

Dementia-Focused Person-Directed Care Training With Direct Care Workers in Nursing Homes: Effect on Symptom Reduction

Joann P. Reinhardt, PhD; Orah R. Burack, MA; Verena R. Cimarolli, PhD; and Audrey S. Weiner, DSW

ABSTRACT

The majority of older adult nursing home residents have dementia and are at risk of not having their care needs met, largely due to communication deficits. Promoting comfort and minimizing distress for these residents is important. Direct care workers (DCW) and clinical staff completed a 6-day training on a person-directed care (PDC) model—a model guided by the needs of the individual that focuses on empowering DCW to understand and support resident preferences and remaining abilities supported by relationship development and consistent staffing. A retrospective comparison was conducted of residents in two PDC communities with matched residents ($n = 72$) and three traditional communities ($n = 72$) on functional and clinical outcomes over a 6-month period. A two-way analysis of variance showed a significant interaction between group and time, where only those in the PDC group had a decreased number of clinical symptoms (e.g., pain, depression, agitation) over time. This study found support for the benefit of PDC on clinical outcomes of interest over time. PDC training for DCW and clinical staff promotes quality care and the reduction of clinical symptoms, leading to improved quality of life. [*Journal of Gerontological Nursing*, 46(8), 7-11.]

Older adults who reside in nursing homes have complex medical needs, and due to culture

Dr. Reinhardt is Director of Research, Ms. Burack is Senior Research Associate, and Dr. Weiner is Retired, Former President/CEO, The New Jewish Home, New York, New York; and Dr. Cimarolli is Senior Health Services Research Associate, LeadingAge LTSS Center @ UMass Boston, Washington, DC.

The authors have disclosed no potential conflicts of interest, financial or otherwise.

The authors thank those who live and work in The New Jewish Home communities where this study was conducted.

Address correspondence to Joann P. Reinhardt, PhD, Director of Research, The New Jewish Home, 120 West 106th Street, New York, NY 10025; email: jreinhardt@jewishhome.org.

doi:10.3928/00989134-20200707-01

change efforts over the past 3 decades (Koren, 2010), promotion of their choice and dignity has been elevated along with the importance of clinical care. Facets of culture change promote individualized, person-directed care (PDC), which is supported through consistent staffing to facilitate meaningful relationships, and in the presence of a comfortable home environment (Miller, Lepore, et al., 2014; Saliba & Schnelle, 2002). There are comprehensive models of culture change that can be adopted, including the Eden Alternative (Thomas & Johansson, 2003) and the Wellspring model (Stone et al., 2002), and also household models that blend culture change facets with the physical envi-

ronment and feature approximately 12 older adults per community, such as the small house (Norton & Shields, 2006) and Green House (The Green House Project, 2012; Thomas, 2004) models.

Overall, research evidence has shown better outcomes for household models compared to traditional nursing home communities. For example, this evidence includes better clinical outcomes (Afendulis et al., 2016), functional outcomes (Reinhardt et al., 2019), and satisfaction with care outcomes (Kane et al., 2007) for residents in household models compared to those in traditional nursing home communities. For families, these outcomes include greater satisfaction with residents' care and their own experience (Lum et al., 2008-09). Yet, the implementation of culture change practices requires commitment and resources, making a "complete" change in the nursing home infrequent. Only 13% of U.S. nursing homes have reported comprehensive culture change adoption (Miller, Looze, et al., 2014). A further complicating factor is that, although a PDC philosophy promotes the practice of self-determination and choice in daily life for older adults who live in nursing homes, most residents have some level of dementia, including many who are in a moderate to severe stage of the disease.

