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Depression Training in Nursing Homes: Lessons Learned from a Pilot Study

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Abstract

Late-life depression is common among nursing home residents, but often is not addressed by nurses. Using a self-directed, CD-based depression training program, this pilot study used mixed methods to assess feasibility issues, determine nurse perceptions of training, and evaluate depression-related outcomes among residents in usual care and training conditions. Of 58 nurses enrolled, 24 completed the training and gave it high ratings. Outcomes for 50 residents include statistically significant reductions in depression severity over time ($p < 0.001$) among all groups. Depression training is an important vehicle to improve depression recognition and daily nursing care, but diverse factors must be addressed to assure optimal outcomes.

Keywords

Nursing homes; depression training; nursing care; pleasant activities; standardized scales

Improved depression detection, treatment, and monitoring by nurses in long-term care (LTC) settings is needed to reduce the frequency and devastating consequences of this common, but often overlooked illness. An estimated 20% to 48% of nursing home (NH) residents are reported to have active depression using Minimum Data Set (MDS) data (Jones, Marcantonio, & Rabinowitz, 2003; Levin et al., 2007). Psychiatric evaluations indicate that 15% have major depression, 17% have minor depression, and 44% experience significant depression symptoms (Teresi, Abrams, Holmes, Ramirez, & Eimicke, 2001).

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Late life depression often occurs comorbidly with chronic medical disorders, pain, anxiety, and cognitive impairment (Arnow et al., 2006; Steffens & McQuoid, 2005) and is associated with reduced quality of life, increased health care costs, greater functional impairment and higher risk of mortality (Callahan et al., 1998; Unutzer et al., 2000; Unutzer et al., 2009). The downward and reciprocating spiral of disability associated with depression (Bruce, 1999; Strine et al., 2009) routinely results in self-care deficits that negatively influence other health conditions. Although depression is highly treatable, older adults and health care providers alike too often interpret signs and symptoms as an understandable consequence of aging, grief, or loneliness (Davison, McCabe, Mellor, Karantzas, & George, 2009; NIMH, 2003).

In spite of efforts to identify and treat depression in NH settings, such as MDS assessments and identification of depression as a quality indicator, problems persist (Boyle et al., 2004). Depression recognition by nurses, nursing assistants and social workers is estimated to range between 37% and 55% (Bruhl, Lujikenkijk, & Muller, 2007), suggesting that as many as half of NH residents with depression are not identified by those who provide daily care. Even when depression is identified, 23% receive no treatment and the rest (74%) are treated nearly exclusively with antidepressant medications (Levin, et al., 2007). These findings are in stark contrast to older adults' expressed preference for non-pharmacological interventions (Unutzer et al., 2003) and the availability of psychosocial interventions that may be used in daily care (Mellor et al., 2010; Smith, Johnson, Seydel, & Buckwalter, 2010). Common deterrents to quality depression care in NHs include staff's lack of knowledge about depression signs and symptoms, lack of familiarity with psychosocial or medication interventions, beliefs that older adults don't want to talk about their feelings, and perceptions that their primary focus should be on physical care tasks (Ayalon, Arian, & Bornfeld, 2008; Davison, et al., 2009). In summary, many opportunities exist to reduce disability and improve quality of life for depressed older adults by enhancing depression knowledge and skills through training.

The purpose of this article is to describe a self-directed, CD-based depression training program and its use during a pilot study conducted in NH settings. The pilot study was designed to examine the feasibility of nurses using the application-focused depression training program with older adults in their care, and to evaluate training-related outcomes among those residents. This article describes feasibility issues, methods and outcomes of the study and includes 1) a brief review of the depression training program, 2) nurses' perceptions of training, and 3) differences in depression and depression-related factors among older adult residents before and after training.

