residents while decreasing oral-health related morbidity and financial burden.

**337. Fall Prevention: Medications, Comorbidities, and Exercise, Mandy Snyder, University of Utah College of Nursing; Ginette Pepper, University of Utah College of Nursing; Paul LaStayo, University of Utah Department of Physical Therapy; Lee Dibble, University of Utah Department of Physical Therapy; Robin Marcus, University of Utah Department of Physical Therapy**

**Objectives:** Distinguish the putative benefits of traditional and eccentric forms of resistance exercise for older adults.; Critique existing fall typologies.; Identify risk factors for serious injury falls in high risk older adults.

**Abstract Body:** Traditional resistance exercise has been shown to reduce falling in older adults, but requires effort that may limit adherence. Eccentric resistance exercise induces unprecedented muscle conditioning, and increases balance, mobility, and confidence, but it is unknown whether that translates to decreased falls. A central aim of this recently completed clinical trial was to determine of the contribution of fall risk, comorbidities, and medications on the incidence of fall events in older adults with positive fall history and multiple comorbidities in these two exercise groups. Secondary aim included evaluating existing typologies of falls. A sample of 134 older adults (mean 76.1years; 47 males, 87 females) participated in a 12 week multi-component exercise fall reduction program (MCEFRP) that included either traditional (TRAD) or eccentric (RENEW) resistance training programs. Data on medications, timed up-and-go, and Charlson index were determined at baseline and three follow-up assessments. Fall data were collected for one year using a modification of the monthly postcard method with follow-up phone calls to elicit detailed fall descriptions. Analysis involved multivariate logistic regression, content analysis, and data visualization. Fall events were common with 90 subjects experiencing one or more falls (N=63) and/or near falls (N=64), 39 injury falls, and 14 serious injury falls. TRAD and RENEW did not differ on prevalence of fall events. Baseline medications and fall risk scores were not associated with falling, but greater comorbidity index and medication changes increased risk of injury falls and serious injury falls. Potential modifications for existing fall typologies for older adults were identified.



**338. Linking Fall Events and EMS Utilization of Older Adults In A U.S.-Mexico Border Community, Guillermina Solis, The University of Texas at El Paso; Hector Olvera, The University of Texas at El Paso**

**Objectives:** Identify personal characteristics and fall events that may influence emergency service use for older adults

**Abstract Body:** Background. Falls rank 4th as the cause of death in older adults and common in injury-related hospitalizations causing physical and psychological disability. The devastation may be seen immediately requiring emergency medical service (EMS) initiating a downward spiral advent in the person challenging health services. Understanding EMS utilization related to falls will help design prevention program and prepare EMS to assist older adults. Purpose. Analyze characteristics of older adults who accessed EMS post fall and examine event. Methodology. 12 month retrospective study of persons 55 years and older who accessed EMS post fall. Results. Study included 1,116 older adults 55-102 years old (M 76.1,  $\pm 11.5$ ), majority were female and Hispanic. Over half of falls occurred indoors and in the afternoon between 12:00-17:59. Trauma Level III was the most frequent level of care. The most commonly reported injuries were head, hip, and lower extremities. Nonparametric analysis identified a statistically significant association between the person's age, gender, place of fall, and transport level of care. Gender was associated with place of fall, type of injury, income, and transport level of care. Significance. Advanced age, low income, and indoor falls were common pointing to a group of older adults with potentially worse health and function. The time of fall alerts the possibility of chronic illness effect increasing fall risk. Gender differences were identified and warrant further studies to decipher. The EMS personnel needs to service for frail elderly and collaborate with community partners to initiate timely interventions to lessen the devastation of falls.

**339. Examining the Role of Self-Care in Supporting Home Care Safety for Older Adults, Winnie Sun, University of Toronto**

**Objectives:** Understand the importance of therapeutic self-care ability as the protective factor against the occurrence of adverse events in home care for the older adults.; Identify the need for health practitioners to shape change in their practice, and advance quality of care by mitigating older clients' safety risks and improving their health safety at home.; Strengthen evidence informed decision making by health care leaders and policy makers about the appropriate allocation of home care resources in supporting older adults' self-care functioning and chronic disease management in their homes.

**Abstract Body:** The purpose of this research study is to investigate the relationship between therapeutic self-care and adverse outcomes, and the role of self-care in supporting home care safety for older adults. This research study is a retrospective cohort design to examine the relationship between therapeutic self-care ability, and the frequency and types of adverse events experienced by home care clients using secondary data sources housed at the Institute of Clinical and Evaluative Sciences in Ontario, Canada. Using logistic regression analysis, geriatric home care clients' therapeutic self-care ability was examined in relation to two types of adverse events: (1) health care resource utilization, including emergency room visits and unplanned hospitalizations; (2) safety outcomes, including falls; unintended weight loss; urinary tract infection; decline in activities of daily living; pressure ulcer; medication non-compliance; and caregiver distress. Results indicated that the likelihood of unplanned hospitalizations was found to be higher among individuals with low therapeutic self-care scores. In particular, decline in activities of daily living, falls; unintended weight loss; and non-compliance with medication were associated with low therapeutic self-care scores when comparing with high self-care group. The study results provided a better understanding of the nature of relationships between therapeutic self-care ability, and the prevalence and incidence of safety outcomes for the older home care clients. This study provides implications to home care practitioners about the need to focus on improving client self-care functioning, as well as providing evidence for policy formulation related to the importance of home care services in supporting chronic disease management.

**340. RISK FACTORS OF DELIRIUM IN ELDERLY PATIENTS WITH HIP FRACTURE, Sunee Suwanpasu, King Chulalongkorn Memorial Hospital; Susan Grinslade, University at Buffalo, School of Nursing.; Wu Yow-Wu B., bUniversity at Buffalo, School of Nursing; Porock Davina, University at Buffalo, School of Nursing**

**Objectives:** To quantify the reported factors associated to delirium for patients with hip fracture

**Abstract Body:** Introduction: Delirium is a leading cause of death and disability in elderly with hip fracture. Identifying reliable risk factors for delirium is critical to support optimal outcomes for prevention and reducing delirium. Objective: To quantify the reported factors associated to delirium for patients with hip fracture. Methods: Electronic databases were searched (including Medline, Pub Med, CINAHL, EMBASE, Evidence Based Medicine Reviews, Cochrane Review, Web of Science, and PsycINFO) to identify all studies, published in English language, from 1990-2012 that evaluated the risk factors of delirium hospitalized people with hip fracture. Two reviewers independently assessed methodology quality and extracted relevant data. The data from the included studies were summarized, and pooled estimates were calculated for 12 risk factors. Results: Thirty-seven studies were included in the review and 25 in the meta-analysis. The incidence of delirium was 32.4% (95% confidence interval [CI] = 25.9%–39.5%). Six predisposing and four precipitating factors predicted delirium among older patients with hip fracture confirmed. The predisposing factors included advanced age (ES=1.06, 95% CI=1.03–1.09), male sex (ES=1.34, 95% CI=1.08–1.68), impairment of cognitive (ES=2.91, 95% CI=1.91–4.42), and function (ES=1.75, 95% CI=1.39–2.2), comorbidity (ES=1.59, 95% CI=1.30–1.96), and health problems (ES=2.65, 95% CI=2.04–3.42). Precipitating factors were hypo- or hypernatremia (ES=1.73, 95% CI=1.14–2.64),

depression (ES=4.07, 95% CI=1.95–8.49), more than three prescribed drugs (ES=1.28, 95% CI=1.10–1.49), and drugs including opioids (ES=2.13, 95% CI=1.42– 3.18) and anticholinergic agents (ES=2.10, 95% CI=1.60–2.75). Conclusion: This meta-analysis result provides evidence that these risk factors have a significant impact on delirium in elders with hip fracture during hospitalization. Developing formal screening, effective preventive and management strategies for delirium is important.