Residents with advancing dementia have a high likelihood of having an accompanying inability to verbally articulate their needs and make their choices heard. They do, however, communicate in a variety of other ways, which require attention and familiarity of residents by direct care workers (DCW) who care for them on a daily basis. For example, changes in residents' physical or verbal behaviors or rejection of care may signify pain or discomfort. The importance of using individualized PDC in nursing home communities to address psychosocial and physical unmet needs of residents, including those with dementia, has been stressed (Basnet et al., 2020). For these residents, deep knowing of each individual is key, and this is largely accomplished via empowered DCW who care for them consistently and with whom they develop meaningful relationships. For the latter to occur, entire interdisciplinary teams are trained, with DCW learning to become empowered, and clinical nursing staff supporting and coaching DCW in these skills. Employing this level of care on communities that have 30 to 40 beds, and not the smaller numbers that characterize household models, is a significant challenge facing many nursing homes across the country. Fortunately, there are some existing models that feature PDC on more traditional, larger size communities, such as Comfort Matters (Alonzo et al., 2015) and legacy communities of The Green House Project (2012). The major components of these two PDC models were used in the current project to train interdisciplinary staff, including DCW, in two pilot communities, which were then compared to traditional communities.

The purpose of the current study was to examine and compare functional and clinical outcomes over a 6-month period for the sample of residents who live in PDC communities and a matched sample of residents who live in traditional communities. It is important to note that these

PDC models included changes to care practices without the additional environmental transformations that often accompany PDC adoption. For example, there were 38 residents per community, which is more than the usual number of residents (e.g., 10 to 12) in a household model of care.

METHOD

Participants

The sample included 72 residents who lived in one of two PDC communities between the opening date of these communities (January 2014) and the study start date (April 2017). These residents were compared with a sample of 72 residents who lived in one of three traditional nursing home communities during the same time period. Both groups were matched on acuity (i.e., required level of care based on resident functioning) and cognitive status.

Training

We used the combined principles of the two PDC models described above (i.e., The Green House and Comfort Matters) to train all interdisciplinary staff (i.e., DCW, including certified nursing assistants [CNAs] and housekeeping staff; and clinical staff, including nurses, physicians, and social workers) in two communities. Each community was home to 38 long-term care residents within a large nursing home in New York City. The 6-day training included the following components: knowing residents deeply to anticipate and meet individualized needs, the importance of empowering DCW who know residents best, approaching residents in a positive manner, enhancing communication skills, supporting remaining abilities, understanding that all behavior has meaning, and the use of tools that facilitate communication and deep knowing of residents including the Pain Assessment in Advanced Dementia scale (Warden et al., 2003) and the Dementia Roadmap (Alonzo et al., 2015).

Measures

For cognitive status, we combined self-reported cognitive status (Brief Instrument of Mental Status [BIMS]; Chodosh et al., 2008) with staff report of cognitive status (Cognitive Performance Scale [CPS]; Morris et al., 1994) to create a variable for the full sample, where 1 = *mild impairment* (BIMS = 13 to 15; CPS = 0 to 2); 2 = *moderate impairment* (BIMS = 8 to 12; CPS = 3), and 3 = *moderate to very severe impairment* (BIMS = 0 to 7; CPS = 4 to 6). Acuity was taken from the Resource Utilization Group IV categories, which place older adults into eight groups based on intensity of activities of daily living (ADL) needs, presence of depression, rehabilitation therapy, and restorative nursing services (e.g., amputation/prosthesis care) being provided (Centers for Medicare & Medicaid Services, 2019).

We then combined these groups into three categories indicating decreasing levels of service use: *high acuity* (rehabilitation and extensive services; rehabilitation only), *medium acuity* (extensive services, special care high, special care low, clinically complex), and *low acuity* (impaired cognition, behaviors, physical function reduced). For functional status, we used self-performance of 10 ADL items, which was coded as follows: *independent* (0), *supervision* (1), *limited assistance* (2), *extensive assistance* (3), or *total dependence* (4). We used the mean of ADL items to create a functional status score. We then created an ADL change variable with three categories: *better* (increase of at least 1 point), *same* (no change), or *worse* (decrease of at least 1 point). Single items from the Minimum Data Set (MDS) (1 = *yes*, 0 = *no*) were used to measure pressure ulcers, urinary incontinence, depression (score ≥ 5 on the Patient Health Questionnaire-9), pain, behavioral agitation (any behavioral symptom [e.g., physical, verbal, other]) over the past 1 week, and rejection of care. These clinical symptoms were also summed at each time point to compare the total number of clinical symptoms in each group.

