

Development and Initial Testing of a Measure of Person-Directed Care

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Purpose: The purpose of the study was to empirically test items of a new measure designed to assess person-directed care (PDC) practices in long-term care. **Design and Methods:** After reviewing the literature, we identified five areas related to PDC: personhood, comfort care, autonomy, knowing the person, and support for relationships. We also identified an additional component of environmental support. We developed items to reflect the constructs, and then a series of lay and professional experts in the field reviewed the items for face validity. We distributed the resulting 64-item PDC and Environmental Support for PDC measure to direct care workers and nursing, administrative, and other staff from a range of long-term settings across Oregon, culminating in a sample size of 430 participants from eight sites. We employed exploratory factor analyses to reveal the underlying structure of the measure. **Results:** After we dropped 14 items from the measure, it attained good simple structure, revealing five PDC constructs as previously theorized and three Environmental Support constructs: Support for Work With Residents; Person-Directed Environment for Residents, and Management/Structural Support. All constructs were conceptually distinct and internally consistent, and, as expected, all were positively correlated. **Implications:** The PDC measurement tool developed through the Better Jobs Better Care demonstration program funded by the Atlantic Philanthropies and Robert Wood Johnson Foundation is an important step toward operationalizing the philosophies inherent in the concepts of PDC and is expected to be a useful tool in evaluating successes in meeting PDC goals and in prompting further research

regarding PDC and its consequences for resident and client outcomes.

Key Words: *Person-centered, Person-directed, Measure development, Personhood, Evaluation*

Concerns about long-term care began decades ago. One response was the Nursing Home Reform Act, passed as part of the Omnibus Budget Reconciliation Act of 1987. This stressed the physical, mental, and psychosocial well-being of each resident and increased government regulation as a strategy to improve quality care (Winzelberg, 2003). As concerns continued, new models of community-based care emerged, such as assisted living facilities, adult foster care, residential care, and model programs such as the Program of All-Inclusive Care for the Elderly (Eng, Pedulla, Eleazer, McCann, & Fox, 1997; Kane, Kane, Illston, Nyman, & Finch, 1991; Park, Zimmerman, Sloane, Gruber-Baldini, & Eckert, 2006). In spite of these developments, health professionals, service providers, older adults, and family members have continued to challenge long-term care practices. Talerico, O'Brien, and Swafford (2003) described care as too often being an "industrialized, assembly line model of care" (p. 15) emphasizing organizational routine, staff needs, and regulatory concerns over the needs and preferences of residents. Such practices are characterized as depersonalizing and disempowering both for those who receive care and for the direct care workers (DCWs) who, after family, are those who are most intimately involved in providing care. As examples, personal care such as bathing is scheduled by staff with limited attention to resident preferences; meal services are regimented, with limited resident choices with respect to when, where, what, and with whom to eat; and too little attention is given to nurturing relationships among residents or between residents and staff.

More recently, multiple providers, policy makers, and researchers have offered alternatives to this institutional approach with the aim of improving

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quality of life and quality of care. These efforts to transform the way society cares for and supports those who are disabled or infirm have occurred in hospital settings (e.g., Coyle & Williams, 2001; Frampton, Gilpin, & Charmel, 2003), within the disabled community (e.g., O'Brien & O'Brien, 2002; Smull & Lakin, 2002), and within long-term care (e.g., Kane, 2001; Lustbader, 2001; Noelker & Harel, 2001; Stone et al., 2002; Weiner & Ronch, 2003). Particular attention has been given to supporting people with dementia (e.g., Beck et al., 2002; Kitwood, 1997; Rader, 1995; Ryden & Feldt, 1992; Sabat, 2001).

As a result of these collective efforts, experts have proposed or developed new models of long-term care, including the Wellspring Model, Eden Alternative, Green House Project, Live Oak Regenerative Community, and others. At the federal level, the Veterans Affairs administration sponsored a national summit on culture change in 2005, and the Centers for Medicare & Medicaid Services are supporting work in culture change (Bowman & Schoeneman, 2006). The Pioneer Network, a movement that began in the 1990s, is an umbrella organization supporting the development and implementation of these "culture change" models (Fagan, 2003; Lustbader, 2001). Through this collective work, a new paradigm of person-centered care is emerging that stresses the uniqueness and worth of each individual and the necessity to be respectful and reflective of individuals' distinct histories, values, and preferences in designing long-term care environments and in providing care.