**341. Gerontology Nursing Honors Program: An Innovative Teaching – Learning Model**, Ruth Tadesse, Oregon Health & Science University; Juliana Cartwright, Oregon Health & Science University

**Objectives:** After viewing this poster the audience will identify advantages and challenges for students participating in a gerontology nursing honors program

**Abstract Body:** Older adults access the healthcare system more than any other age group. Yet, undergraduate (UG) nursing programs provide limited education about the care of older adults. The Gerontology Nursing Honors Program (GNHP) provides mentored experiences for students to develop competence in caring for older adults while exploring in depth a gerontology topic of their choice. Participant selection is based on the applicant's interest in and prior experiences with older adults, academic standing, leadership background, and faculty recommendation. Admitted students start the statewide program during their junior year when they independently complete case-based, online modules about pathophysiology, pharmacology, acute care and chronic illness in older adults. During their senior year, students meet by web conferencing in a 1-credit seminar. Seminars are used to discuss research related to best care practices for older adults, gaps in existing gerontology research, and how current research can be translated to practice to improve the quality and safety of care for older adults. Students submit individual theses on topics of interest at the end of their third year. Their upper division clinical experiences also focus on older adults. Seven students from four campuses were enrolled through distance technology in the first cohort that included three RNBS students and four traditional UG students. Students provided positive feedback on the experience although some found the thesis process challenging. All graduated from the GNHP with honors in June, 2014, obtained employment in settings where older adults receive care, and expressed interest in graduate gerontology nursing education.

**342. Persistence of Pain using Pain Quality Descriptors in the Elder Population: The MOBILIZE Boston Study**, Manu Thakral, University of Massachusetts, Boston; Ling Shi, University of Massachusetts, Boston; Robert Shmerling, Beth Israel Deaconess Medical Center; Jonathan Bean, Spaulding Rehabilitation Hospital; Suzanne Leveille, University of Massachusetts Boston

**Objectives:** 1. Identify factors associated with persistence of pain quality endorsed by community-living older adults; 2. Discuss the correlation of persistence of pain quality to other global pain characteristics and disability to better understand the elder pain experience;

**Abstract Body:** Despite its complexity, clinical assessment of geriatric pain is often very limited. Pain quality descriptors remain an untapped resource in geriatric pain assessment. The purpose of this study was to evaluate pain quality descriptors longitudinally in a population-based cohort of community-living adults aged  $\geq 70$ y. Baseline assessments included sociodemographics, health/function measures, and the McGill Pain Questionnaire, reassessed after 18mos. Pain qualities were classified into 3 categories: cognitive/affective, sensory and neuropathic. The persistence of pain qualities was defined as reporting descriptors within the same category(s) at both assessments. Pain severity and interference were measured using the Brief Pain Inventory. Disability was assessed as poor mobility performance (SPPB score  $< 10$ ) and self-reported mobility difficulty (difficulty walking  $\frac{1}{4}$  mile or climbing stairs). Of participants with chronic pain (n=480 out of 681 with longitudinal data), 48.3% exhibited persistent pain qualities. Factors associated with persistent pain qualities included: female sex, lung disease, peripheral arterial disease, osteoarthritis, depression, daily analgesic use, and use of mobility aids. Pain severity was associated with persistence of pain qualities (69.0% of those with moderate to severe pain, 41.4% with mild pain and 30.1% with very mild pain). Similarly, self-reported mobility difficulty was associated with persistence of pain qualities (63.8% versus 36.2% among those with and without difficulty, respectively). Significant differences were also observed in persistence of pain qualities according to mobility performance (54.1% of those with poor performance and 45.9% of those without poor performance). Assessment of pain qualities may provide a potentially robust and clinically meaningful measure of pain, warranting further study.

**343. Regional Differences in Incident Pre frailty and Frailty**, Sarah Tom, Pharmaceutical Health Services Research Department University of Maryland School of Pharmacy; Allison Wyman, Center for Outcomes Research, University of Massachusetts Medical School; Nancy Woods, Biobehavioral Nursing and Health Systems, University of Washington School of Nursing; Andrea LaCroix, Department of Family and Preventive Medicine, University of California, San Diego School of Medicine

**Objectives:** Poster-viewers will understand individual social, demographic, and health-related characteristics that contribute to differences in incident prefrailty and frailty among women in North America, Europe, and Australia.; Poster-viewers will understand that differences in incident prefrailty and frailty among women in North America, Europe, and Australia may relate to the social and built environment.

**Abstract Body:** Background Frailty prevalence varies according to individual demographic, social, and health characteristics. The extent to which regional differences in frailty incidence reflect individual level characteristics versus environmental aspects has not been well-studied. Methods The Global Longitudinal Study of Osteoporosis in Women (GLOW) is an observational cohort study of women aged  $\geq 55$  years from Australia, Canada, Europe, and the United States. Participants reported on frailty risk factors, including age, education, Body Mass Index, history of falls and fracture, and chronic conditions such as cardiovascular disease, depression, and osteoporosis. A total of 22,470 participants were non-frail at baseline, provided information on relevant frailty risk factors used in analysis, and participated in at least 2 consecutive waves among baseline and follow-up years 2, 3, and 5. Frailty status was based on the Fried model. We used multivariable Cox proportional hazards models to examine the relationship between frailty and geographic region. Results Adjusting for social, demographic, and health-related characteristics, for age, chronic conditions, falls in the past year, and history of fracture, respondents from Europe had a decreased risk of developing pre-frailty (HR 0.81, 95% CI: 0.77 – 0.85) and frailty (HR 0.77, 95% CI: 0.70- 0.85), compared to respondents from the United States. Respondents from Australia/Canada had similar risks for these outcomes as respondents from the United States. Adjustment for education in available countries did not substantially alter results. Conclusions Differences in frailty onset between Europe and the United States persisted after considering individual social, demographic, and health-related characteristics. Environmental characteristics may play central roles in frailty prevention and management efforts.

**344. Dietary Compliance and Influencing Factors among Patients after Coronary Stent Implantation, Sumei Tong, Peking University Third Hospital/Cardiology Department; Hongjun Zhang, Peking University Third Hospital/Nursing Department; Meihua Hong, Peking University Third Hospital/Cardiology Department; Dongxiao Xu, Peking University Third Hospital**

**Objectives:** To understand the changing trend of dietary compliance in 9 months among CHD patients after they received the coronary stent implantation.; To describe the influencing factors of the dietary compliance among CHD patients after they received the coronary stent implantation.

