A Measure of Person-Centered Practices in Assisted Living: The PC-PAL

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	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Employment or Affiliation																		
Grants/Funds																		
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Speaker Forum																		
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Board Member																		
Patents																		
Personal Relationship																		

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Abstract

Objectives—Develop self-administered questionnaires of person-centeredness for completion by residents and staff in assisted living (AL), in response to concerns that AL is not person-centered; also, demonstrated person-centeredness is necessary for Medicaid support as a home and community-based services provider.

Design—Community-based participatory research partnership between a research team, a consortium of 11 stakeholder organizations, and others. Methods included literature review, item generation and reduction, cognitive testing, field testing, exploratory factor analysis, and convergent and discriminant validity testing.

Setting—Cognitive testing conducted in two AL residences and field testing conducted in 19 diverse, stratified AL residences in six states.

Participants—Eight residents and staff participated in cognitive testing, and 228 residents and 123 staff participated in field testing.

Measurements—Feasibility and psychometric testing of draft questionnaires that included 75 items (resident version) and 102 items (staff version), with parallel items on both versions as appropriate.

Results—The final resident questionnaire included 49 items and four factors: well-being and belonging, individualized care and services, social connectedness, and atmosphere. The staff questionnaire included 62 items and five factors: workforce practices, social connectedness, individualized care and services, atmosphere, and caregiver-resident relationships. Staff scored person-centeredness higher than did residents, reflecting their different perspectives.

Conclusion—The Person-Centered Practices in Assisted Living (PC-PAL) questionnaires measure person-centeredness from the perspectives of residents and staff, meaning that they reflect the concepts and items considered to be important to these key stakeholders. Use of these instruments to describe, assess, quantify, assure, and ultimately improve person-centeredness in

AL is feasible and appropriate for all AL settings, and supported by numerous national organizations.

Keywords

Assisted living; person-centered; measurement; quality improvement; HCBS

INTRODUCTION

Assisted living (AL), also known as residential care and by other names, refers to settings that provide room, at least two meals a day, supportive care, and 24-hour oversight.[1] Excluding settings that house fewer than four residents, or care exclusively for individuals with mental illness or developmental disabilities, there are approximately 31,000 AL residences across the country caring for 750,000 older adults.[2] The 97% growth in AL during the 1990s[3] was due in part to the perception that moving to a nursing home was a 'dreaded event.'[4] Consequently, the philosophy of AL included personalized services, choice, and avoidance of the characteristics of an 'institutional' setting.[5]

Fast forward to 2010. Despite private rooms and residential furniture, notice was taken that AL is not as person-centered as envisioned – lacking, for example, a focus on relationships, empowered staff, meaningful activities, and opportunities for self-worth.[6] Concern regarding person-centeredness (PC) was heightened when in 2011 the Centers for Medicare and Medicaid Services implicitly questioned whether AL met criteria to receive Medicaid support through their home and community-based services programs.[7] Denying such support to the 19% of AL residents who receive Medicaid[8] might force their move into nursing homes.

As the importance of PC intensified for AL stakeholders, it became evident that no measures existed to describe, quantify, and ultimately improve it. To be sure, measures of PC exist for other settings, including the Artifacts of Culture Change[9] tool developed for nursing homes. However, in addition to not being developed or tested in AL, Artifacts has not been psychometrically tested and lacks strong empirical evidence for item weightings. Another instrument developed for nursing homes, the Culture Change Indicators Survey, has not been psychometrically tested and reflects only the perspective of staff, despite recognition that various stakeholders have different perspectives.[10–11] Two PC measures have been developed using some AL residences: the Experience of Home Scale (completed by residents)[12] and the Person-Directed Care measure (completed by staff).[13] However, neither focuses on AL, and both are limited by insufficient reliability and validity testing, and lack of comprehensiveness and endorsement by AL stakeholders.