The practice models described previously depend on a stable and educated workforce (Rader & Semradek, 2003; Stone, 2001; Stone, Dawson, & Harahan, 2004). Yet, for multiple reasons, long-term care systems face significant shortages of staff and high turnover at all levels. The Better Jobs Better Care (BJBC) program, funded by the Atlantic Philanthropies and the Robert Wood Johnson Foundation and administered by the Institute for the Future of Aging Services, was developed to address the looming long-term care workforce crisis by attending to the needs of DCWs and building work environments that will support both workers and those they serve. Oregon received one of five demonstration grants.

The overarching goal of the Oregon BJBC initiative was to instill a person-centered philosophy of care and to operationalize that philosophy through person-directed care (PDC) practices in a range of long-term care settings. The project identified four objectives to help accomplish this goal: (a) to improve relationships between DCWs and their supervisors, (b) to improve relationships between DCWs and residents/clients and their families, (c) to provide opportunities for career development, and (d) to increase workforce diversity and support for diversity. Loosely modeled after the

Wellspring model (Stone et al., 2002), each participating organization identified a site coordinator responsible for project implementation. They developed a practice site team consisting of DCWs, supervisors, and others who would determine how objectives would be met at their organization. All Oregon BJBC site coordinators met monthly, usually with their practice teams, to receive training and resources specific to project objectives. Consultation was available to each site from the BJBC project manager. Each practice site received \$75,000 over the 3 years of the grant to support BJBC activities as determined by that site.

A local evaluation team assessed success in meeting project goals and objectives. Because PDC was a central concept, it was imperative to measure the extent to which each organization was using PDC practices. This proved challenging; a cohesive definition or even agreed-upon terms related to these concepts had not yet emerged (Lauver, Ward, et al., 2002; Packer, 2000). Although the term *person-directed care* is used to denote the action of providing support to those in care, other terms have also been used, sometimes interchangeably, including *person-centered planning*, *person- or resident-centered care*, or *individualized care*. We elected to use the term *person directed* because of our emphasis on the person himself or herself controlling or guiding care regardless of disability. We found no existing instruments that captured the kinds of dimensions that experts in person-centered and person-directed practice were providing to the Oregon BJBC practice sites. Therefore, we sought to develop our own measure. The purpose of this article is to describe three phases in the development and testing of a measure to assess PDC: concept analysis, item development and analysis, and factor analysis.

Phase 1: Concept Refinement and Item Generation

Defining PDC and developing an instrument was an iterative process that began with experts who had extensive research and practice experience. Included was a research team coordinated by the Oregon Health & Science University Hartford Center of Geriatric Nursing Excellence with interests and research experience in areas related to PDC, such as individualized care, autonomy, dementia care, and DCWs. Practice experts included experienced clinicians and providers who had long emphasized individualized care or person-centered planning and who provided training and consultation to Oregon BJBC practice sites specific to PDC.

Based on discussions within each of these expert groups, we generated items to capture the essence of PDC that was emerging in each group. We divided these items into two broad categories: (a) what was

known about residents' preferences, values, and choices about a wide range of care issues; and (b) what staff did to act upon that knowledge. Both research and practice experts reviewed items, with practice experts adding several more. The result was 113 items that were administered across the eight practice sites. Only 114 staff completed the surveys. In addition, we presented the tool at the national 2004 Pioneer Network meetings. The audience contained both researchers and practice experts who provided feedback on items and design.

Statistical analysis revealed variability in response to most items, and feedback from BJBC site coordinators indicated that the items were meaningful. Because of the large number of items and small sample, however, findings were difficult to interpret. Feedback from Pioneer Network attendees indicated that more conceptual development was needed.