Brief Overview of Depression Training

The training program used in the pilot study, called *Depression Training to Promote Nurses as Advocates for Older Adults* (hereafter referred to as *Depression Training for Nursing or DTN*), was developed for use by nurses who regularly have contact with older adults but are not psychiatric nurses. Program principles were based on the highly successful IMPACT (Improving Mood Providing Access to Collaborative Treatment) depression care model (Unutzer et al., 2002; Unutzer, et al., 2003) and recommendations of the *Consensus*

Statement on Improving the Quality of Mental Health Care in U.S. Nursing Homes (AGS, 2003). Key points from the *Consensus Statement* that were emphasized in the DTN program included the following: using standardized depression screening tools to assess and monitor outcomes; assessing the availability of social and meaningful activities; evaluating pain, cognitive function, and other chronic medical conditions; and using non-drug interventions as part of daily care.

The DTN educational modules address four main topics: 1) description of late life depression and comorbid conditions, 2) use of standardized rating scales to quantify symptoms and monitor outcomes, 3) depression interventions (e.g., psychosocial, behavioral activation, medication use), and 4) communication and teamwork among health providers. Each module uses the same learning strategies, including a brief digitized presentation, supportive handouts, a work place exercise, and case-based learning (see Table 1). As part of the training, learners are asked to implement exercises with an older adult who likely has depression. Exercises are designed to gain depression-related skills in each of the four main topic areas. Although focused primarily on nurses, the program emphasizes collaboration among all health providers, encourages nurses to engage their team members and colleagues in care and treatment, and underscores the older person's individual preferences for depression treatment.

The DTN program was disseminated statewide following its development; 250 nurses returned evaluations related to its use. Strong positive results related to the training program's impact on depression identification, nursing care practices, and outcomes for older adults suggested that the program had a positive influence (Smith, et al., 2010). However, nurse perceptions of the training program's effect on older adult care may not accurately reflect actual patient-related outcomes. Thus, the pilot study was undertaken to explore nurses' use of the DTN program in NHs, and its effect on older adults in their care.

Pilot Study Methods

Study Overview

The year-long study used mixed methods and repeated measures to explore feasibility issues and evaluate training-related outcomes. Feasibility issues focused on recruitment, engagement and retention of NHs, nurse participants, and residents with depression (see Table 2). Training-related outcomes included nurse trainee perceptions of the DTN program and NH resident participants' levels of depression and depression-related anxiety, pain, and quality of life. The study was approved and monitored by the university's institutional review board (IRB).

A convenience sample of volunteer nursing facilities, nurses, and residents were recruited from the geographic region that surrounds the university. Decisions related to the sample (i.e., number, size and location of NHs, number of nurse and older adult participants, assignment of facilities to intervention groups) were based on pragmatic issues related to the funding level for the year-long study. The combined focus on feasibility issues and resident outcomes guided the decision to include two small intervention groups and a usual care group.

Although the DTN program was designed for self-directed learning, considerable evidence supports the facilitative role that psychiatric mental health nurses often play in long term care education. Technical assistance, consultation to increase use of training-related interventions, and problem-solving assistance with clinical care issues are often associated with enhanced outcomes (Eisch, Brozovic, Colling, & Wold, 2000; Rapp, 2003). Thus, two intervention groups, CD-based training alone (CD-only group) and CD-based training with psychiatric nurse assistance (psychiatric nurse enhanced or PNE group) were included. A usual care group (residents in NHs where training was not provided) was included for comparison.

Nurse and resident participants were “paired” to facilitate use of training exercises, with a goal of 30 resident/nurse dyads in the two intervention groups (15 each in CD-only and PNE) and 15 residents in the usual care group. Rates of depression in NHs suggested that nine medium-sized facilities (50 residents or more) would be sufficient to identify 45 residents with depression. Nurses were asked to complete the four-part training program in 4 to 6 weeks. Resident-related outcomes were assessed before training (baseline) and at 8, 12, and 16 weeks.