Consequently, the stage was set for an established community-based participatory research partnership (CBPR)[14,15] between the University of North Carolina at Chapel Hill, the Center for Excellence in Assisted Living (CEAL)[1], and AL residents, families, staff, and other

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[1]CEAL is composed of representatives from AARP, Alzheimer's Association, American Assisted Living Nurses Association, American Seniors Housing Association, Assisted Living Federation of America, CCAL-Advancing Person-Centered Living, LeadingAge, National Center for Assisted Living, NCB (National Cooperative Bank), Paralyzed Veterans of America, and Pioneer Network.

organizational representatives[2] to develop relevant and psychometrically sound measures of PC in AL: resident and staff versions of the Person-Centered Practices in Assisted Living (PC-PAL) questionnaire. CBPR reflects a complete partnership among stakeholders so all are equitably represented and the outcome reflects the need of the community.[14]

METHODS

Development of the PC-PAL began with a comprehensive literature review to compile items descriptive of PC (broadly defined as culture and operations that are nurturing and empowering, promote purpose and meaning, and support well-being in a relationship-based, home environment).[6] Using the conceptual framework set forth by CEAL in their Informational Guide for Person-Centered Care in AL (that PC is built on core values and philosophy, relationships and community, management/ownership/governance, leadership, workforce, services, meaningful life, environment, and accountability),[6] key words were used to search the peer-reviewed and grey literature for related concepts. Peer-reviewed literature searches used PubMed and Psychinfo databases, and grey literature searches used the Google search engine as well as specific websites thought to include relevant concepts (e.g., Colorado Foundation for Medical Care, Wellspring, Eden Alternative). Example search terms included person (or resident/patient)-centered/directed, personhood, culture change, and AL, long-term care, and nursing homes; also, authors were searched by name. Using combinations of these and other terms, 121 searches were conducted, identifying 250 concepts related to PC.

The concepts were then developed into questionnaire items, creating parallel items to be asked of residents and staff when appropriate (e.g., '*I am*' or '*Residents are*' *told when to wake up, eat, sleep, and do other things*). The project team then met by teleconference and in-person over numerous months to identify item redundancy (e.g., some items used different words for the same intended concept), lack of item clarity (e.g., terms such as "autonomy" that were not sufficiently specific for valid and reliable reporting), and items of agreeably lesser importance in large part because, for example, the concept was embraced in another item (e.g., an item related to intergenerational and community engagement was removed because it was less specific than, and already reflected in, several other items). The resulting draft of the resident questionnaire included 75 items, and the staff questionnaire 102 items (because items related to governance, leadership, workforce, and accountability were not relevant for the resident questionnaire). Items in both instruments were organized under simple headings, such as activities, food and dining, and family. They were preceded with the question "To what extent do you disagree or agree that…," and answered using four point Likert scale responses (strongly disagree through strongly agree) or "don't know." A few questions were framed in the negative to mitigate concerns about acquiescence bias.[16]

Cognitive testing was conducted with eight residents and eight staff (administrative and direct care) in two AL residences in North Carolina. Eligibility criteria included having lived/worked there 3 months; being 21 years of age and able to complete the

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[2]Additional CBPR members included organizational representatives from The Chelsea at Brookfield, English Suites, the Green House Project, LeadingAge Georgia, and Planetree.

questionnaire with no more than limited assistance; and providing informed consent. Using the Question Appraisal System (QAS)-99,[17] respondents completed the self-administered questionnaire and then were asked their understanding of and why they answered select questions as they did, questions that were unclear, and whether important items were missing.

Items were revised accordingly and the questionnaires field tested by eligible respondents from a stratified sample of 19 AL residences considered to embrace PC (because the analytic method [factor analysis] assumes individuals have experienced the phenomenon being measured in order to respond coherently).[18] The sample was stratified to include smaller (no more than 10 occupied beds), medium, and larger communities (at least 60 occupied beds), and to include those that were both freestanding (not adjacent to a nursing home or independent living apartment), and also on a campus with either a nursing home or independent living apartments. The aim was to obtain responses from approximately 300 residents (based on standards for adequate sample size),[19] and as many staff as feasible given that 100–200 participants can produce acceptable results.[20]

Construct Validity

Discriminant validity was assessed by examining whether scale and subscale scores discriminated among residences. Convergent validity was assessed using analysis of variance to test association with two other measures: a summative measure of "culture change" of 17 items reflecting "culture change" in nursing homes[21] combined with 13 items relevant to AL, and three subscales of the Person-Directed Care Measure.[13] For the resident PC-PAL, the only measure of convergent validity available was the measure of culture change. Linear mixed models were used to estimate mean values of the PC-PAL associated with one standard deviation below and above the mean value for each measure.