Concept Development

The research team returned to the literature to clarify concepts and systematically develop a definition of PDC. We searched for *person-centered care*, *person-centred care*, *dementia care*, *individualized care*, *elder care*, and *culture change*. After reviewing approximately 25 articles, we began to cluster similar concepts contained in these articles. We identified five central dimensions of PDC: personhood, knowing the person, autonomy and choice, comfort care, and nurturing relationship. We also identified a sixth dimension, a supportive environment, that appeared to be critical for supporting PDC practices. Included were physical and organizational aspects of the environment. No single article described all six dimensions, although articles typically included more than one. We continued to review the literature, which provided additional support for these dimensions. Our research experts reviewed and supported the dimensions and definitions, providing additional face validity for these concepts. We present brief descriptions of each concept here.

Personhood emphasizes that each person is unique, has inherent value, and is worthy of respect and honor regardless of disease or disability (Booker, 2004; Coyle & Williams, 2001; Fazio, 2001; Harr & Kasayka, 2000; Kitwood, 1997; Parley, 2001; Stewart, Brown, Weston, McWhinney, & Helms, 1995). Care centers on the individual in contrast to the provider or caregiver, with emphasis on understanding the perspectives of those receiving care as well as the meaning they attach to their circumstances (Beck et al., 2002; Booker, 2004; Cotrell & Schulz, 1993; Dewing & Garner, 1998; Harr & Kasayka, 2000; Kane, 2002; Kasch & Dine, 1988; Morse, Mitcham, Hupcey, & Tason, 1996; Rader, 1995). The person's strengths, abilities and possibilities are considered, as are social contributions the person continues to make (Coker, 1998; Epp, 2003; Fazio, 2001; Happ, Williams,

Strumpf, & Burger, 1996; Holburn, Jacobson, Schwartz, Flory, & Vietze, 2004). Continuing development of one's total self is assumed as reflected by their interests, values, preferences, spirituality, and hopes and dreams (Coker, 1998; Ford & McCormack, 2000; Nolan, 2001; Perry & O'Connor, 2002).

The second dimension was *knowing the person* (Boise & White, 2004; Evans, 1996; Happ et al., 1996). Each person has his or her own life story, cultural experiences, personality, pattern of daily living, values, needs, and preferences (Williams, 1990; Wolverson, 2003). Care involves supporting continuity between who the person has been and who the person is now by providing care in a manner consistent with that person's biography and with what is important to the person now (Rader, 1995; Sanborn, 1988). Knowing the person is essential to individualizing care (Rader, 1995, Talerico et al., 2003, Teresi, Holmes, Benenson, Manaco, Barrett, & Koren, 1992). Furthermore, it is critical for understanding the meaning of behavioral symptoms in individuals with dementia or other cognitive impairment.

For care to be person directed, individuals must have maximum control over their own care and environments (Grant & Norton, 2003; Happ et al., 1996; Holburn et al., 2004; Kane, 2002; Kane, 2003; Kane et al., 2003; Matthews, Farrell, & Blackmore, 1996; Nolan, 2001; Parely, 2001). A third dimension, therefore, involved *autonomy and choice*. In a person-directed environment, the assumption is that independence enhances competence and that care must be supportive of personal agency. Emphasis is on empowering residents, even those with cognitive impairments, to make their own decisions about their care, schedules, and activities. In cases of severe impairment, choices are to be supported by DCWs, who spend the most time with the person, to ensure that care reflects individual preferences, interests, and values. This means no fixed schedules for activities such as dining, bathing, or other personal care services (Cohen-Mansfield & Bester, 2006; Rabig, Thomas, Kane, Cutler, & McAlilly, 2006). Additionally, the right of individuals to take risks and, in some cases, to make "poor" decisions is emphasized (Coyle & Williams, 2001; Rader, 1995).

The fourth dimension involved *nurturing relationships*. Each person lives and functions within a web of relationships. Person-centered environments strive to reduce social isolation and promote friendships (Holburn et al., 2004; Parley, 2001). Intentional relationships between care providers and the person (and his or her family) promote communication, consistency, trust, attachment, friendship, and partnership and minimize isolation and conflict. Positive relationships between staff and residents, therefore, are necessary if staff are going to know the person (Rader, 1995) or appropriately promote quality of life (Kane, 2002; Kane et al., 2003). Examples of this dimension of PDC are encouraging staff to eat with residents, spend time talking with them, and

otherwise be engaged together in a wide variety of activities (Cohen-Mansfield & Bester, 2006; Rabig et al., 2006). Consistent assignments are considered one way to promote staff-resident relationships (Teresi et al., 1992). People often lose contact with the community at large once they become dependent. Former ties are supported through PDC, both by bringing the community into a facility (e.g., volunteers, the arts, youth) as well as enabling people to leave the premises to spend time at places or with individuals important to them.

