

# Innovative interprofessional geriatric education for medical and nursing students: focus on transitions in care

S.A. BALOGUN<sup>1</sup>, K. ROSE<sup>2</sup>, S. THOMAS<sup>3</sup>, J. OWEN<sup>4</sup> and V. BRASHERS<sup>5</sup>

From the <sup>1</sup>Division of General Medicine, Geriatrics/Palliative Care, University of Virginia Health System, P.O. Box 800901, <sup>2</sup>School of Nursing, University of Virginia Health System, P.O. Box 800782, <sup>3</sup>University of Virginia, McLeod Hall 2013A, <sup>4</sup>School of Nursing, University of Virginia, P.O. Box 800711 and <sup>5</sup>School of Nursing, University of Virginia, P.O. Box 800826, Charlottesville, VA 22908, USA

Address correspondence to Dr S.A. Balogun, Division of General Medicine, Geriatrics/Palliative Care, University of Virginia Health System, P.O. Box 800901, Charlottesville, VA 22908, USA. email: sab2s@virginia.edu

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## Summary

**Background:** Interprofessional education (IPE) is crucial in fostering effective collaboration and optimal team-based patient care, all of which improve patient care and outcomes. Appropriate interprofessional communication is especially important in geriatrics where patients are vulnerable to adverse effects across the care continuum. Transitions in geriatric care are complex, involving several disciplines and requiring careful coordination. As part of the University of Virginia's initiative on IPE, we developed and implemented an interprofessional geriatric education workshop for nursing and medical students with a focus on transitions in care.

**Methods:** A total of 254 students (144 medical students, 107 nursing students and 3 unknown) participated in a 90-min interactive, case-based workshop. Nursing and medical faculty facilitated the monthly workshops with small groups of medical and nursing students over 1 year. Self-perceived competencies in IPE skills and attitudes toward interprofessional teamwork were measured through

post-workshop surveys. Data were analyzed using descriptive and nonparametric statistics, excluding the three unknown students.

**Results:** Over 90% of students were better able to describe the necessary interprofessional communication needed to develop a patient-centered care plan in transitioning patients between clinical sites. Four out of five students reported an enhanced appreciation of interprofessional teamwork. They were also able to identify legal, financial and social implications in transitions of care (75%). Nursing students consistently rated the workshop more highly than medical students across most domains ( $P < 0.05$ ).

**Conclusions:** Students improved and demonstrated their knowledge of interprofessional communication and teamwork skills required in transitions of geriatric care. Introducing these concepts in medical and nursing training may help in fostering effective interprofessional communication and collaboration.

## Introduction

Interprofessional education (IPE) is increasingly essential for all healthcare professions and is crucial in fostering effective team based patient care, which in

turn improves the quality of care and patient outcomes.<sup>1</sup> Effective team based care is especially important in caring for older adults whose needs are often not recognized or met in very complex healthcare delivery systems and who are particularly

vulnerable to adverse effects across the continuum of care.<sup>2</sup> Transitioning care of the elderly, especially those with cognitive or functional deficits, is a very complex process involving several disciplines and requiring careful coordination of care. Inappropriate transition of geriatric care can lead to increased hospital readmissions and adverse drug effects including medication errors, all of which adversely affect patient outcomes. In addition, it leads to increased cost of health care through duplication of services.<sup>3–5</sup> Several studies show that comprehensive interdisciplinary assessments can greatly improve outcomes in transitions of geriatric care.<sup>6,7</sup> Utilizing IPE experiences in training healthcare professionals can foster effective collaboration across these professions and greatly improve transitions of care in the elderly. There are few published articles describing interprofessional pre-licensure geriatric education programs for medical and nursing students that address care transitions in older adults.<sup>8</sup>

As part of a Josiah Macy Jr. Foundation funded initiative on IPE at the University of Virginia (UVA), we developed and implemented an interprofessional geriatric education workshop for fourth-year nursing and third-year medical students with a focus on transitions in geriatric care. The objectives of the program were to enable students to discuss the roles of physicians and nurses in transitioning patient care from one clinical setting to another and to demonstrate competence in interprofessional communication skills and strategies in transitions of care.