Setting and Sample

Nursing facilities in a 14 county area were identified using Nursing Home Compare (US Department of Health and Human Services [USDHHS], 2008). Facilities that met study criteria for size and type of care (i.e., >50 beds, not specialty care or hospital affiliated) were invited to participate. See Figure 1 to review the recruitment and retention of facilities and nurse and residents participants, during the study. The following key issues were addressed in facility participation agreements: assuring voluntary participation of nurses and residents, providing nurse participants time to complete the training during work hours, having a facility leader complete human subjects training, and assisting researchers to recruit residents. Administrators also were advised that the training was free and nurses who completed training were eligible for nine (9) continuing education units (CEUs).

Registered nurses (RNs) and licensed practical nurses (LPNs) were invited by their employer to meet with the research team. Information about the study methods and training-related requests of nurses in the DTN program (e.g., resident-focused exercises, case-based learning) was provided. During enrollment, facility administrators and potential nurse participants were reminded that study participation was an individual decision and could not be a condition of employment, and that participants could withdraw at any time, for any reason.

Residents were identified by the nurse participants and facility administration based on the request for individuals “who likely have depression but are not cognitively impaired.” Resident inclusion criteria included advanced age (≥ 60 years), ability to sign informed consent, absence of cognitive impairment (defined as Modified Mini-Mental State Exam [3MS] score ≥ 78) (Teng & Chui, 1987) and presence of clinically significant depression (defined as Patient Health Questionnaire [PHQ-9] score ≥ 10) (Kroenke, Spitzer, & Williams, 2001).

Intervention Approach

Nurses in both the CD-only and PNE training conditions were asked to identify one resident participant in their facility with whom they would like to work during the course of the depression training program. Efforts were made to assure nurses had choices in the selection of a resident “partner” and did not feel coerced. Information about how to contact the research team was reviewed and included in the training packet. Members of the CD-only group were provided technical assistance to use the program if problems or concerns arose. Members of the PNE group were provided weekly telephone calls supplemented with on-site visits by one graduate research (GRA) who was an experienced geriatric psychiatric nurse. Additional assistance offered to the PNE group included help to complete workplace exercises, such as assessing residents using the PHQ-9, problem-solving related to depression interventions, and engaging team members in care plans.

Outcome Measures

Feasibility issues were recorded using a combination of methods, including: a) electronic and paper field notes; b) narrative notes recorded on scales during resident assessments; c) spreadsheets to track recruitment, participation, and attrition; and d) email correspondence related to unexpected delays in gaining IRB approval. Nurse outcomes were assessed using a self-report measure (Smith, et al., 2010), Depression Training Program Evaluation (DTPE), and a short semi-structured interview. See Table 3 to review nurse and resident outcome measures. Resident outcomes were assessed using combination of chart review and self report measures. Chart review included demographic and background information, depression and health-related history, medication use, and depression treatment (past and present). Self-report scales that have established psychometric properties and are regularly used in geriatric research were used to assess depression, anxiety, pain, and quality of life.

Data Entry and Analysis

Nurse and resident participants’ data were entered into a data management system by a single GRA. Data were cleaned by the PI and descriptive statistics were completed for both resident and nurse data. Differences between nurses in the CD-only and PNE groups were examined using t-tests and Chi square analyses. Cleaned resident data were analyzed by a statistician using linear mixed modeling to assess differences in depression, anxiety and pain. Score distributions were examined for normality and transformed as needed. The repeated measurement factor, Time (Baseline, Weeks 8, 12, and 16), was modeled as a fixed effect using a covariance structure that allows different variances at each time point. Treatment was also a fixed effect. The model included Treatment*Time interaction. The nonparametric Kruskal-Wallis test was used to examine quality of life (QoL). Depression-free days (DFD), an increasingly popular analytic approach for examining patients’ experiences with depression over time (Vannoy, Arean, & Unutzer, 2010), were estimated after sorting residents by their assignment to nurses who did/did not complete training. DFDs were estimated following procedures outlined by Vannoy and colleagues (2010) and using the PHQ-9 score <4 as “depression free = 1” and the PHQ-9 mean score of 15 as “depressed = 0”.