Comfort care includes attending to both physical and emotional care needs using the highest standards of practice (e.g., pain control, comfort, alternatives to restraints, bathing, dressing, eating, toileting, skin care, wheelchair seating) that are tailored to individual needs and preferences (Beck et al., 2002; Bowers, Fibich, & Jacobson, 2001; Hoeffer, Talerico, Rasin, et al., 2006; Morse et al., 1996; Rader, 1995; Stewart et al., 1995; Talerico et al., 2003; Williams, 1990). A balance between freedom and choice with safety is emphasized (Kane, 2001; Rader, 1995). Comfort care means attending to mental health and psychological needs (Bowers et al., 2001; Harr & Kasayka, 2000). It is especially important to view behaviors associated with dementia as symptoms of unmet needs, such as uncontrolled pain, medication side effects, or fear and feelings of insecurity. Practices such as consistent assignments contribute to comfort care because staff who have relationships with residents are more likely to notice physical or emotional changes requiring attention (Teresi, et al., 1992).

The final dimension concerned a *supportive environment*. The ability to provide PDC is dependent upon characteristics of the system in which care is provided. Research has identified two components of the environment: physical and organizational. Cutler, Kane, Degenholtz, Miller, and Grant (2006) identified layout, furnishings, dining areas, bathing areas, personalized living areas, and outdoor space as linked to quality of life. Increasing attention has also been given to environments that support autonomy, particularly for individuals with dementia (Beck et al., 2002; Kane, 2002; Rader, 1995; Sanborn, 1988; Slaughter, Calkins, Eliasziw, & Reimer, 2006; Sloane et al., 2002). The culture change movement emphasizes creating home by eliminating medicine carts, overhead pages, long corridors, and tray carts (Cutler et al., 2006; Rabig et al., 2006).

Many organizational attributes contribute directly to quality care including management practices that empower and support DCWs; provide training and support for communication and resident care, skilled supervision and leadership, adequate staffing and appropriate workload; and support staff retention and reduce staff turnover (Barry, Brannon, & Mor, 2005; Castle & Engberg, 2006; Dellefield, 2006; Rantz, Hicks, Grando, et al., 2004). Grant and Norton (2003) developed a conceptual model of culture change that encompasses both physical and

organizational attributes including decision making, staff roles, physical environment, organizational design, and leadership practices. According to Harr and Kasayka (2000), "When management and staff respect each other as persons and honor the dignity of personhood that implies, high quality of care will be a natural by-product" (p. 42).

Phase 2: Item Development and Analysis

Once PDC dimensions were established, we returned to item development, creating items that would be reflective of the six dimensions identified previously. We began by sorting the items developed in Phase 1 into the six PDC categories and then developed new items based on the literature and feedback from practice experts to ensure an adequate number of items for each concept. We reviewed each item multiple times, discussing clarity of meaning and relevance to the concept it was designed to measure. BJBC site coordinators (who included nurses, human resource directors, and social services providers) reviewed the item pool as content experts. They suggested changes in wording, identified additional items, and recommended items to delete due to overlap, lack of relevance, or lack of clarity. Items were tested with DCWs in two nursing homes and an assisted living facility that were not part of the BJBC initiative. After each test, we changed or deleted items that were confusing. For example, "understand their preferences for care" became "know their preferred routines (for example, morning, evening, mealtime)," and "decide who they will live with" became "decide who they will share a room with." The resulting item pool consisted of 89 items (ranging from 7 to 19 items for each of the six scales). We used two question stems: "Thinking about the people in your care, for how many can you ...?" and "Thinking about the people in your care, how often ...?" Items were scored from 1 to 5 on a Likert-type scale, where 1 indicated "very few or none" or "rarely or none of the time" and 5 indicated "all or almost all" or "all or almost all of the time."