Scoring and Analyses

The CBPR team agreed 70% of the items on a questionnaire had to have been completed for the data to be included (as fewer items likely indicated the respondent's inability to understand or respond), and that any given item needed to be answered other than "don't know" by 70% of respondents (as fewer likely indicated the question was confusing or its answer unknown by many).

Analyses used SPSS for Windows, version 18. Exploratory factor analyses used a principal components analysis of the correlation matrix with a promax (oblique) rotation, as it was expected that PC components would be correlated. The number of factors retained was informed by the eigenvalue-greater-than-one criterion, the scree plot, and judgment regarding the meaningfulness of the factors. Internal consistency coefficients (alphas) and corrected item-total correlations were obtained using the SPSS Reliability command. Paired t-tests were used for comparison of resident and staff scores. All materials and procedures were approved by the University of North Carolina Institutional Review Board.

RESULTS

Cognitive testing indicated the draft 75 item resident questionnaire required 16 minutes for completion, and the 102 item staff version 18 minutes; virtually all respondents indicated it was too long. Minor changes to wording were recommended, but no one recommended items be removed due to irrelevance or added due to important concepts having been overlooked.

Revised questionnaires were completed by 228 residents (447 eligible; 51% participation) and 123 staff (544 eligible; 23% participation); of these, 28 residents and 1 staff failed to complete 70% of items, so their data were omitted. Residents who did not complete 70% of items were more likely to be male (p=.011). Sixteen items in the resident version and one in the staff version were completed by <70% and so excluded from the questionnaire. Also, six items in the resident questionnaire that were stated in a negative way yet correlated positively with the sum of positively stated items were excluded; no items in the staff questionnaire needed to be dropped for this reason.

Characteristics of participants are presented in Table 1. Most residences had >60 beds (58%) and were free-standing (79%). Residents were primarily white (93%) females (73%), and half (49%) had been living there >2 years. Similarly, staff were primarily white (56%) females (94%) who had been working there >2 years (62%); one-half (48%) reported they were a personal care assistant or medication technician.

The PC-PAL is available at http://www.shepscenter.unc.edu/program/aging-disability-and-long-term-care/. Details of each questionnaire follow.

Resident PC-PAL

Four factors were extracted from the data and assigned these labels by the team: Well-Being and Belonging (example item, *I feel a sense of belonging here*), Individualized Care and Services (*I am involved in planning my care and services*), Social Connectedness (*There are different types of activities that are interesting to do here*), and Atmosphere (*It is noisy at night*). To limit respondent burden, it was decided to restrict inclusion to items with factor loadings 0.4, which resulted in a 49 item questionnaire; the four factors accounted for 50% of the explained variance in the total PC-PAL score. Correlations among the factors ranged from .30–.67. As shown in Table 2, the overall alpha (a measure of the internal consistency/relatedness of items in a group) was .96 and ranged from .85–.94 across subscales. Overall and subscale scores were close to a mean of 3.0 (the equivalent of agree), except for Atmosphere which was 2.88; scores ranged from 1 (the lowest mean score for an item in Social Connectedness) to 4 (the highest mean score in all subscales). Consistent with guidance that no more than 15% of respondents should achieve the highest or lowest possible score (to avoid floor and ceiling effects),[22] 0.5% had the highest possible overall score and none had the lowest. Overall, 82% of the range was used, including 100% for Social Connectedness. Resident gender, race and time living in the residence were not significantly related to the overall PC-PAL score, although older residents scored the overall PC-PAL and all scales except Individualized Care and Services higher than did younger residents (p .001).

Staff PC-PAL

Five factors were extracted from the data: Workplace Practices (example item, *The administrator and other leaders are present and approachable*), Social Connectedness (*There are different types of activities that are interesting for residents to do here*), Individualized Care and Services (C*aregivers encourage and help residents direct their own care*), Caregiver-Resident Relationships (*Caregivers often speak to residents in an unclear or hurried manner*), and Atmosphere (*It is noisy at night*). To limit respondent burden, it was decided to restrict inclusion to items with factor loadings   0.5 (slightly larger than for residents due to the smaller sample and concern the factors might not be as reproducible), which resulted in a 62 item questionnaire. The five factors accounted for 54% of the variance, and correlations among the factors ranged from .29–.49. The overall alpha was .96 and ranged from .81–.95 across subscales. Mean scores were slightly above 3 (agree) except for Caregiver-Resident Relationships which was slightly below 3. They ranged from 1 (the lowest mean score for an item in Caregiver-Resident Relationships) to 4 (the highest mean score in all subscales). No staff scored at the lowest or highest possible level on the overall PC-PAL. Overall, 54% of the range was used, including 100% for Caregiver-Resident Relationships. Staff age, gender, race, time employed, shift worked, and position were not significantly related to the score.