Procedures

For older adults, MDS 3.0 data were examined retrospectively and extracted from residents' electronic medical records at baseline and 6 months later. The study was approved by the Institutional Review Board in the facility.

Analyses

Change in functional status and acuity were compared using chi-square analyses. First, a 3 (better/same/worse) \times 2 (PDC/traditional) chi-square test was conducted to compare change in overall functional ability. Next, a 3 \times 2 chi-square test was conducted to compare change in level of acuity (high/medium/low) by group (PDC/traditional). To determine whether there was significant change over time in clinical variables (i.e., pressure ulcers, incontinence, pain, depression, behavioral agitation, rejection of care) within each group, the McNemar test for change in categorical variables was used. Finally, a 2 (group) \times 2 (time) analysis of variance (ANOVA) was used to determine whether there was a significant interaction between group and time on the total number of clinical symptoms.

RESULTS

Sample

Descriptive information for the study sample at baseline is provided in **Table 1**. Residents did not differ significantly by age or race. Older adults in the traditional communities had a slightly higher number of diagnoses and higher proportion of females in the sample compared to those in the PDC communities. The majority of each group had a diagnosis of dementia but these proportions were not significantly different for the PDC (83%) and traditional communities (78%). Both groups were matched on acuity and cognitive status. Descriptive data on these two measures showed that overall, most residents in each group had severe cognitive loss and high acuity at baseline.

TABLE 1

Sociodemographic and Health-Related Variables at Baseline

	PDC Group (<i>n</i> = 72)	Traditional Group (<i>n</i> = 72)		
Variable	Mean (<i>SD</i>)		<i>t</i>	<i>df</i>
Age (years)	82.9 (9.6)	83.5 (9.9)	0.34	142
Diagnoses (<i>n</i>)	6.3 (2.2)	7.6 (3.1)	2.47*	142
<i>n</i> (%)				
Gender (female)	40 (56)	55 (76)	6.96*	1
Race ^a (<i>n</i> =71 per group)			4.06	2
White, non-Hispanic	39 (55)	28 (39)		
African American	13 (18)	29 (41)		
Hispanic	15 (21)	13 (18)		
Asian and Hawaiian/ Pacific Islander	4 (6)	1 (1)		
Cognitive impairment			0.34	2
Mild	10 (14)	12 (17)		
Moderate	14 (19)	12 (17)		
Severe	48 (67)	48 (66)		
Acuity (care intensity)/RUG IV categories ^b			0.37	2
High	42 (58)	43 (60)		
Medium	23 (32)	24 (33)		
Low	7 (10)	5 (7)		

Note. PDC = person-directed care; RUG = Resource Utilization Group.

^a Chi-square is computed for White/non-Hispanic vs other.

^b Chi-square is computed for high/medium/low acuity.

* $p < 0.01$.

Change in Functional and Clinical Outcomes

A chi-square test of independence showed that acuity at 6 months was not significantly associated with group status (**Table 2**). Another chi-square test of independence showed that change in functional status (better/same/worse) was not significantly associated with group membership (**Table 2**). McNemar tests were conducted to compare change in within-group clinical outcomes from baseline to follow-up

scores (**Table 3**). Results showed that within each group, there was no significant change on clinical care outcomes from admission to 6 months. There was one trend found, with those in the PDC group less likely to report or demonstrate pain over time ($p < 0.10$). There was no similar trend for the traditional group. Finally, results for the 2 \times 2 ANOVA demonstrated a significant interaction ($F[1,115] = 4.05$), with older adults in the PDC group (baseline mean = 1.07; follow up mean = 0.83),

TABLE 2
Chi-Square Analyses for Change in Function Outcomes

Variable	PDC Group	Traditional Group	χ^2	df
Acuity (care intensity) at 6 months	(n = 61)	(n = 58)	1.02	2
High	15 (25)	17 (29)		
Medium	24 (39)	25 (43)		
Low	22 (36)	16 (28)		
Change in ADL status	(n = 62)	(n = 59)	1.21	2
Improved	0 (0)	1 (2)		
Same	59 (95)	56 (95)		
Worse	3 (5)	2 (3)		

Note. PDC = person-directed care; ADL = activities of daily living.