Data Collection for Initial Item Analysis

The tool was administered to all levels of staff (e.g., DCWs, nurses, administrators, housekeeping, therapists, social services) in eight organizations participating in the Oregon BJBC demonstration site (one home care agency, two assisted living facilities, one residential care facility, and four nursing homes). Time to complete the surveys (which contained 52 additional questions related to other Oregon BJBC objectives) ranged from 20 to 45 min, with nonnative English speakers generally taking longer. Research staff was on site to administer and collect completed surveys, including for the night shift in some facilities. The process varied by site according to the preferences

of the site coordinator and the organization. The 467 respondents represented about 60% of the eligible staff across facility-based settings. Home care workers completed surveys at inservices, typically attended by about a quarter of the workforce. We eliminated respondents who answered less than 75% of all items, resulting in an overall sample for analysis of 423. Most of those eliminated were administrative staff or “other” who had little contact with clients or residents. Less than 3% of DCWs who composed the majority of the sample ($n = 197$ after screening) were removed from the sample because of high levels of missing data. Similarly, certified medication aides, registered nurses, licensed practical nurses, administrators, and nurse leaders had relatively complete levels of data.

Item Analysis

We conducted several analyses to identify the strongest items and eliminate poorly performing items. We assessed item endorsement by dichotomizing those scoring high (original response range 4–5) and those scoring low (original response range 1–3) on the extent to which they felt those in their care received PDC. We calculated mean scores to determine the proportion of respondents who endorsed each item. We considered an indication of adequate endorsement to be items that scored above .3 (i.e., 30% endorsement) and below .7 (i.e., 70% endorsement). We kept one item in the autonomy scale that was endorsed by few because it was conceptually important: “decide who they will share a room with.” This is a level of autonomy not available to most people living in congregate settings but is nonetheless illustrative of personal choices that most adults make. An example of an item eliminated was “Thinking about the people in your care, for how many do you know what they want to be called?,” with 90% of respondents indicating that they did know this about residents/clients in their care.

We determined item discrimination by calculating the mean difference between respondents in the top and bottom thirds of the distribution (i.e., those reporting high levels of PDC and those reporting low levels of PDC). For the item to be retained, the mean difference between these two groups had to exceed .20. The item “Thinking about the people in your care, how often are you able to work with the same clients/residents?” is an example of an item that did not discriminate well. Items intended to assess levels of noise and bad odors in the environment failed to discriminate and were eliminated. Other analyses used to identify and eliminate poorly performing items included exploratory factor analyses and calculation of Cronbach’s alpha. We also considered respondent burden and eliminated some items that met all of the above criteria if analysis of correlations and internal consistency reliabilities demonstrated

that they were captured by other items. For example, in the autonomy scale, we retained the item “Thinking about the people in your care, how many of these residents/clients make decisions about their personal care routines?” and eliminated several items asking specifically about choices related to bed time and morning routines, choices about eating, and choices about bathing. Although each of these eliminated items represents a different aspect of care, respondents tended to answer them in similar ways. Eliminating them did not significantly reduce reliabilities as measured by Cronbach’s alpha. The revised instrument contained 64 items, with each subscale comprising between 7 and 10 items.

Phase 3: Exploratory Factor Analysis

Data Collection

The revised instrument was administered to the same organizations 1 year later, again targeting all staff in the participating organizations. Based on lessons learned in Phase 1, we provided food for staff completing the surveys and once again research staff was on site to encourage participation, reassure participants of the confidentiality of their individual responses, and collect completed surveys. Site coordinators were invaluable in arranging space and encouraging staff to participate. All employees were paid for the time they took to complete the survey. We were generally on site for more than 1 day. In some cases we left surveys for staff to complete but left envelopes or other secure methods for them to return surveys. These surveys, which also contained items in addition to the PDC items, were completed in 20 to 30 min.

To reduce missing data, we were more explicit with instructions to staff who do not routinely interact with residents/clients (e.g., administrative support staff). We asked them to give their general impressions about the care in their facility or program. The overall response rate for facility-based programs was approximately 61%. The response rate for the home care program at 25% was considerably less. Data from the home care program were collected once again at inservice meetings, introducing a possible bias toward those who were motivated to attend educational programs.