Comparisons of the Resident and Staff PC-PAL found mean staff ratings (3.18, standard deviation 0.53) were significantly higher than mean resident ratings (3.01, standard deviation 0.39) for the overall scale (p=.014) and all three of the subscales with similar content for both residents and staff (p< .001–.008).

Construct Validity

Table 3 displays the range of mean scores for all residences with more than 10 participants, as well as the mean PC-PAL score in relation to 'low' and 'high' values of other measures. Both questionnaires discriminated among residences (i.e., scores of individual residences were significantly different from one another; p<.05), as did all subscales except Caregiver-Resident Relationships on the Staff PC-PAL. In terms of convergent validity, the overall Resident PC-PAL and all subscales were significantly related to the culture change score (p<.05); for example, the last column shows the mean score on the Atmosphere subscale was 2.69 in low culture change residences versus 3.45 in high culture change residences (p<. 001). Two of the Staff PC-PAL subscales were significantly related to the culture change score, and the overall score approached significance (p=.08). More so, the overall staff PC-PAL was significantly related to all three subscales of the Person-Directed Care measure (p<.01), as were 13 of 15 comparisons of the subscales (p   .05); for example, the last set of rows in the second column shows the mean Workplace Practices score in low management structure residences to be 2.68 versus 3.45 in high residences.

DISCUSSION

The culture change movement is vigorously promoting PC in nursing homes, as evidenced through models such as Green House homes[23] and measures to benchmark PC such as the Artifacts.[9] If AL is to promote PC beyond rhetoric, and demonstrate it merits Medicaid-

funding as a home and community-based services provider, it must document its PC structures and processes. The PC-PAL, a research-quality questionnaire developed with the full partnership of stakeholders including AL residents, family members, staff, organizational representatives, and researchers, does just that and can be used to describe, quantify, and ultimately improve PC in AL through quality improvement. Use of the PC-PAL is supported by the national Center for Excellence in Assisted Living (CEAL), the American Assisted Living Nurses Association (AALNA), Assisted Living Federation of America (ALFA), American Seniors Housing Association (ASHA), LeadingAge, National Center for Assisted Living (NCAL), and Planetree.

Items on the PC-PAL were scored across the entire range of response options (1–4), and in this sample of residences considered to embrace PC, mean PC-PAL scores were 3.01 (Resident) and 3.18 (Staff). Consequently, the PC-PAL identifies items and areas where improvement may be indicated, and so can benchmark practices and be used for quality improvement. Further attesting to its utility, PC-PAL scores differ across residences; correlate with other measures of culture change and person-directed care; and reflect items considered by residents and staff to encompass PC.

The PC-PAL is self-administered so as to maximize feasibility. For the more than 40% of AL residents who cannot complete it due to cognitive impairment or other factors,[24,25] family may serve as proxies. Families tend to rate more critically than residents, however,[26] a point that should be taken into consideration. Similarly, in this study staff scored PC higher than did residents, reflecting their different perspectives.

The psychometric data on the resident PC-PAL is more robust than the staff PC-PAL, because more residents than staff provided data; consequently, the staff version may be shortened after further testing. Additional testing will determine which components of PC, and in what combination, relate to outcomes; assign weights to the components of PC; and examine conditions that facilitate PC in AL. Widespread use of the PC-PAL will further these efforts.

CONCLUSION

The PC-PAL is a feasible, widely endorsed tool to benchmark and promote person-centered practices in AL. Because it was developed with the input of a diverse group of stakeholders, and derived based on the input of AL residents and staff, it validity reflects the areas considered important to those who live and work in AL.

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HIGHLIGHTS

- More than 733,000 older adults reside in assisted living residences.

- Person-centered care is desired by consumers and required by the government.

- There has not been a psychometrically sound, endorsed measure for this purpose.