## Methods

A total of 254 students (144 third-year medical students, 107 fourth-year bachelors of science in nursing (BSN) students and 3 unknown) participated in a 90-min interactive, case-based workshop. The workshop was developed using the Macy Foundation-funded UVA approach based on Collaborative Care Best Practice Models.<sup>9</sup> Through collaboration with members of the IPE team involving educators from the schools of nursing and medicine and focus groups made up of community physicians, social workers, medical and nursing students, the workshop was developed to reflect best practices for the care of cognitively impaired elderly and their families as they face increasing care needs.

The workshops were conducted monthly with groups of an average of 12 medical and 9 nursing students over 1 year. In preparation for the session, students were given articles and handouts on transitions in geriatric care, including information on the

healthcare financing in geriatrics, several days before the workshop. Nursing and medical faculty facilitated the interactive session utilizing audiovisual aids in the first aspect of the workshop and trained standardized patients to guide students through the interprofessional process of appropriately transitioning the care of the elderly in the second portion of the workshop (Appendix 1). The workshop featured a clinical case of an elderly woman with dementia being transitioned from the hospital to her home and addressed issues on discharge from the hospital as well as within the home related to her physical, psychosocial wellbeing and family support network. The standardized patients provided students with a real-life perspective of the challenges and questions that patients with dementia and their family members face as they navigate the healthcare system.

The session also focused on the interprofessional communication that needs to be demonstrated between the two health disciplines.<sup>10</sup> In the clinical scenario, medical and nursing students were asked to play the roles of the physicians and nurses, respectively, so as to demonstrate competence in the interprofessional skills required in transitions of care. Surveys measuring students' self-perceived competencies in necessary IPE skills and attitudes toward interprofessional teamwork were administered immediately after the workshop. In the surveys, students were asked to compare their current knowledge and competence in IPE skills to their pre-workshop knowledge and competence (Appendix 2). Data were analyzed using descriptive statistics and the Kruskal–Wallis nonparametric test. We excluded the survey data on three students with unidentifiable professions.

## Results

### Students' self-perceived competency in IPE skills

Two-hundred twenty-five out of a total of 251 (90%) medical and nursing students were better able to describe the necessary interprofessional communication needed to develop a patient-centered care plan in transitioning patients between clinical sites. Most students also reported that they were better able to actually demonstrate interprofessional communication skills and strategies in family meetings in transitioning care of patients (85%, 213 out of 251 students) and to develop a patient and family-centered plan of care (89%, 223 out of 251 students).

One-hundred eighty-eight of 251 (75%) students were also able to identify legal, financial and social

**Table 1** Student self-perceived competencies in IPE skills and attitudes toward interprofessional teamwork

Evaluation item (results: 5, strongly agree; 1, strongly disagree)	Avg rating nursing	Avg rating medicine	Overall avg. rating	% rated 4+
Learning with other professional student was valuable	4.49	4.00	4.21	84
The/my group's facilitator sought participation from all learners.	4.50	4.48	4.49	92
This learning activity enhanced my appreciation of interprofessional teamwork.	4.50	3.81	4.12	79
This learning activity increased my knowledge of another profession.	4.00	3.48	3.71	63
This learning activity improved my teamwork skills	4.24	3.64	3.90	72
I am better able to discuss the roles of physicians and nurses when planning the care of older adults transitioning from hospital to home.	4.22	3.92	4.06	81
I am better able to describe the necessary communication between physicians, nurses and family members when initiating transitions of care	4.59	4.18	4.36	92
I am better able to identify legal, financial and social implications of transferring older adults from hospital to home.	4.14	3.86	3.99	75
I am better able to demonstrate interprofessional communication skills and strategies in family meetings about transitions of care	4.50	4.03	4.24	85
I am better able to develop a patient and family-centered plan of care for older adults who are transitioning from hospital to home	4.45	4.13	4.27	89
I am better able to recognize and respond to caregiver issues when planning transitions in care for older adult patients	4.44	4.16	4.29	91

implications in transitions of care. Eighty-one of 107 (76%) nursing students indicated that the workshop increased their knowledge of the medical profession, whereas only 63 out of 144 (44%) of medical students increased their knowledge of the nursing profession (Table 1).