Sample

We received a total of 477 surveys across all settings. In spite of efforts to obtain more complete data, we were not entirely successful. Consequently, we eliminated from further analysis those completing less than 75% of the total items. This resulted in a final overall sample size of 430. As before, most of the individuals whose responses were eliminated from the analyses worked as office staff or were those who self-identified as “other.” However, this

Table 1. Respondents by Organization Type and Job Type

Organization	Total	Direct Care Worker	Certified Medication Aide	Licensed Practical Nurse	Registered Nurse	Activities, Social Services	Rehab	Administrator DON RCM	Administrative Staff	Other	Missing
In-home care	49	48	0	0	1	1	2	2	0	0	0
Residential care facility	41	40	0	0	0	0	0	0	1	2	0
Nursing Home 1	90	77	12	12	3	3	6	6	12	10	1
Nursing Home 2	78	72	1	1	9	1	7	7	10	5	1
Nursing Home 3	71	62	5	5	5	4	2	2	9	7	0
Nursing Home 4	74	69	7	7	3	3	2	2	9	2	0
Assisted Living 1	37	36	2	2	0	0	0	0	1	1	1
Assisted Living 2	37	26	0	0	1	1	0	0	3	5	0
Overall total	477	430	27	27	23	20	17	27	49	32	3

Note: DON RCM = Director of Nursing Residential Care Manager. Each job type contains the original number of respondents on the left-hand side, followed on the right-hand side by the number of respondents after we screened out those who answered less than 75% of the items.

procedure also caused us to lose about 8% of the DCWs in the sample. Most of the attrition came from one nursing home and one assisted living facility where a high proportion of staff spoke English as a second language. This may have made it more difficult for them to complete the survey. Table 1 presents the composition of the sample prior to the elimination of cases and the final sample, by job title and place of work.

Items designed to tap organizational environmental attributes, although essential to supporting PDC, were conceptually different from those that tapped PDC, exerting a more supportive influence on PDC. Consequently, we conducted two sets of analyses, first of items developed to reflect the five PDC dimensions (personhood, autonomy/choice, knowing the person, comfort, nurturing relationships; 45 items), followed by items developed to capture the physical and organizational environments (19 items).

Data Analysis: PDC

The correlation matrix revealed correlations ranging between .04 and .79. Two items (“know what kinds of TV programs they prefer” and “help stay dry”) did not correlate well with any items. Eight items had correlations above .70 (e.g., “keep them connected to their families”). Next, we calculated item endorsement and discrimination scores by using the procedures and cutoffs described previously. We then employed exploratory factor analyses to aid in the identification of the underlying structure of the items and to help in the ultimate reduction of items within components.

An initial principal components analysis of the 45 items for the five major PDC domains suggested nine factors with eigenvalues greater than 1.00 (14.88, 4.28, 3.31, 2.16, 1.93, 1.31, 1.18, 1.04, and 1.01). Together these explained 69.11% of the variance. However, an examination of the scree plot indicated a clear break after five factors. Principal axis factoring with direct oblimin rotation, which allows factors to be correlated, was then run with the stipulation of five factors. Clear simple structure was achieved using a cutoff for loadings on the pattern matrix of .40 and with the exception that one item (i.e., “share some things about yourself”) failed to load above .29 on any factor.

Examination of item endorsement and discrimination scores, means, standard deviations, inter-item correlations, factor loadings, and theoretical judgments led to the deletion of nine items. We reran principal axis factoring, resulting in five factors with clear simple structure. These factors explained 61% of the variance. All items loaded above .40, with communalities ranging from .34 to .82. Each factor showed good internal consistency: Table 2 presents the final items, factor loadings, and Cronbach's alphas.