Conceptual content analysis methods were used to analyze narrative responses following an inductive approach (Elo & Kyngas, 2007). Team members (PI and GRAs) independently read answers to open-ended questions, identified and defined themes, and sorted answers. The number and definition of themes and assignment of individual responses were determined using a consensus approach until agreement was reached.

Results

Facility Participants

Of the 81 NHs in the 14-county region, 58 met study criteria and were invited to participate. Eighteen facilities signed letters of agreement and were assigned equally to the three groups: CD-only, PNE, and usual care. Of these, 13 facilities were retained in the study. Refer again to Figure 1 for information about facility attrition.

Nurse Participants and Outcomes

Fifty-eight of 63 nurses approached in ten NHs enrolled; 32 were in the PNE group and 26 were in the CD-only group. Attrition during the study included 16 nurses who withdrew due to inability to identify a resident that met study criteria ($n = 10$), competing demands for their time ($n = 4$), and leaving employment at the facility ($n = 2$). Eleven nurses reported that they partially completed ($n = 2$) or did not complete the training ($n = 9$), and seven were repeatedly unavailable for the post-training evaluation. Training completion was related to facilities, but not CD-only or PNE groups. Nurses who reported that they completed the training ($n = 24$) worked in the same five facilities and nurses who did not or were unavailable ($n = 18$) were employed in same four facilities.

The 11 nurses who reported partially or not completing the DNP program participated in the evaluation by completing the background information in the DTPE form and interviews. Background characteristics of the nurses who did ($n = 24$) and did not ($n = 11$) complete the training were generally similar. Nurses who completed the DTN program were less likely to have participated in depression training beyond that provided in their basic nursing education ($p = .038$). They also reported more years in practice than those who didn't complete the training (16.5 years vs. 8.8 years), a trend that approached statistical significance ($p = .063$). Otherwise, the composition and characteristics of those who did and didn't complete training were comparable. Fifty-seven percent were diploma or associate degree prepared RNs and 30% were LPNs who were employed as staff nurses (38%), nurse managers (30%) or care plan/MDS coordinators (19%). The majority (81%) used a computer regularly at home or work and had experience using one or more self-directed continuing education products (89%).

Perceptions of knowledge, care, and outcomes—Differences between nurses in the CD-only and PNE group on post-training evaluation items were not statistically significant and so results are reported as a group ($n = 24$). See Table 4 to review item examples and narrative responses for each of the three main content areas assessed. Perceptions of training resulted in mean scores that ranged from 4.3–5.1 for knowledge and skills items, from 3.9–5.1 for changes in care items, and from 3.7–4.7 for resident outcomes. Narrative responses

to requests for other ways the training influenced these three main areas clustered around themes that were directly related to the training, such as recognition of depression, assessment scales and methods, and nursing care and interventions. Sixty-seven actions were listed in response to the request to “list three things you are doing/have done differently” as a result of training. Main themes with examples are provided in Table 5.

Nurses perceptions of the usefulness of training—Mean scores for the four training topics ranged from 5.1–5.5. Mean scores for the five main teaching methods and strategies used in the training (videos, handouts, case-based learning, exercises, appendix materials) ranged from 4.2–4.8. Twenty-one nurses (88%) provided 64 responses to the request for most useful things about the training and 25 responses related to least useful aspects. Responses clustered around the program content (e.g., depression symptoms, scales) and format (e.g., exercises).

Useful aspects included responses like “Information on how to correctly use tools and interpret them [content]” and “Videos were helpful; I liked to follow with handouts for the lecture.” Two responses related to workplace exercises were particularly informative: “Gave me a reason to really talk to resident about things and get to know them” and “Love the interaction experienced with my resident – I learned so much.”