### Students' attitudes to IPE workshop

Four out of five students reported an enhanced appreciation of interprofessional teamwork and stated that the learning experience was valuable. Nine of 10 students agreed that there was adequate participation from all learners. Interestingly, nursing students consistently rated the workshop more highly than medical students, and this was statistically significant in all domains except with regard to the degree of participation from all learners, in which there was general agreement (Table 2).

### Students' qualitative feedback on IPE workshop

Themes of the qualitative feedback from both medical and nursing students were similar and show that most feel open and effective communication between team members and with patients/family or caregivers is very important in care transitions of older adults. Other factors considered important

include patient factors such as patient/family understanding of medical condition and goals of care, understanding of patient's financial situation, social support system, assessment safety of home environment and availability of community resources. Students also rated mutual respect for team members, patient and family as very important.

Students indicated that they planned to apply good communication with patients and family members to future practice, through active listening, validating their feelings and including them in discussions (even when cognitively impaired), to establish trust and rapport. Most also liked the standardized patient role play format of the workshop and thought it was very helpful as it closely simulated a real life situation. Some medical students indicated that they would have preferred more interaction with nursing students during the workshop (Table 3).

### Discussion

Students expressed improved knowledge and understanding of the need for appropriate interprofessional communication in the transitions of care of elderly patients. Students also indicated that their teamwork skills were enhanced. It is interesting that both disciplines, though a smaller percentage, gained more knowledge about the other profession

**Table 2** Comparison of nursing and medical students' average score on workshop evaluation items (independent samples Kruskal–Wallis nonparametric test of significance)

Evaluation item (ratings: 5 = strongly agree, 1 = strongly disagree)	Avg rating nursing (N = 107)	Avg Rating medicine (N = 144)	P
Learning with other professional students was valuable.	4.49	4.00	0.000
The/my group's facilitator sought participation from all learners.	4.50	4.48	0.905
This learning activity enhanced my appreciation of the value of interprofessional teamwork.	4.50	3.81	0.000
This learning activity increased my knowledge of another profession/s.	4.00	3.48	0.000
This learning activity improved my teamwork skills.	4.24	3.64	0.000
I am better able to discuss the roles of physicians and nurses when planning care for older adults transitioning from hospital to home.	4.22	3.92	0.001
I am better able to describe necessary communication between physicians, nurses and family members when initiating transitions of care.	4.59	4.18	0.000
I am better able to identify legal, financial and social implications of transferring older adults from hospital to home.	4.14	3.86	0.003
I am better able to demonstrate interprofessional communication skills and strategies in family meetings about transitions of care.	4.50	4.03	0.000
I am better able to develop a patient and family-centered plan of care for older adults who are transitioning from hospital to home.	4.45	4.13	0.000
I am better able to recognize and respond to family caregiver issues when planning transitions in care for older adult patients.	4.44	4.16	0.001
Total evaluation score	48.07	43.58	0.000

through discussions of the roles of physicians and nurses during the session. This was more evident in nursing students than medical students (76% vs. 44%, respectively). Although this was not a specific objective of the workshop, we believe that the structure of the learning activities fostered this increased understanding of the roles of physicians and nurses.

Though both groups largely agreed on the involvement or degree of participation of all of the learners, the difference in ratings of the workshop between the two disciplines was striking, with nursing students consistently rating the workshop higher than medical students. Although the reason for this is unclear, these findings are consistent with other studies comparing changes in attitudes and perceptions when IPE is provided to students from different health professions.<sup>11</sup>