**Abstract Body:** Purposes: Lack of adherence to diet contributes to ineffective dietary responsiveness and elevated cardiovascular risk factors in coronary heart disease (CHD) patients after coronary stent implantation. The purposes of this study were to describe the changing trend of dietary compliance in 9 months among CHD patients after they received the coronary stent implantation, and to analyze influencing factors of the dietary compliance. Methods: This was a longitudinal study. Telephone follow-up was conducted at 3, 6, and 9 months after CHD patients received the coronary stent implantation. Convenient sampling was used to recruit 108 participants with a mean age of 60 from a tertiary hospital in Beijing, China. Questionnaires were utilized to collect patients' demographic data, disease-related information, dietary compliance, and social support. Results: The rate of the dietary compliance at 3 time points were all under 70% (64%, 59%, and 56%). The mean score of dietary compliance significantly decreased over the 3 time points ( $F=17.15, p<.001$ ). Regression analysis showed the shared significant influencing factors of dietary compliance at 3 time points were age, the level of education, social support, and the number of implanted stents. Conclusion: The level of dietary compliance is relatively low among CHD patients after coronary stent implantation and reduced along the time, especially among younger patients with lower education, few numbers of implanted stents, and limited social support. More Efforts should be made to improve the dietary adherence, such as strengthening the dietary education, providing more social support, and following up regularly.

**345. Objective Frailty Assessment in Trauma Patients using a Novel Upper-extremity Approach, Nima Toosizadeh, IinterdisciplinaryConsortium on Advanced Motion Performance (iCAMP), Department of Surgery, University of Arizona, USA. 2Arizona Center on Aging, University of Arizona, USA.; Michelle Heusser, 3Department of Biomedical Engineering, University of Arizona, USA.; Bardiya Zangbar, 4Division of Trauma, Critical Care, Burns, and Acute Care Surgery, Department of Surgery, University of Arizona, USA.; Bellal Joseph, Division of Trauma, Critical Care, Burns, and Acute Care Surgery, Department of Surgery, University of Arizona, USA.; Jane Mohler, IinterdisciplinaryConsortium on Advanced Motion Performance (iCAMP), Department of Surgery, University of Arizona, USA. 2Arizona Center on Aging, University of Arizona, USA.; Bijan Najafi, IinterdisciplinaryConsortium on Advanced Motion Performance (iCAMP), Department of Surgery, University of Arizona, USA. 2Arizona Center on Aging, University of Arizona, USA.**

**Objectives:** Strong evidence and guidelines exist for the benefit of assessing frailty in elders who are admitted after trauma, to provide cost effective and optimal hospital resource allocation. However, available tools are subjective and often require gait speed assessment, or time-consuming administrative data. The objective of the current study was to predict frailty status in bedbound trauma patients using a simple, quick, and objective body-worn sensor approach that only involves upper-extremity motion.

**Abstract Body:** Background: Older individuals account for over 23% of all trauma-related admissions in the US. Although age is strongly associated with adverse surgical outcomes, the overall response of older individuals to poor outcomes is highly variable and can be affected by level of fitness. Assessing frailty, as a syndrome that identifies homeostenotic older adults with low physiological reserves, is crucial for optimal hospital resource allocation. Methods: Thirty eight bedbound hospitalized adults (age $\geq 65$  years) who experienced ground-level falls were recruited, and frailty was measured using the validated Rockwood index. Participants wore wireless sensors on forearm and upper-arm, and performed repetitive elbow

flexion and extension for 20 seconds. Frailty was characterized based on slowness (speed of flexion), weakness (muscle moments and power (speed × acceleration), exhaustion (speed reduction and variation), and flexibility (range of motion), which accounts for all but one Fried criteria (weight loss). Results: Based on Rockwood index, 20 (53%) were non-frail and 18 (47%) were frail (age=80±10 years; BMI=25.1±4.2 kg/m<sup>2</sup>). Results from ANOVA demonstrated significantly less speed of flexion (35%, P<0.01), muscle moment (45%, P=0.03), power (65%, P=0.03), and flexion number (29%, P=0.01) in frails. Using the parameters from upper-extremity motion in a regression model we were able to predict Rockwood frailty score (r=0.71) and frailty (100% sensitivity and specificity). Discussion: This innovative upper-extremity assessment method discriminates frail and non-frail individuals with high accuracy when compared to validated subjective approaches. This study serves as a proof of concept for an objective, simple, and quick method for identifying frailty in critically injured older non-ambulatory patients.

**346. Accelerometry-based recognition of time of day, frequency and duration of walking in older adults, Jacek Urbanek, Indiana University Richard M. Fairbanks School of Public Health; Vadim Zipunnikov, Johns Hopkins School of Public Health; Tamara Harris, National Institute of Aging; Nancy Glynn, University of Pittsburgh; Ciprian Crainiceanu, Johns Hopkins School of Public Health; Jaroslaw Harezlak, Johns Hopkins School of Public Health**

**Objectives:** Use of sub-second level accelerometry data to detect and quantify walking in elderly people; Use of walking quantification in prediction of health-related measures; Unbiased estimation of frequency and time of the day of walking in elderly people

**Abstract Body:** Accelerometers are widely used to measure minute level activity intensity in large epidemiologic observational studies of older adults. These devices enhance and complement self-report questionnaire measures of physical activity (PA) because they can capture short bouts and low level activities that are often difficult to recall. Among many types of PA, walking is extremely important because it is a common activity and it is associated with overall health and functional status. Thus, recognizing when and for how long a person walks during the day is essential. Although existing methods can identify walking in laboratory settings, recognizing it from accelerometry data acquired in the free-living environment remains a challenge. We propose an algorithm designed for automatic identification of walking and its characteristics based on the periodicity of walking. This method employs advanced spectral analysis using the sub-second level raw measurements to recognize walking periods and their properties (e.g., energy of produced acceleration and the number of steps/second). Using this method, we found that the total walking time and the number of walking bouts in a natural, free-living environment, collected over 7 days, is associated with age and sex in 51 older adults (median age: 79.1 years, IQR: 74.7-84.3; 25 Males/26 Females) from the Developmental Epidemiologic Cohort Study. We also present results which show that characterizing free-living walking and its properties provides better prediction of sex and age than the commonly used aggregated activity counts. In particular, more walking bouts and greater average daily walking time are associated with younger age.

**347. The Effect of Tailored Antibiotic Stewardship Programs on the Appropriateness of Antibiotic Prescribing in Long-term Care Facilities, Laura van Buul, EMGO Institute for Health and Care Research / Department of General Practice & Elderly Care Medicine, VU University Medical Center; Philip Sloane, Cecil G. Sheps Center for Health Services Research / Department of Family Medicine, School of Medicine, University of North Carolina at Chapel Hill; Sheryl Zimmerman, Cecil G. Sheps Center for Health Services Research / School of Social Work, University of North Carolina at Chapel Hill**

**Objectives:** Participants will understand how participatory action research (PAR) can be applied to the development of antibiotic stewardship programs in long-term care facilities.; Based on their own experiences and the study findings, participants will be able to discuss explanations for the absence of an intervention effect on the appropriateness of antibiotic prescribing.