Five responses for least useful aspects of training addressed study-related problems, such as “needed a less complex patient to start with,” and “patient in and out of hospital.” Content-related responses included “communication with physicians, already good” and format-related responses, such as “videos – I lose interest fast.” A key general comment included “I think if the program is offered online or as a workshop it may be easier overall to focus and to have time.”

Nurse interviews—Three main themes emerged in interviews with nurses who reported that they did not complete the training (n = 11). Time constraints and competing demands were a common problem:

I just didn't have enough time. I tried to watch it during my lunch break, but you just keep getting interrupted, so you really can't follow along real well; and It was kind of hard to work on because some of it had to be done here at work, and with the work schedule, and the work load, and sometimes it was impossible.

A second problem was the perception that the training was a review or repeat of knowledge they already had, and was therefore unnecessary to complete. As one nurse said, “I went through the first part but I learned all that in school. I just graduated, you know, and we were taught about depression.” The third main theme, that depression is a problem, was underscored by a nurse who said, “I wish I could have completed the program...I think depression goes undiagnosed, you know, especially in the elderly. Sometimes we chalk it up to “they're getting old, they are getting ‘senile,’ when actually a lot of it is depression. I think we all could learn more about it.”

Nurses who reported completing the program (n = 24) also recognized depression as a serious problem, as illustrated in the statement:

I am getting older myself, and I can really relate to their feelings when they lose their home and they come here and so many of them still think it is for the dying, and it is not. And just having the questions and the tools makes me go into the room and I can ask questions with ease as far as trying to find out where they are at and if they are sad, and I just, you know, want to help them because it is not really for the dying, you know, this is a place to live too. And I just, it's easier for me to talk about it now with them.

A second primary theme among nurses completed the program was the way that training had changed their daily practices, including both their work practices and life in the community. Many comments included references to paying better attention to depression and using methods to enhance resident care, such as:

I'm going to listen a little closer to the residents, you know, and if there is something a little off key, I'll go in the charts and see what's going on as far as the progress notes, or the doctor's orders, and things like that, or check on the meds and see if there's any, you know, have any effect on these people, to see if there are changes in their behaviors.

The final theme among nurses who completed the training revolved around better assessment to explore causal and contributing factors related to depression, such as

Before, anybody with depression, the social worker would do the testing and then come with a score and say "okay, they scored... whatever and we think they need an anti depressant." And we would contact the doctor. And then you know, quarterly or so, the social worker again would retest. But now I look at it and think, okay, you really need to do the cognitive [assessment] too, and do a pain scale, and how about anxiety and follow up with frequent retesting and make sure that there are, if there is a lack of socialization, make sure we have activities, make sure that it is in the care plan and that everybody in the facility is involved. I think it has just really enhanced people with depressions life by doing all of this.

Nurses who completed training also discussed challenges related to using recommended methods, such as problems with scheduling interviews with residents and access to the facility computer. Additional comments largely reinforced findings of the DTPE form related to variability in learning styles and preferences (e.g., exercises, videos, self-paced learning).

Resident Participation and Outcomes

A total of 105 residents in 13 facilities were identified by staff as potential participants. See Figure 1 again. Twelve residents were not interested in participating and 59 of the remaining 93 residents who were screened met study criteria and were enrolled (30 PNE, 16 CD-only, 13 usual care). The 12 individuals who were not interested in participating is a conservative estimate since this number does not include residents who were approached by facility nurses about participating in a "depression study" and refused to talk with researchers. Changes in description to "a study about nurse training" enhanced the ability of researchers to approach and screen residents.

Field notes for residents screened but not enrolled indicated that those with PHQ-9 scores <10 often made statements suggesting their acceptance of life, such as, “I look around and see how much better off I am than most people and I am grateful; Worrying doesn’t get you anywhere in life; and I don’t mind if I die; I’ve had a good life and I’m content to have lived this long.” Field notes also documented strategies used to improve accuracy of assessments, such as using a conversational tone, taking time to establish rapport before starting the test battery, allowing sufficient time and silence to answer questions, and using words such as “discouraged” and “blue” to describe depressed feelings.