One possible reason for this finding could be the different training levels of the medical and nursing students in the sessions. The nursing students were in their fourth and final year of study in the BSN program, having had significant exposure to clinical care, while the third-year medical students had only just transitioned to clinical medicine during the clerkship phase of their training when they participated in these sessions. Without adequate prior exposure to clinical medicine, the medical students

may not have adequate appreciation of the difficulties and intricacies in transitions of care, particularly in geriatric aged patients. Another possibility is that medical students may not place as much value on topics such as the development of interprofessional communication skills that may be viewed as 'non-medical', though these communication skills are very important, especially as they relate to transitions in geriatric patient care. Nursing students, on the hand, have exposure to a variety of 'non-medical' issues in their training, with a lot of curricular emphasis on communication and teamwork. Themes of the qualitative feedback from both medical and nursing students were, however, similar and revealed that most students appreciated the importance of good communication with patients/families and between health professions. It is also interesting that some medical students indicated that they would have liked to interact more with nursing students during the session. With very little exposure to IPE opportunities in medical school education, one may wonder if the attitudes of medical students would be more favorable if more of such programs were available.

Though our IPE program has a limited scope as it was administered at a single healthcare center and limitations in the evaluation of the student

**Table 3** Themes of students' qualitative feedback on IPE

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Identify three factors you feel will be important for the physician and nurse to consider to achieve and maintain the highest possible quality of care transitions for this patient.

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Patient/family factors

Understanding of medical condition, prognosis and goals of care.  
 Functional and cognitive status.  
 Medication compliance.  
 Patient autonomy.  
 Financial resources.  
 Safety of home environment.  
 Support system/availability of resources in community.

Medical team factors

Open communication with team members and patient/family  
 Good listening skills/empathy/caring attitude.  
 Mutual respect for team members and patient/family.  
 Understanding of the strengths of other team members  
 Collaboration between family and medical team.  
 Exploring all care options with patient and family.

Please share one thing you learned today that you plan to apply in your future practice

Good communication and teamwork with all members of health team.  
 Good communication with patients and family members/caregivers.  
 Consider the needs of the elderly.  
 Knowledge and discussion of community care resources for the elderly.  
 Involvement of other professionals when planning care (importance of 'the huddle')  
 Discussion about progressive diseases with patient and family.  
 Knowledge of the financial aspects of health care.  
 Reassessing home health needs periodically.

Please share any other comments about this learning activity:

More interaction between medical and nursing students.  
 More specific details of healthcare financing (i.e. Medicare/Medicaid).  
 Standardized patient role play was realistic and informative.  
 Interactive workshop with multiple chances for student participation.  
 Would have liked social work involvement in workshop session.

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participants with use of self-assessment post-workshop surveys, interprofessional programs like ours are one of the few opportunities in medical and nursing training in which both disciplines get to learn side by side. Introduction of these concepts in medical and nursing education may help to foster effective interprofessional communication and collaboration in complex patient care processes such as in transitioning care. With the existence of few interprofessional geriatric education programs targeting medical and nursing students, there is an obvious need to seek more of such opportunities with a focus on complex collaborative aspects of geriatric patient care.

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## References

1. World Health Organization (WHO). *Framework for Action on Interprofessional Education & Collaborative Practice*. Geneva, WHO/HRH/HPN/10.3, 2010.
2. Naylor MD, Hirschman KB, Bowles KH, Bixby MD, Konick-McMahan J, Stephens C. Care coordinator for cognitively impaired older adults and their caregivers. *Home Health Care Services Q* 2007; **26**:57–78.
3. Jack BW, Chetty VK, Anthony D, *et al*. A reengineered hospital discharge program to decrease rehospitalization: a randomized trial. *Ann Intern Med* 2009; **150**:178–87.
4. Boockvar KS, Carlson LaCorte H, Giambanco V, Fridman B, Siu A. *Am J Geriatr Pharm* 2006; **4**:236–43.



5. American Medical Directors Association. *Transitions of Care in the Long-Term Care Continuum. Clinical Practice Guideline*. Columbia, MD: AMDA, 2010.

6. Berwick AD, Rees K, Dieppe P, et al. Complex interventions to improve physical function and maintain independent living in elderly people: a systematic review and meta-analysis. *Lancet* 2008; **371**:725–35.

7. McCusker J, Verdon J. Do geriatric interventions reduce emergency department visits? A systematic review. *J Gerontol Ser A Biol Sci Med Sci* 2006; **61A**:53–62.