Table 2. Person-Directed Care: Final Item Loadings With Communalities and Internal Consistencies for Each Construct

Item Number	Item	Knowing the Person	Comfort Care	Autonomy	Personhood	Support Relations	Communalities
2	Spend time with animals as they choose			.57			.35
3	Decide where they want to eat			.61			.43
4	Listen to their preferred music			.68			.59
5	Participate in recreational activities that match their interests			.60			.44
6	Help develop and update care plans, service plans/task lists			.72			.49
7	Make the decisions about their personal care routines			.74			.60
9	Make their own choices even if it puts them at risk			.64			.44
10	See the experience of living here through their eyes				-.45		.33
12	Help them give back to others				-.53		.46
13	Focus on what they can do, more than what they can't do				-.82		.62
14	Help them accomplish what they want to accomplish				-.78		.63
15	Ask them about their wishes				-.57		.51
16	Have conversations with them about things other than their care				-.63		.51
17	Give opportunities to learn new things				-.59		.48
21	Know their fears and worries	.72					.61
22	Know their feelings about dying	.69					.48
23	Know what makes a good day for them	.75					.65
24	Know their preferred routines	.64					.55
25	Know their favorite foods	.80					.64
27	Know what they find irritating	.80					.69
28	Know their favorite music	.76					.60
29	Quickly help to the toilet when they request or need help		.74				.56
30	Minimize or ease pain		.77				.61
31	Individualize wheelchair types and/or sizes		.58				.48
33	Know when they need to use the toilet, even if they cannot speak		.51				.46
34	Contribute to care plans		.47				.39
35	Provide end-of-life care as they wish		.56				.45
36	Calm when they feel agitated or upset		.50				.55
37	Let sleep through the night		.54				.42
39	Keep them connected to their families					-.77	.74
40	Keep them connected to previous associations					-.68	.58
41	Keep family members a part of the resident/client's life					-.84	.82
42	Include family members as part of the care team					-.69	.69
43	Help them spend time with people they like					-.79	.79
44	Spend time with residents/clients talking or just being with them					-.43	.47
	Cronbach's alpha	.91	.88	.86	.86	.91	

Data Analysis: Environmental Support for PDC

We ran analyses in a similar fashion with the organizational items. Inter-item correlations for the Environment Support items ranged from .09 to .72. We followed this with analyses to examine scores for item endorsement and discrimination. A principal components analysis of the 19 items suggested a three- (56% of the variance) or four-factor (62% of the variance) solution with eigenvalues of 7.18, 2.18, 1.32, and 1.11. To determine which solution

was better, we conducted both a three- and four-factor principal axis factoring with direct oblimin rotation. Neither solution produced the desired simple structure initially. Based on a combination of the item endorsement and discrimination analyses, inter-item correlations, and information from the factor analyses, we dropped four items. We then reran principal axis factoring stipulating three factors and achieved good simple structure. This solution explained 60% of the variance. Conceptually

Table 3. Environment: Final Factor Loadings, Communalities, and Internal Consistencies

Item Number	Item	Your Work With Residents	Personal Environment for Residents	Management/Structure	Communalities
46	Do they have places to walk or wheel for pleasure		.68		.52
47	Do residents' rooms reflect their lives and personalities		.65		.40
49	Do they have interesting things to do throughout the day		.72		.50
51	Do you have the information you need to support client choices	.51			.37
53	Do you have time to provide care the way it should be provided			.50	.42
55	Are you able to be an advocate for residents	.54			.41
56	Does your supervisor respond to your concerns about residents			.65	.56
57	Do you feel you are working as part of a team			.81	.69
58	Do you enjoy coming to work			.86	.65
59	Do you feel that your ongoing training is adequate			.79	.59
60	Are supervisors evaluated by how well they support direct care workers			.41	.47
61	Do you work with other departments to understand and try new ways to address resident/client difficult behaviors	.88			.72
62	Do you help plan resident activities	.68			.41
63	Are organizational funds available to support resident activities		.40		.38
64	Are you encouraged to work with staff in other departments to solve problems	.58			.44
	Cronbach's alpha	.76	.74	.86	

the factors had meaning and were internally consistent: Support for Work With Residents ($\alpha = .76$; $N = 5$), Person-Directed Environment for Residents ($\alpha = .74$; $N = 4$), and Management/Structural Support ($\alpha = .86$; $N = 6$). The interconstruct correlations for all constructs appear in Table 4.