**Abstract Body:** INTRODUCTION: The increase of antimicrobial resistance in long-term care facilities (LTCFs) highlights the importance of promoting appropriate antibiotic use. We evaluated the appropriateness of antibiotic prescribing following tailored interventions developed and implemented in a participatory action research (PAR) project. METHODS: A pre-post test controlled design involved 7 intervention and 7 control LTCFs. Baseline data regarding prescribing were provided to intervention LTCFs, and subsequently tailored interventions to improve prescribing were developed and implemented. A guideline-based treatment algorithm was used to evaluate appropriateness of decisions to initiate or withhold antibiotics. Effects of the interventions on appropriateness of treatment decisions were analyzed with a mixed logistic regression model. RESULTS: Appropriateness of 1,059 treatment decisions was assessed. Adjusting for pre-test differences in the proportion of appropriate decisions (intervention: 82%, control: 70%), post-test appropriateness did not differ between groups (crude: p=0.26; adjusted for covariates: p=0.35). There was no intervention effect on the amount of antibiotics prescribed, but there was a shift toward more guideline-recommended selection of antibiotic drug types. Conclusion: Tailored interventions developed with a PAR approach resulted in a trend toward more guideline-adherent selection of antibiotic drugs, but not in reduced prescribing or more appropriate decisions to prescribe/withhold antibiotics. A possible explanation for no effect is the little room for improvement a priori, given the high pre-test proportion of appropriate treatment decisions. Alternatively,

staff failed to incorporate interventions directed at perceived uncertainty and the influence of others, which complicate appropriate prescribing. It is advisable to address these factors in future antibiotic stewardship efforts.

**348. Community Based Rehabilitation Post Hospital Discharge Interventions For Older Adults With Cognitive Impairment Following A Hip Fracture: A Systematic Review**, Paula van Wyk, *Department of Kinesiology, University of Windsor*; Charlene H. Chu, *Lawrence S. Bloomberg Faculty of Nursing, University of Toronto*; Martine Puts, *Lawrence S. Bloomberg Faculty of Nursing, University of Toronto*; Jessica Babineau, *Toronto Rehab Institution*; Dina Brooks, *Faculty of Physical Therapy, University of Toronto*; Kate Paquin, *Faculty of Physical Therapy, University of Toronto*; Katherine McGilton, *2Toronto Rehabilitation Institute, Research, University Health Network*

**Objectives:** To determine the components of outpatient rehabilitation interventions for older adults with CI who have experienced a hip-fracture

**Abstract Body:** Background: Outpatient interventions maintaining the function and mobility of older adults with cognitive impairment (CI) after inpatient hip-fracture rehabilitation discharge are currently unknown. Objective: To determine the components of outpatient rehabilitation interventions for older adults with CI who have experienced a hip-fracture. Methods: The Cochrane Handbook for Systematic Reviews of Interventions and PRISMA guidelines were followed. Medline In-Process, Pubmed, PsycINFO, Embase, CINAHL, AMED, and 3 other databases were searched, resulting in 62 articles for full extraction. Two reviewers independently extracted and appraised articles. Results: After analysis, three RCTs with 563 participants were included. Significant improvements in activities of daily living and mobility were reported in two studies for those with CI. All three interventions began during inpatient hospitalization, followed by discharge planning, and physiotherapist visits at home. All three interventions varied in length and components (e.g. only one included nurse home visits). From the studies, no intervention was specifically designed for people with CI and none of the studies evaluated cost-effectiveness. Those with mild-CI were significantly more likely to stay at home in the first three months following discharge compared to those with moderate-CI, but these results were not sustained over time. Generally, participants with severe-CI had worse outcomes compared to those without CI or mild-CI. A meta-analysis was not conducted due to heterogeneity of measures and outcomes. Conclusion: Critical gaps were identified which will inform the development of a multifaceted outpatient rehabilitation program. Future rehabilitation interventions should be tailored to those with CI and include a cost analysis.

**349. Predictors of Disability Among Middle-Aged and Older African American Women with Osteoarthritis**, Janiece Walker, *The University of Texas at Austin, School of Nursing*; Tracie Harrison, *The University of Texas at Austin, School of Nursing*

**Objectives:** Name two significant predictors of function in middle aged and older African American women with osteoarthritis.; Name three significant predictors of disability in middle aged and older African American women with osteoarthritis.;

**Abstract Body:** Approximately one million African American women over the age of 55 live with osteoarthritis (OA), and it is well documented that these women experience high rates of functional limitations and disabilities. Little is known about factors that may influence these outcomes in African American women with OA. Hence, the purpose of this study was to examine if biological factor (BMI), intra-individual factors (pain and depressive symptoms), and/or extra-individual environmental factor (racial discrimination) influenced function and disability outcomes in African American women with OA. The sample included 120 African American women ages 50-80 (M=63, SD=8.57). Descriptive statistics, multiple regressions, and hierarchical regressions were completed. Results suggested that BMI ( $b = .01, t(115) = 2.18, p < .05$ ) and pain severity ( $b = .03, t(110) = 3.76, p < .01$ ) significantly predicted function. Pain severity ( $b = -3.25, t(115) = -2.00, p < .05$ ), depressive symptoms ( $b = -89.19, t(118) = -2.07, p < .05$ ), and racial discrimination ( $b = -119.31, t(118) = -2.02, p < .05$ ) significantly predicted disability. Further, depressive symptoms mediated the relationship between racial discrimination and disability (Sobel test  $p < .05$ ). Results indicate that multiple factors influence disability outcomes in African American women. Of specific interest to this cultural group is our finding that the disabling effect of racial discrimination may be influenced by the treatment of depressive symptoms, which could also impact the effects of pain. These findings hold promise for future interventions. Support provided by National Hartford Center for Gerontological Nursing Excellence Patricia Archbold Scholarship and NIH/NINR (1F131NR014399-01)

**350. Multimorbidity and Mortality in Two Prospective Cohorts of Older Adults: Simple Counts, Charlson, and a Novel Quality of Life-Weighted Index**, Melissa Wei, *Beth Israel Deaconess Medical Center/Harvard Medical School*; Kenneth Mukamal, *Beth Israel Deaconess Medical Center/Harvard Medical School*

**Objectives:** Determine the association of a novel multimorbidity index with 10-year mortality.; Compare different multimorbidity metrics and their associations with mortality.; Appreciate the diverse impact of individual chronic diseases and conditions on physical health-related quality of life.

**Abstract Body:** Background: We derived a multimorbidity index that weights 88 diseases by their impact on physical health-related quality of life (HRQOL) in the Nurses' Health Study (NHS), NHS II, and Health Professionals Follow-up Study (HPFS). Diseases varied several-fold in their impact on HRQOL. This study compares our index with other multimorbidity

metrics. **Methods:** We included NHS and HPFS participants who completed a questionnaire in 2000 on physician-diagnosed diseases and had complete follow-up through December 2010. The multimorbidity index, disease count, and Charlson index were examined continuously and categorically. Incident rate ratios for models with the best performance (lowest AIC) were estimated using Cox proportional-hazards and compared using Concordance statistics. **Results:** In 2000, 124,828 participants had mean age 66 (SD 7) years, multimorbidity index 4.4, disease count 3.2, and Charlson index 0.54. After follow-up, 22,389 (18%) deaths occurred. Participants with the highest quintile multimorbidity index had >6-fold greater hazard rate of mortality than those in the lowest quintile (HR 6.47, 95%CI: 6.42-6.52, C-statistic 0.72-0.75,  $p<0.0001$ ). The HR was 5.49 (95%CI: 5.42-5.56,  $p<0.0001$ ) for disease count and 2.99 (95%CI: 2.96-3.02,  $p<0.0001$ ) for Charlson for the highest versus lowest quintiles. The multimorbidity index was only moderately correlated with Charlson (Pearson  $r=0.57$ ) and strongly but not perfectly correlated with disease count ( $r=0.88$ ). **Conclusion:** A HRQOL-weighted multimorbidity index was significantly associated with mortality and provided the best-fitting model compared with disease count and Charlson. Our index was sensitive to the accumulation and severity of diseases and increased mortality, which provides opportunities to intervene in multimorbidity progression.