- The PC-PAL is research based and was developed by a wide range of stakeholders.

- The PC-PAL can describe, assess, assure, and improve person-centeredness in AL.

Table 1

Descriptive Characteristics of Settings and Subjects Participating in Psychometric Testing

Setting characteristics (N=19)	N (%) or Mean (SD)
Size	
< 10 beds	5 (26)
11–60 beds	3 (16)
> 60 beds	11 (58)
Freestanding	15 (79)
Resident characteristics (N=200)	
Gender, female	146 (73)
Race, white	186 (93)
Ethnicity, Hispanic	2 (1)
Age (years)	
< 70	30 (15)
70 –79	28 (14)
80	142 (71)
Tenure in residence	
< 1 year	57 (28)
1 – 2 years	46 (23)
> 2 years	97 (49)
Staff characteristics (N=122)	
Gender, female	115 (94)
Race, white	68 (56)
Ethnicity, Hispanic	5 (4)
Age (years)	
< 40	43 (35)
40 – 49	29 (24)
50	50 (41)
Tenure in residence	
< 1 year	24 (20)
1 – 2 years	22 (18)
> 2 years	76 (62)
Shift usually worked	
1st/morning shift	86 (70)
2nd/afternoon shift	29 (24)
3rd/night shift	7 (6)
Primary position	
Personal care assistant	45 (37)
Medication technician	13 (11)

Setting characteristics (N=19)	N (%) or Mean (SD)
Health care supervisor	10 (8)
RN/LPN	4 (3)
Administrator/owner	10 (8)
Activity/social services	6 (5)
Dining/food service	4 (3)
Housekeeping/maintenance	8 (7)
Other/no response	22 (18)

Table 2

Psychometric Properties of the Resident PC-PAL (49 Items) and Staff PC-PAL (62 Items)

Resident PC-PAL	Overall	Factor			
		Well Being and Belonging	Individualized Care and Services	Social Connectedness	Atmosphere
Factor loading					
Mean (SD)	.60 (.10)	.60 (.09)	.60 (.12)	.57 (.11)	.65 (.09)
Range	.41–.78	.44–.81	.41–.78	.45–.71	.43–.73
Internal consistency reliability					
Alpha	.96	.94	.90	.91	.85
Item-total correlation					
Mean (SD)	.56 (.12)	.68 (0.6)	.63 (.07)	.67 (.04)	.59 (.04)
Range	.27–.73	.56–.81	.49–.72	.62–.72	.54–.64
Percent of items completed					
Mean (SD)	94 (8)	94 (11)	93 (11)	94 (14)	95 (10)
Range	70–100	50–100	44–100	20–100	33–100
Score[a]					
Mean (SD)	3.01 (0.39)	3.05 (0.47)	3.04 (0.46)	3.04 (0.46)	2.88 (0.55)
Range	1.53–4.00	1.17–4.00	1.50–4.00	1.00–4.00	1.33–4.00
Percent of range used	82	94	83	100	89

Staff PC-PAL	Overall	Factor				
		Caregiver-Resident Relationships	Individualized Care and Services	Social Connectedness	Atmosphere	Workplace practices
Factor loading						
Mean (SD)	.66 (.11)	.60 (.08)	.59 (.06)	.69 (.11)	.60 (.08)	.67 (.10)
Range	.50–.86	.52–.77	.50–.70	.52–.86	.52–.74	.50–.85
Internal consistency reliability						
Alpha	.96	.85	.81	.94	.85	.95
Item-total correlation						

Mean (SD)	.53 (.11)	.60 (.06)	.55 (.10)	.65 (.08)	.57 (.07)	.64 (.09)
Range	.26 –.71	.48 –.69	.36 –.64	.51 –.77	.46 –.65	.44 –.78
Percent of items completed						
Mean (SD)	96 (6)	93 (13)	95 (10)	96 (7)	96 (7)	95 (10)
Range	71 –100	29 –100	50 –100	56 –100	75 –100	39 –100
Score^a						
Mean (SD)	3.18 (0.53)	2.91 (0.63)	3.25 (0.46)	3.31 (0.47)	3.34 (0.50)	3.06 (0.52)
Range	2.37 –3.98	1.00 –4.00	1.86 –4.00	1.25 –4.00	1.63 –4.00	1.78 –4.00
Percent of range used	54	100	71	92	79	74