TABLE 3
McNemar Tests for Change in Clinical Care Symptoms

Variable	Presence of Clinical Outcome, n ^a (%)			
	PDC Group		Traditional Group	
	Baseline	Follow Up	Baseline	Follow Up
Pressure ulcers	12 (20)	7 (11)	11 (19)	8 (14)
Incontinence	52 (93)	51 (91)	57 (98)	56 (97)
Pain ^b	24 (39)	16 (26)	18 (32)	21 (37)
Depression (PHQ-9 score ≥ 5)	9 (15)	8 (13)	27 (46)	27 (46)
Behavioral agitation	12 (19)	15 (24)	3 (5)	7 (12)
Rejection of care	8 (13)	7 (11)	2 (3)	3 (5)

Note. PDC = person-directed care; PHQ-9 = Patient Health Questionnaire-9.

^a Total number of residents ranges from 56 to 62.

^b PDC group, $p < 0.10$.

but not the traditional group (baseline mean = 1.05; follow up mean = 1.12), having a decreased number of clinical care symptoms over time. There were no significant main effects found for either group or time on the number of clinical care symptoms. It is noted that urinary incontinence was not included in the summed score as there was no variability in this measure.

DISCUSSION

We conducted a retrospective comparison of the use of PDC versus a traditional model of nursing home care on functional and clinical outcomes. The PDC model incorporated a 6-day staff training and a comprehensive change to care practices and direct care staff empowerment; however, the large number of older adults per community

($n = 35$) remained the same as in traditional units and none of the physical changes associated with PDC were made to the environment (e.g., central kitchen in the community, direct access to outdoor space).

Findings showed a significant interaction for the total number of clinical symptoms over time by group. For the PDC group, the number of clinical symptoms decreased over the 6-month follow-up period. There was also a trend toward decreased pain over time for the PDC group only. There were no other significant differences between the matched PDC and traditional groups on functional or individual clinical outcomes.

Although our study showed limited evidence for the effectiveness of the PDC model in terms of the outcomes assessed, one should consider that the actual PDC practices that were learned may not have been performed fully over time. Although there was initial training, booster training at regular intervals would be an important addition. PDC practices may have eroded over time as they were being used in two communities within the constraints of a larger, traditional setting.

LIMITATIONS

We used a retrospective comparison of a matched sample of residents living in PDC and traditional communities as random assignment to groups was not possible. The two samples differed somewhat, with older adults in the PDC group having a smaller proportion of women and slightly lower number of diagnoses compared to the traditional group. Ideally, although seldom possible with a study conducted in the natural environment of a nursing home, a stronger study design is a pragmatic clinical trial as opposed to a retrospective study. Another limitation of the study is the use of data from MDS assessments, which are completed by clinicians for care purposes and not by trained researchers. Future research should incorporate larger samples to examine whether the impact of PDC is related to individual

differences, such as gender and health status, and document the fidelity of PDC practices being used on an ongoing basis.

PRACTICE IMPLICATIONS

Despite the study's limitations, findings provide evidence that the PDC model is associated with some improved aspects of clinical care over time compared to a traditional model. This finding is particularly important for nursing care partners. Reducing symptom distress is indicative of quality care. Nursing home policy that supports PDC model components, such as staff empowerment, is critically important. Bowers, Roberts, et al. (2016) showed how maximizing the interaction of nurses and CNAs (who know residents best) with other care providers in interdisciplinary teams facilitated excellent care largely through the ability to document and address resident changes in condition. In addition, when nurses and CNAs work together in a coached collaborative type of model, outcomes are better (e.g., lower hospitalization rates) than when management-led or hierarchical authoritarian types of models are used (Bowers, Nolet, et al., 2016). Support of nursing staff empowerment and team collaboration can facilitate quality care and the opportunity for timely intervention for residents as needed.

CONCLUSION

Study findings support investing in PDC training for DCW and clinical staff as residents in the PDC group, but not the traditional group, experienced a significant reduction of distressing symptoms over time. Positive change in life quality for residents is possible with staff empowerment even in the absence of major architectural changes and with a substantial number living in each community.

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