**351. Patient Outcomes Related to Education on Depression in Nursing Homes: The Practice Improvement in Education (PIE) Project.**, *Aida Wen, The Pacific Islands Geriatric Education Center, the John A. Hartford Foundation Center of Excellence in Geriatrics, Department of Geriatric Medicine, University of Hawaii John A. Burns School of Medicine; Christina Bell, The Pacific Islands Geriatric Education Center, the John A. Hartford Foundation Center of Excellence in Geriatrics, Department of Geriatric Medicine, University of Hawaii John A. Burns School of Medicine; Sung Jang, The University of Hawaii Geriatric Medicine Fellowship Program, Department of Geriatric Medicine, University of Hawaii John A. Burns School of Medicine; Sebrina Parkins, Kuakini Health System; Chris Stevens, PharMerica; Jan Shishido, PharMerica; Kamal Masaki, The Pacific Islands Geriatric Education Center, the John A. Hartford Foundation Center of Excellence in Geriatrics, Department of Geriatric Medicine, University of Hawaii John A. Burns School of Medicine*

**Objectives:** To examine the outcomes of interventions to improve depressive symptoms and behavior management of nursing home residents (through a behavior log and behavioral activation pilot quality improvement project) by comparing PHQ9 scores from before our QI pilot; 2.To examine the outcomes of interventions to improve depressive symptoms and behavior management of nursing home residents (through a behavior log and behavioral activation pilot quality improvement project) by comparing use of antipsychotic medications;

**Abstract Body:** Background: Depression is an important factor related to agitation and other behaviors in nursing home residents. As the next step in our Geriatric Education Center (GEC) Practice Improvement in Education (PIE) project on depression in nursing homes, we focused on non-pharmacologic behavioral management and psychoactive medication reduction. **Methods:** This quality improvement (QI) pilot included training on effective interdisciplinary management approaches for depressive symptoms and challenging behaviors, and implementing an adapted ABC (antecedents, behaviors, consequences) log and behavioral activation. We targeted two nursing home floors and included data on residents present both before and after the QI, in June 2013 and July 2014. We examined changes in depressive symptom scores (Patient Health Questionnaire, or PHQ9, scale 0-15, higher=worse) and antipsychotic/antidepressant medication use with paired T-tests and Fisher's exact tests. **Results:** Of the 66 nursing home residents in this QI pilot, 70% were female, 60.6% were >89 years old (range=48-108, mean=88.8), 83% were Asian and 51% had severe cognitive impairment. Mean PHQ9 scores decreased significantly from 3.74 to 2.38 ( $p=0.017$ ). Of the 13/66 (19.7%) residents on antipsychotic medications, 10/13 (76.9%) had dose reductions and 4/13 (30.8%) had medications completely discontinued ( $p<0.0001$  for change pre/post). Of the 34 (51.5%) residents on antidepressant medication, 15/34 (42.9%) had dose reductions and 3/34 (8.8%) had medications completely discontinued ( $p<0.0001$  for change pre/post). **Conclusion:** Mean depression scores and antipsychotic and antidepressant medication use decreased significantly in this GEC PIE QI project to manage depression and behaviors non-pharmacologically in nursing home residents.

**352. Cardiovascular Disease and Coping Behaviors among Centenarians**, *Feng Zhao, Iowa State University; Peter Martin, Iowa State University; Leonard Poon, University of Georgia*

**Objectives:** The purpose of this study was to examine the association of ten specific coping behaviors with cardiovascular disease among centenarians with the method of multinomial logistic regression

**Abstract Body:** The purpose of this study was to examine the association of ten specific coping behaviors with cardiovascular disease among centenarians with the method of multinomial logistic regression. Centenarians ( $n = 239$ ) from the Georgia Centenarian Study (GCS) were categorized into three groups (i.e., survivors, delayers, and escapers) based on the diagnosis of congestive heart failure, myocardial infarction, and hypertension. Survivors (24.2%) were those with at least one diagnosis of the three diseases before they turned into 80 years old, delayers (44.0%) those with at least one diagnosis of the three diseases in the age between 80-98 years old, and escapers (31.9%) those without any diagnosis of the three diseases at the age of 98 or older. The overall accuracy of the model's classification was 57.1%, with 50.0% survivors, 65.0% of delayers, and 48.3% of escapers correctly predicted. In addition, compared to escapers, the odds of using "Don't worry about it" coping was decreased by 66.5% and 69.5% for survivors and delayers respectively. Besides, the odds of using "Going

over the situation” coping was 3.8 times as great for survivors as for escapers. The results indicated that specific coping behaviors could be important in differentiating centenarians with different disease trajectories.

**353. Changes of Health Status and Institutionalization among Older Adults in China**, Rong Peng, *National Economics Research Center and School of Economics, Guangdong University of Finance and Economics*; Bei Wu, *Duke University*

**Objectives:** To examine the admission rate of institutionalization. To examine the impact of changes of health status on the admission among Chinese community-dwelling older adults.

**Abstract Body:** Based on the 2002, 2005, 2008 and 2011 Chinese Longitudinal Healthy Longevity Survey data, weighted admission rate was calculated. Multiple logistic regression model was used to examine health status changes as associated risk factor of institutionalization. The results show that the rate of institutionalization increased from 0.5% at the first interval (2002-2005) to 0.8% at the third interval (2008-2011). Compared to their counterparts, the risk of institutionalization increased 70% for elders who had declined Activities of Daily Living, 53% for those with decline of cognitive function and 44% for those with increased number of chronic diseases. Decline of health status were main predictors of institutionalization. Developing policies and programs that help improve older adults’ health status and family support system is essential to respond to the increased institutionalization.

**354. Assessing Complete Streets Projects: An Exploratory Study on the Impact of Public Rights-of-Way Policy and Design on Aging and Disability Issues**, Molly Ranahan, *SUNY University at Buffalo*

**Objectives:** Describe the benefits of municipal Complete Streets initiatives in promoting physical activity, functional independence, and social participation for older adults, particularly those with disabilities.; Identify the extent to which municipalities with Complete Streets policies have addressed the needs of older adults and people with disabilities in project implementation.; Discuss the implications of prioritizing aging and disability issues related to Complete Streets in policy, design and health education, professional practice, and future research.