Prior to the 8-week evaluation, nine residents withdrew. No statistically significant differences in baseline characteristics were identified between residents who were lost/omitted and those who completed the study. Similarly, no significant differences were identified among residents in the PNE, CD-only, and usual care groups at baseline.

On average, resident participants were 83.7 years old, female (76%), white/not Hispanic (100%), and widowed (66%). Fewer were married (14%), single (10%) or divorced/separated (8%). Most had a documented history of depression (73%) and median length of residency was 1.5 years (range from 1 month to 12 years). At baseline, residents took from 1 to 19 scheduled medications (median = 10). Fifty-eight percent (58%) were prescribed antidepressants and 62% were prescribed other psychoactive medications. History of depression treatment included 28% who previously took antidepressants and 17% who received other depression treatments.

Differences in depression level by group—Descriptive analysis of PHQ-9 scores revealed a trend for mean scores to gradually decrease over time. PHQ-9 scores ranged from 10–19 ($M = 12.7$) across the three groups at baseline and from 0–16 ($M = 6.7$) at 16 weeks. Results for tests of fixed effects Treatment*Time interaction and Treatment effect were not statistically significant. Time was significant [$F=38.4$, $df = 3$, $p < 0.001$] and follow-up tests indicated that the Time effect was statistically significant at $p < 0.001$ for all three groups. That is, depression levels improved over time for all three groups. As shown in Figure 2, residents whose nurse completed training had more DFDs than residents whose nurse did not complete training. Table 6 illustrates movement from more severe depression to mild or no symptoms over time by PHQ-9 scores.

Differences in Anxiety, Pain, and Quality of Life by Group—Descriptive analysis of GAD-7 scores indicated that anxiety symptoms were variable among participants, as scores across groups ranged from 0–19 ($M = 5.4$) at baseline and from 0–17 ($M = 4.0$) at 16 weeks. Treatment*Time interaction and Treatment effect were not statistically significant for anxiety. Time effect was significant [$F = 6.65$, $df = 3$, $p = 0.0005$]. Follow-up tests indicated that Time was statistically significant ($p < 0.01$) for the usual care group in which mean GAD-7 scores changed from 6.3 at baseline to 2.2 at 8 weeks, 4.0 at 12 weeks and 4.4 at 16 weeks.

Pain (IPT) levels varied among residents but were generally consistent across time. Across groups, IPT scores ranged from 0–12 ($M = 4.3$) at baseline and 0–10 ($M = 4.2$) at 16 weeks. Treatment*Time interaction was statistically significant [$F = 3.27$, $df = 6$, $p = 0.0060$].

Follow-up tests of Treatment effect were conducted at each Time point but were not statistically significant at the 0.05 level. Time was significant [$F = 3.30$, $df = 3$, $p = 0.0248$]. Follow-up tests indicated that Time was statistically significant ($p < 0.01$) for the usual care group in which mean IPT changed from 4.9 at baseline to 4.5 at 8 weeks, then 2.0 at 12 weeks and 5.6 at 16 weeks.

Quality of Life (QoL) scores ranged from 1–9 ($M = 6.0$) at baseline to 2–10 ($M = 6.5$) at 16 weeks. Scores appeared to have a non-normal distribution so the nonparametric Kruskal-Wallis test was used to investigate differences among the treatment groups at each time point. No statistically significant differences were identified.

Discussion and Implications for Practice and Research

The combined focus on feasibility issues and resident outcomes in this pilot study provides important insights about using self-directed depression training with nurses in NH settings and conducting research in this setting. The discussion that follows is organized by level of participant (facility, nurse, resident) and blends feasibility issues with observed outcomes. Strategies to enhance uptake of depression training in NH settings, both in research and practice, are reviewed to promote optimal outcomes associated with depression training.