Discussion

The PDC measurement tool developed through the Oregon BJBC Demonstration project is an important step toward operationalizing the concepts

that make up PDC and is expected to be a useful tool in evaluating successes in meeting PDC goals. This is a time of great excitement and development in long-term care practice and workforce development, and research must be an integral part of testing new models of care. Researchers need to be clear about what it is they are trying to accomplish and determine whether efforts are successful and what elements of practice contribute to or hinder that success. As suggested by our conceptual model, the dimensions of PDC, although distinct, are related and should be considered together. Our preliminary

Table 4. Interconstruct Correlations of the Five Person-Directed Care Constructs and the Three Environment Constructs

Construct	Autonomy	Personhood	Knowing the Person	Comfort	Supporting Relationships	Work With Residents	Personal Environment for Residents	Management Structure
Autonomy	—	.47	.30	.27	.27	.35	.41	.23
Personhood		—	.53	.44	.42	.42	.37	.33
Knowing the person			—	.52	.46	.35	.21	.20
Comfort				—	.67	.41	.30	.16
Supporting relationships					—	.51	.44	.27
Work with residents						—	.53	.61
Personal environment for residents							—	.43
Management structure								—

Note: All correlations are significant at $p < .01$.

analyses suggest that this tool discriminates between long-term care settings, disciplines, and staff levels.

The next step in the Oregon BJBC evaluation is to explore factors associated with staff perceptions of PDC, such as environmental characteristics, relationships with supervisors, levels of residents' or clients' dependency, levels of care, and cultural competence. We will explore extensive qualitative data collected at all sites to further explore the meanings of the PDC scores obtained in this sample. We are also interested in comparing staff perceptions about PDC to family and resident/client perceptions of care. A measure of family perspectives about PDC is in development (White, Lyons, Boise, & Newton-Curtis, 2005). The resident or client voice, however, tends to be missing from research. An exception is work by Mahan (2005), who developed a measure of resident autonomy. Research is needed to explore the concepts of PDC with residents/clients to determine the extent to which the five dimensions resonate with their preferences and values. If they do, the field needs valid measures to determine if residents/clients feel they are viewed as unique and valued individuals, experience autonomy, feel well known by those who are providing intimate services, are emotionally and physically comfortable, and experience opportunities to be in relationships with those they care about.

The PDC measurement tool needs further testing. Those participating in BJBC are generally high-performing facilities. Eliminated items might have had lower endorsement in other settings and therefore could be used to distinguish between high- and low-performing organizations. Although this process has helped to build evidence of validity through work with practice and research experts, more work is needed to determine whether staff perceptions of PDC match more objective assessments of PDC. Similarly, it would be useful to compare responses to this measure with others tapping into related concepts. Examples include the measures of culture change being developed through the Centers for Medicare & Medicaid Services, or various quality-of-life measures that have been developed in long-term care. As PDC practice evolves, this instrument will need to develop further as well. We eventually eliminated items felt to measure key aspects of PDC from our final measure because they did not fit criteria of inclusion (e.g., How many residents/clients in your care select who they will share a room with? Are you evaluated by how well you support resident choices?). Yet these items are considered representative of desired culture changes. Accommodation is also needed for those who are nonnative English speakers. We did not have the resources to translate surveys and would recommend doing so in the future. Interviews by someone who speaks the same language may also be an important method of reaching those who feel uncomfortable with reading and writing.

Throughout BJBC and other culture change initiatives in Oregon, we have observed a progression in understanding of PDC practices. The initial response to PDC, especially among administrative staff, was that "we are already doing that." It was not until months after learning more about the concepts and working to implement new practices that some staff reported "we weren't as person centered as we thought." Preliminary analysis suggests that PDC scores declined in some settings over time, which indicates to us that staff are more critically evaluating their ability to provide PDC services. Longitudinal research is needed to determine whether PDC scores typically decline and then increase as new PDC practices become more integrated into the setting.

Finally, we believe individual items have the potential to provide concrete guidance to long-term care providers who want to change practice but are uncertain about what that change might entail or what it might look like when it occurs. Also important to note is that some items previously eliminated because of low respondent endorsement or because of statistical redundancy may nonetheless hold practical significance for training purposes and thus should not be disregarded completely.

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