**Abstract Body:** Older adults, and particularly those with disabilities, are vulnerable to poorly designed environments. Municipalities can uniquely promote regular walking, preserve functional independence, and enhance community participation for this targeted population through their planning and design processes. The Complete Streets (CS) movement affords a logical opportunity for communities to achieve societal inclusion goals for aging populations that also promote improved health due to increases in walking and bicycling, and improved access to daily services. The number of municipalities with CS policies has rapidly increased over due to growing public interest and municipal goals related to active living and walkability. The Center for Inclusive Design and Environmental Access (IDeA) recently completed research on Complete Streets initiatives in the United States. One goal of this research was to explore the extent to which CS projects addressed the needs of older adults and people with disabilities. Semi-structured phone interviews were conducted with officials from 13 municipalities to discuss their experiences implementing Complete Streets projects, and a web-based national survey was then launched to interface with staff in geographically dispersed municipalities that were implementing Complete Streets. Data analysis from interviews and surveys indicated that municipalities gave cursory consideration of older adults and people with disabilities during CS implementation. As municipalities continue to invest limited funds on CS, and the population continues to age with disabilities, these findings suggest the need for increased focus on aging and disability issues related to Complete Streets in policy, design and health education, professional practice, and future research.

**355. PALETTE: Changing Students’ Attitudes Toward Older Adults**, Sadie Rubin, *PALETTE*; Tracey Gendron, *School of Allied Health Professionals, Virginia Commonwealth University*; Cortney Wren, *School of Pharmacy, Virginia Commonwealth University*; Kelechi Ogbonna, *School of Pharmacy, Virginia Commonwealth University*; Ernest Gonzales, *School of Social Work, Boston University*; Emily Peron, *School of Social Work, Boston University*

**Objectives:** Participants will understand the impact of students’ participation in an intergenerational art program on their attitudes toward older adults.; Participants will understand the impact of students’ participation in an intergenerational art program on their knowledge of aging processes.; Participants will understand program evaluation results and how they were translated into best practice.

**Abstract Body:** The PALETTE program partnered interdisciplinary undergraduate and graduate students with active older adults to engage in creative activities. 22 interdisciplinary undergraduate and graduate students were partnered with 21 active older adults to participate in PALETTE for a 14-week pilot program. Research data was gathered from the student participants through the use of pre- and post-test questionnaires, and qualitative data was collected through a reflection assignment and group discussion at the end of the program. After participating in PALETTE, students demonstrated a significant positive change in their knowledge and attitudes towards older adults. Having positively changed students’ knowledge and attitudes towards older adults, PALETTE could enhance students’ ability to work with older adults in any career path; further, improving students’ capacity to see beyond stereotypes could lead to enhanced individualized care for older adults. PALETTE is an innovative and replicable model that can be implemented by partnerships between higher education programs and community organizations.

**357. Resource and Future Care Planning for Chinese Baby Boomers**, YAJUN SONG, *Department of Social Work & Social Administration, The University of Hong Kong*; Elsie Chau Wai YAN, *Department of Social Work & Social Administration, The University of Hong Kong*

**Objectives:** Grounded on Aspinwall's and Greenglass' proactive coping theories, this study investigated resource's functions as both a precondition and a planning behavior in the process of future care planning

**Abstract Body:** Objectives. Grounded on Aspinwall's and Greenglass' proactive coping theories, this study investigated resource's functions as both a precondition and a planning behavior in the process of future care planning. Methods. Path analysis was conducted on a sample of 516 Chinese baby boomers aged from 45 to 65 with equal gender ratio to examine the associations between goal-specific future care planning (Awareness Initiation, Information Gathering, and Preliminary Decision), available resource, and resource management in domains of finance, social support and health. Results. The results yielded good model fit ( $\chi^2(14) = 13.541, p = 0.484$ ; RMSEA = 0; CFI = 1.000; TLI = 1.004; and SRMR = 0.014). Except for Preliminary Decision, goal-specific future care planning was positively associated with finance and social support management. Among the three available resources, health emerged as the only significant factor for Awareness Initiation. Model fit improved when resource was treated as a precondition rather than a planning behavior. Discussion. The study integrated the two streams of proactive coping theories by confirming the necessity of differentiating resource management from available resource, and verifying resource's role of precondition in future care planning. We propose measuring both goal-specific behaviors and resource management to cover more planners especially among younger elders in developing countries, where planning duration is long and social service is limited. Practitioners may target females with lower SES for resource management skill development. Future studies may inspect how spouse, sibling, children and friends contribute in future care planning process.

**358. Quality of Work Life: Research Shows Significant Characteristics Influencing Older Workers**, Diane Spokus, *The Pennsylvania State University*; Edgar Yoder, *The Pennsylvania State University*

**Objectives:** Identify characteristics that affect the Quality of Work Life.; Discuss the changing nature of the workplace because of advanced technology.

**Abstract Body:** The study examined from a human resource perspective factors associated with quality of work life of older (55 years or older) health care workers (n = 153) in relatively small, rural health care organizations. The conceptual model developed by Korunka, Hoonakker, Pascale and Carayon (2005) provided the framework for the study. The framework identifies demographic factors, job characteristic factors and organizational factors that may influence quality of work life. Hierarchical linear regression was used to examine the respective influence of three blocks of variables on participants' quality of work life scores. The fully saturated regression model explained 48.2 % of the variance in quality of work life scores ( $R^2 = .48$ ; Adjusted  $R^2 = .44$ ;  $F = 10.75, p < .01$ ). The first block of demographic variables ( $R^2$  change = .03) included age and gender with gender being statistically significant ( $\beta = .14, p = .05$ ). The second block of job characteristic variables ( $R^2$  change = .30) included job demand, challenge of my job, role ambiguity and job rewards. Of the four job characteristic variables job demands ( $\beta = -.15, p = .03$ ) was statistically significant in the final fully saturated model. The third block of organizational characteristic variables ( $R^2$  change = .15) included satisfaction with career advancement opportunities, satisfaction with training opportunities and corporate fit. Corporate fit ( $\beta = .36, p < .01$ ) and satisfaction with career advancement opportunities ( $\beta = .19, p = .03$ ) were statistically significant.

**359. Health Care and Community-Based Organizations Integrated Care Partnerships For The Aging Population Since Health Reform**, Albert Terrillion, *National Council on Aging*; Xiao Wang, *National Council on Aging*; Xiao Wang, *National Council on Aging*

**Objectives:** To study the trend of aging adults' self-rated health status and Health Reform-related experience from 2012 to 2014---including the synchronization of payment, the access to health care provider, and the access to community-based organizations.; To examine how aging adults' health status is associated with their Health Reform-related experiences from 2012 to 2014.

**Abstract Body:** The Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act (Health Reform) provides new opportunities to benefit aging adults through expanding access to care and offering a more integrated health care system. However, timely information about the Health Reform's impact on aging adults (aged 60 and over) is hard to obtain. From 2012 to 2014, the United States of Aging Survey has been conducted annually and nationally to study aging adults' health and wellness, experiences within the community, and other health and wellness-related experiences. This study aims to examine how aging adults' health status is associated with their Health Reform-related experiences from 2012 to 2014. These Health Reform-related experiences include the experience of public health coverage, enrollment in private insurance, and health-related experience from health care system and community-based organizations. This study found increasing percentage of good or improved health report from 2012 to 2014 among adults aged 65 and over, but not for those in the 60-64 year old age bracket. In logistic regression models, we found that Health Reform-related experiences of health improvement have had positive influences on good health outcomes in all older adults since 2012. The significant models suggest the success of ongoing efforts to integrate conventional health care with community-based organization efforts to improve health. Limitations of the study were discussed.