PC-PAL: Person-Centered Practices in Assisted Living

[a]Potential range for all scales is 1 (Strongly Disagree) to 4 (Strongly Agree)

Table 3

Construct Validity: Mean Scores of the PC-PAL across Communities and in Relation to Other Measures

Resident PC-PAL	Mean (SE) Score[a]				
	Overall	Well-being	Individualized Care and Services	Social Connectedness	Atmosphere
Range over communities[b]	2.66 – 3.46	2.69 – 3.55	2.75 – 3.38	2.76 – 3.39	2.30 – 3.48
p	<.001	<.001	.026	.006	<.001
Culture Change score[c]					
Low (1 SD below mean)	2.92 (.05)	2.95 (.07)	2.98 (.05)	2.95 (.05)	2.69 (.06)
High (1 SD above mean)	3.34 (.10)	3.37 (.12)	3.25 (.10)	3.32 (.09)	3.45 (.11)
p	.008	.024	.048	.013	<.001

Staff PC-PAL	Mean (SE) Score[a]					
	Overall	Workplace Practices	Social Connectedness	Individualized Care and Services	Caregiver-Resident Relationships	Atmosphere
Range over communities[b]	2.68 – 3.45	2.60 – 3.34	2.67 – 3.54	2.75 – 3.51	2.24 – 3.44	3.05 – 3.53
p	<.001	.001	<.001	<.001	.25	<.001
Culture Change score[c]						
Low (1 SD below mean)	3.08 (.08)	2.97 (.11)	3.18 (.09)	3.18 (.09)	2.73 (.12)	3.27 (.08)
High (1 SD above mean)	3.43 (.13)	3.28 (.17)	3.58 (.14)	3.45 (.14)	3.39 (.20)	3.50 (.12)
p	.08	.22	.048	.19	.023	.21
Person-Directed Care[d]						
Personhood						
Low (1 SD below mean)	3.09 (.07)	2.97 (.09)	3.21 (.08)	3.12 (.07)	2.80 (.11)	3.27 (.07)
High (1 SD above mean)	3.30 (.07)	3.17 (.09)	3.41 (.08)	3.42 (.07)	3.12 (.11)	3.45 (.07)
p	.001	.020	.013	<.001	.001	.05
Knowing the Person						
Low (1 SD below mean)	3.09 (.07)	2.93 (.09)	3.25 (.09)	3.20 (.08)	2.84 (.11)	3.31 (.07)
High (1 SD above mean)	3.29 (.07)	3.20 (.09)	3.37 (.08)	3.34 (.08)	3.06 (.11)	3.39 (.07)

	p	.003	.003	.14	.10	.040	.37
Management Structure							
Low (1 SD below mean)		2.94 (.05)	2.68 (.05)	3.17 (.08)	3.12 (.07)	2.69 (.10)	3.16 (.06)
High (1 SD above mean)		3.44 (.05)	3.45 (.05)	3.47 (.07)	3.42 (.07)	3.24 (.10)	3.54 (.06)
	p	<.001	<.001	<.001	<.001	<.001	<.001

PC-PAL: Person-Centered Practices in Assisted Living

SD: Standard deviation

[a] Potential range for all scales is 1 (Strongly Disagree) to 4 (Strongly Agree); standard error reported rather than standard deviation because estimates are based on linear mixed models.

[b] Ranges and p values are for communities in which at least ten respondents provided data so as to present data that are reasonably reliable; conclusions about statistical significance are the same if all communities are included in the analysis.

[c] The nursing home culture change items were obtained in part from Doty, M.M., Koren, M.J., & Sturla, E.L. (2008). Culture change in nursing homes: How far have we come? Findings from The Commonwealth Fund 2007 National Survey of Nursing Homes. Available at http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2008/May/Culture%20Change%20in%20Nursing%20Homes%20%20How%20Far%20Have%20We%20Come%20%20Findings%20From%20The%20Commonwealth%20Fund%202007%20Nati/Doty_culturechangenursinghomes_1131%20pdf.pdf. Accessed April 26, 2014.

[d] The scale to which the Staff PC-PAL questionnaires were compared is described in White DL, Newton-Curtis L, Lyons KS. Development and initial testing of a measure of person-directed care. Gerontologist 2007; 48 (Special Issue I):114–123.