8. Heflin MT, Pinheiro SO, Konrad TR, et al. Design and evaluation of a prelicensure interprofessional course on improving care transitions. *Gerontol Geriatr Educ* 2014; **35**:41–63.

9. Owen J, Brashers T, Peterson C, Blackhall L, Erickson J. Collaborative care best practice models: a new educational paradigm for developing interprofessional educational (IPE) experiences. *J Interprof Care* 2012; **26**: 153–5.

10. Interprofessional Education Collaborative Expert Panel. *Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel*. Washington, DC. [www.aacn.nche.edu/education/pdf/IPECReport.pdf](http://www.aacn.nche.edu/education/pdf/IPECReport.pdf) (3 March 2014, date last accessed).

11. Curran VR, Sharpe D, Flynn K, Button P. A longitudinal study of the effects of an interprofessional education curriculum on student satisfaction and attitudes towards interprofessional teamwork and education. *J Interprof Care* 2010; **24**:41–52.

Appendix 1. Learning objective and outline of workshop

Learning Objectives

After attending the workshop, students will be able to:

1. Discuss the roles of physicians and nurses when planning care for older adults being transferred from one clinical setting to another, i.e. hospital environment to home.

2. Describe necessary communication between physicians, nurses and family members when initiating a transition in care for older adults.

3. Identify legal, financial and social implications of transferring older patients from one clinical site to another.

4. Demonstrate competence in interprofessional communication skills and strategies in meetings with older adults and family members in transition of care.

Outline:

Introductions	10 min
Video #1 ( <a href="http://www.youtube.com/watch?v=xDvvMpuJFsw">http://www.youtube.com/watch?v=xDvvMpuJFsw</a> )	5 min
Case discussion: breakout groups—SOM and SON	15 min
Huddle #1	5 min
Family meeting #1 (with standardized patients)	20 min
Link #2 ( <a href="http://www.virginianavigator.org/sn/IndexSN.aspx?.f=1&amp;API=6">http://www.virginianavigator.org/sn/IndexSN.aspx?.f=1&amp;API=6</a> )	5 min
Huddle #2	5 min
Family meeting #2 (with standardized patients)	15 min
Wrap-up/follow-up survey	10 min
Total	90 min

## Appendix 2. Workshop evaluation form

Date: \_\_\_\_\_ which program are you in (BSN, CNL, MD, MD/PhD)? \_\_\_\_\_

### 1. Please rate the following using the scale: 5 = strongly agree to 1 = strongly disagree

	Strongly agree		Neutral		Strongly disagree
Learning with other professional students was valuable.	5	4	3	2	1
The/my group's facilitator sought participation from all learners.	5	4	3	2	1
This learning activity...	5	4	3	2	1
• Enhanced my appreciation of the value of interprofessional teamwork.					
• Increased my knowledge of another profession/s.	5	4	3	2	1
• Improved my teamwork skills.	5	4	3	2	1

### 2. Specifically, as a result of this workshop:

I am better able to	Strongly agree		Neutral		Strongly disagree
Discuss the roles of physicians and nurses when planning care for older adults transitioning from hospital to home.	5	4	3	2	1
Describe necessary communication between physicians, nurses and family members when initiating transitions of care.	5	4	3	2	1
Identify legal, financial and social implications of transferring older adults from hospital to home.	5	4	3	2	1
Demonstrate interprofessional communication skills and strategies in family meetings about transitions of care.	5	4	3	2	1
Develop a patient and family-centered plan of care for older adults who are transitioning from hospital to home.	5	4	3	2	1
Recognize and respond to family caregiver issues when planning transitions in care for older adult patients.	5	4	3	2	1

### 3. Identify at least three factors you feel will be important for the physician and nurse to consider to achieve and maintain the highest possible quality of care for this patient transitioning from the hospital environment to the home:

\_\_\_\_\_

\_\_\_\_\_

### 4. Please share one thing you learned today that you plan to apply in your future practice:

\_\_\_\_\_

\_\_\_\_\_

### 5. Please share any other comments about this learning activity:

\_\_\_\_\_

\_\_\_\_\_