**360. Japan's Long Term Care Insurance (LTCI) Reform Related to Lowest Eligibility Level: Examining the Evidence upon which the Reform is Based Before its Implementation, Yasuko Torimoto-Sasai, the Dia Foundation for Research on Aging Societies; Tomoaki Ishibashi, the Dia Foundation for Research on Aging Societies**

**Objectives:** To examine whether the new reform of long term care insurance to be implemented in 2015 is evidence-based policy.; To explore the challenges to the implementation of the new policy of long term care insurance in 2015.;

**Abstract Body:** Background Japan's reform of the long term care insurance (LTCI) for groups with the lowest level of care needs will be implemented in 2015. Since care recipients using home help services (HHS) and day care services (DCS) need only low levels of care in contrast to other services users, the providers of both types of services are to be shifted from "licensed staff" to "unqualified staff," under this reform. Objectives This research tests the LTCI reform's evidence that the users of HHS and DCS need only light care. Methods The study used a database of 229 people aged 65 years and over, who lived in a suburban city, who applied for LTCI from April 2013 to March 2014, and who were then certified as being eligible for the lowest level of LTCI care. It examined the difference of characteristics about care needs measured by loss of activities of daily living (ADL) among HHS, DCS, and other services users. Results More people using HHS and DCS have no loss of ADLs. However, examined in detail, some users of HHS and DCS have middle-, and late-loss ADLs requiring high level of care. Conclusion The care recipients using HHS and DCS include people with middle- and late-loss ADL. The reformed system will be required to address manage the care of those recipients with "unqualified staff." The challenge to the reform of LTCI, therefore, is remaining that these recipients are left to unqualified staff, without any criteria for their ability to provide appropriate care.

**361. Mental Health Services for Older Adults in Oregon: Gaps and Solutions, Serena Worthington, Portland State University; Diana White, Portland State University**

**Objectives:** Participants will learn about the gaps in services for older adults with complex mental health needs.; Participants will be able to describe the role of Older Adult Mental Health Specialists in addressing gaps in services and building new systems to support older adults with complex mental health needs.;

**Abstract Body:** The State of Oregon and key stakeholders are creating systems to improve mental health services for older adults. Solutions are emerging from a needs assessment conducted with 35 key informants who responded to questions regarding gaps in services and how to address those gaps. Informants represented aging services, mental health, advocacy, and other sectors (e.g., long-term care, quality improvement, health care). They included those with a state level focus as well as representatives of local communities (including rural areas). Four themes emerged: fragmented systems, lack of priority for older adults in the mental health system, knowledge gaps about best practices in mental health with older adults, and limited resources. Lack of coordination at state and local levels was the most common gap mentioned. The organizations that could address the mental health needs of older adults work in silos with different funding priorities, eligibility requirements, and knowledge bases. Agencies are reluctant to take the lead in assessing, coordinating, and funding services for individuals with multiple diagnoses; therefore, these individuals typically do not receive adequate or appropriate services. A plan is emerging to address these gaps. Representatives from aging services, mental health, health care, long-term care, law enforcement and other emergency responders will work collaboratively. Efforts will be facilitated by a cadre of Older Adult Mental Health Specialists (OAMHS) based in local communities. Their role is to coordinate services, bridge service sectors, and facilitate training. This poster will describe the development and implementation of this role.

**362. Childhood Adversities, Urbanization, and Depressive Symptoms among Middle-aged and Older Adults: Evidence from a National Survey in China, Fan Yang, The University of Hong Kong; Vivian W. Q. Lou, The University of Hong Kong**

**Objectives:** To have a better understanding of how China's urbanization process and policy connect people's earlier life and lead to their psychological state in middle and old-age life.; To explore more possibilities of cross-sectional data in life-course research

**Abstract Body:** Abstract: The trajectory of modern China, i.e. from dire poverty and communist fever to economic boom and marketization under an authoritarian regime, makes the country a unique social laboratory for examining how social environment affects human development of individuals. This study investigated the correlation between childhood adversities and depressive symptoms of Chinese middle-aged and older adults, as well as how China's urbanization moderates the correlation. A subsample (N = 14,681) of the baseline of China Health and Retirement Longitudinal Study (CHARLS) was analyzed. Seven variables were used in the latent class analysis to establish a childhood adversity typology. Three urbanization statuses were identified according to Hukou (household registration system) status and neighborhood type: non-urbanized, semi-urbanized, and fully-urbanized. Factorial analysis of covariance assessed how childhood adversity types were correlated with depressive symptoms and the moderating effect of urbanization on the correlation. Three latent classes for childhood adversities were identified: "normal childhood class", "low childhood socioeconomic status and health class", and "traumatic childhood class". The three classes differed significantly in depressive symptoms ( $p < .001$ ), and the urbanization status had significant moderating effect on the correlation ( $p = .001$ ). Policy initiatives on

enhancing children's health and education and shaping a socially and institutionally inclusive urbanization in China are suggested for improving psychological wellbeing in middle-aged and older stage of life.

**363. Impacts of Individual Demographic Characteristics and Their Cognition of Nursing Profession on the Rural Residents Willingness to be Nursing Assistants- An empirical examination of Sichuan province, Yanan Zhu, Zhejiang University; Hong Mi, Zhejiang University**

**Objectives:** The study is to examine the impacts of individual demographic characteristics and cognition of nursing profession on their willingness to be nursing assistants

**Abstract Body:** Background: The acceleration of aging, expansion of family size and a great number of nuclear families led by birth control policy in China calls for huge demand for formal caregivers, especially nursing assistants, to provide daily care for the first generation of singleton's parents. Objective: The study is to examine the impacts of individual demographic characteristics and cognition of nursing profession on their willingness to be nursing assistants. Method : using 2014 Social Pension Situation Investigation data, the study was conducted by the Population and Development Research Institute of Zhejiang University in Renshou and Zizhong of Sichuan province with the method of order logistic analysis. Results: 1, People under the age of 35 are prefer to be nursing assistants than those between 45 to 55ys ; people with high school or above education and with few sibling are less likely to be nursing assistants; Men rather than women prefer be nursing assistants .2 Whether to be nursing assistants is significantly decided by people's understanding of nursing occupation and the cognition of its social status, wage level and workload, of which the cognition of nurse' social status is the most significant factor. Conclusion and policy Suggestions: 1, The demand for nursing assistants is increasing.2, Improvement in nursing assistants social status is vital to the enhancement of people's willingness to be nursing assistants.3, Establishment of reasonable nursing career plan and professional qualification system is of paramount significance.

**364. Episodic Memory and Alzheimer's Disease in Late-Life Depression: Does Age of Depression Onset Matter?, Nicole Rushing, Coastal Carolina University; Natalie Sachs-Ericsson, Florida State University; Jerad Moxley, Florida State University; David Steffens, University of Connecticut Health Center**

**Objectives:** Define late-life depression, episodic memory, and Alzheimer's disease.; Describe leading theories explaining the relationship between depression and cognitive functioning.; Understand changes in cognitive functioning that occur differentially in older adults with early-onset depression versus late-onset depression.

**Abstract Body:** Late life depression is associated with subsequent cognitive impairment in older adults, but the mechanisms underlying the relationship are poorly understood and may vary with age of depression onset. The "glucocorticoid cascade hypothesis" posits depression over the lifespan damages the hippocampus, increasing risk for cognitive problems and Alzheimer's disease (AD). On the other hand, the "prodrome hypothesis" suggests underlying neurological insults give rise to both late-life, prodromal depressive symptoms and cognitive deficits. Thus, examining history of depressive illness among older adults is an important undertaking in determining risk for episodic memory impairment and conversion to AD. We followed clinically depressed patients age 60 and older with early-onset depression (EOD; <age 60) and late-onset depression (LOD; age 60+) for three or more years and measured episodic memory function, a domain affected in early AD. Using second-order latent-growth curve modeling, we found that, compared to those with EOD, those with LOD had poorer episodic memory function. Follow-up logistic regression analysis revealed greater rates of AD among the LOD group. Results are consistent with the prodrome hypothesis and suggest at least some subtypes of depression occurring for the first time in late life are associated with episodic memory impairment and increased risk for AD.

**365. Estimation and Validation of the Auditory Short-Term Memory Store in both Older Adults and Younger Adults, Dustin Souders, Florida State University; Kristina Schiao, Florida State University; Ryan Best, Florida State University; Neil Charness, Florida State University**

**Objectives:** Experimentally estimate the short-term auditory memory store for older and younger adults; Validate these estimated parameters using an adaptive staircase procedure; These Validated parameters can be used to fill in missing parameter values in the Older GOMS model

**Abstract Body:** Objective: Values for the auditory short-term memory half-life parameter of the Goals, Operators, Methods, Selection rules (GOMS) model was experimentally estimated for older adults (OAs) and validated. Background: GOMS modeling is a first approximation tool for designing hardware and software interfaces for routine performance. Originally, OA performance was estimated by using parameter values that predicted the worst performance. Jastrzemski & Charness (2007) updated this model by using a form of meta-analysis to provide an estimate of model parameters based on cognitive aging literature that takes age-related cognitive and perceptual changes into account. Method: For Study 1, we experimentally estimated auditory short-term memory duration for young adults (YAs) and OAs. For Study 2, we validated the results of Study 1 using an adaptive staircase procedure in an auditory phoneme recognition task that used a non-native language (Taiwanese Hokkein, Zhangzhou dialect). Results: Based on our experiment in Study 1, we estimated the auditory short-term store to be ~2 seconds in OAs and above 4 seconds for YAs using the same method. In Study 2, we validated the experimental result of Study 1, and found it to be 2.6 seconds for OAs and 3.5 seconds for YAs. Conclusion: Inclusion of this validated parameter supplements previous work done by Jastrzemski & Charness (2007). Application: This parameter

permits the OA GOMS model to be applied to a broader range of tasks where retention of auditory stimuli influences performance and can guide design that accommodates older users.

**366. Objective Assessment Of Dynamic Balance Control Under Single And Dual-task Conditions In People With Mild Cognitive Impairment,** Gurtej Singh Grewal, Department of Surgery, University of Arizona; Xi Zong, Arizona State University, Phoenix; Michael Schwenk, Department of Surgery, University of Arizona; Marwan Sabbagh, Banner Health; David Coon, Arizona State University; Jane Mohler, Arizona State University; Bijan Najafi, Department of Surgery, University of Arizona

**Objectives:** To develop a dynamic balance test specifically developed for estimating dual task cost (time to complete single-task minus time to complete dual-task) in cognitively impaired

**Abstract Body:** Background: Controversial results have been reported for MCI related balance deficits using conventional static balance tests. Dynamic balance assessment may be more sensitive for identification of subtle MCI-related balance deficits, particularly when simultaneously performing a secondary task. This studies aim was to evaluate a novel dynamic balance testing integrating dual-task paradigm and wearable technology in people with confirmed MCI. Methods: Eight memory clinic MCI patients (80±6.4years) and 6 healthy control subjects were recruited. Subjects performed a dynamic balance test using wearable sensors combined with a virtual interface displaying cognitive tasks. Sensors were attached to lower extremities for real-time motion feedback on a screen. Two tasks were presented to participants during balance test; single-task: simple trail-making-task with predefined path; dual-task: complex trail-making-task with random path. The trail-making-task was accomplished through dynamic weight shifting and postural coordination during standing. Dual-task costs were calculated as difference in time to complete single-task and dual-task. Results: Dual-task cost were higher (34.3%) in MCI subjects compared to control (9.3%), although level of significance was not reached ( $p=0.07$ ) in our small sample. The time to initiate the motor-cognitive task and reach to first number was also longer in MCI (25%) compared to healthy (13.1%). Conclusion: The results of this study may suggest that a sensor-based dynamic balance test incorporating a cognitive task can detect motor-cognitive deficits related to MCI. However, the test needs to be verified in a larger sample and use dual-tasks with different levels of severity, in order to quantify MCI-related motor-cognitive deficits.

**367. Differences in Falls Among Older Asian Americans and Non-Hispanic Whites,** Benjamin Han, New York University School of Medicine, Division of Geriatric Medicine and Palliative Care; Rosie Ferris, New York University School of Medicine, Division of Geriatric Medicine and Palliative Care; Simona Kwon, Center for the Study of Asian American Health, New York University School of Medicine; Chau Trinh-Shevrin, Center for the Study of Asian American Health, New York University School of Medicine; Caroline Blaum, New York University School of Medicine, Division of Geriatric Medicine and Palliative Care

**Objectives:** To examine ethnic differences in falls and fall correlates in older Asian Americans and Non-Hispanic Whites.; To understand the role of acculturation on fall risk.

**Abstract Body:** Unintentional falls are a common event for older adults and a significant cause of morbidity and mortality associated with a decline in functional status. Studies suggest that Asians may have a decreased fall rate compared to other racial groups; however, there is little understanding what may influence these differences and no studies specifically examining Asian American populations. Acculturation may play a role in particular health behaviors that may impact falls. Using data from the 2011-2012 California Health Interview Survey (CHIS) we analyzed falls and fall risks between non-Hispanic Whites ( $n=10,527$ ) and Asian Americans ( $n=1,199$ ) over the age of 65. Characteristics were compared between the two groups and bivariate analyses were performed using known and potential risk factors for falls. English language proficiency was used as an index of acculturation. Multivariable logistic regression was used to examine interactions in predicting falls by race. Analyses were adjusted for sociodemographic characteristics, body mass index, chronic diseases, and functional limitations and stratified by age and English language proficiency. Older Asian Americans were less likely to have >1 falls compared to non-Hispanic whites. However, this was significant only for limited English-proficient Asian Americans aged 65-74 with an adjusted odds ratio of 0.37 (0.15-0.96). The results highlight that less acculturation may decrease fall risk among Asian Americans, but only to a certain age when other factors such as chronic conditions and functional limitations play a greater role. More research is needed to explore fall risks, specifically the role of acculturation, among older Asian Americans.