Facility Participation

Recruitment of nursing facilities (NHs) and attrition during the study suggests that greater incentive to participate and more flexibility in executing training or participation in research may enhance overall interest. The number of eligible facilities was nearly three times larger than the number that agreed to participate. Although many facilities were not interested in participating, a full third expressed interest but indicated that the timing was not right for them to participate. Facility attrition before participant enrollment began similarly supports the importance of timing new endeavors. Greater attrition among facilities assigned to usual care, which provided the CD training package at the end of the study, also supports the need for creative approaches to incentivize participation in small studies that are unable to offer monetary rewards, particularly for comparison/control groups. For example, offering staff training on an important, but unrelated geriatric conditions such as dementia care or falls, while collecting depression data may have better engaged usual care facilities.

Nurse Participation and Outcomes

The need to support and guide nurses to accurately identify residents to participate in the study was an important finding. The high number of residents referred and screened, but not enrolled (described later), points to misperceptions of depression by nurses in the study. This finding reinforces the value of depression training for nurses in LTC settings, and also suggests that clearly defining target symptoms and problems may be needed to promote enrollment of depressed older adults in LTC.

The large number of nurses in both intervention groups that didn't withdraw from the study, but also didn't complete the training or failed to participate in the evaluation, has important implications for both future training and research. The IRB requirement that both facilities and nurse participants fully understand that participation in research was voluntary and not a

condition of employment was emphasized in the consent process. However, most nurses who did not complete the study “unofficially” withdrew by not completing the training or being consistently unavailable at the end of the study. This finding may be related to misunderstandings (e.g., explicit withdrawal is acceptable and doing so clarifies both training and research outcomes) that might be addressed in consent (research) or performance review processes (practice). Strategies to better track training progress and completion, such as asking nurses to “turn in” completed DTN exercises or take post-tests, may also facilitate participation in general practice and research.

Another important consideration is the availability of work time to complete the DTN program. Although participation agreements specifically asked facilities to provide nurse participants work time to complete the training program, evaluation data suggests that release time was not consistently provided. Competing demands were reported by both nurses who did and did not complete training. In spite of those demands, nurses employed by five NHs that were assigned to both CD-only and PNE groups completed the training. In contrast, nurses who didn’t complete the training were nearly all employed in the other four NHs. Thus, organizational commitment and support, more than group membership, was likely a factor in nurses successfully completing the depression program.

Additional factors that may have influenced nurses’ participation include having completed basic nursing education more recently (e.g., as indicated by average years as a nurse and interview comments), participating in depression training before the DTN program was offered, and motivational issues related to preferred training formats (e.g., self-directed vs. in-service or off-site; videos, handouts, exercises). These findings suggest that tailored approaches to depression training may be needed to better address the learning needs of NH nurses. Although all nurse participants expressed interest in gaining depression skills, a stronger approach may be to conduct pre-training assessments to help nurses start where they are, build skills in areas where deficits are perceived, and then assess gains after training. Organizational support for nurses to complete educational programs and fully implement ideas also is essential, particularly one like DTN that is focused on changing daily nursing practices. Finally, using a participatory research approach that actively involves the study population in the research process (Holkup, Tripp-Reimer, Salois, & Weinert, 2004) may be more effective way to evaluate resident outcomes associated with training implementation. An iterative process in which training is provided, problems/barriers are identified and addressed, changes are made, and additional training is conducted may generate solutions to implementing training recommendations in daily care.

In spite of challenges, nurses who completed the training provided high ratings of items related to the impact of training on changing their knowledge, the care they provide, and outcomes for residents. Many comments related personal observations and experiences that were indicative of new knowledge, skills, or insights associated with depression care. Comments related to the impact of making “simple changes,” spending short amounts of one-to-one time with residents, and improving resident engagement in pleasant activities support the importance of training nurses to use psychosocial interventions. In summary, both interview and evaluation data from nurses who did and did not complete training

provided strong support for depression care as an important, but perhaps neglected, focus of nursing care.

Resident Participation and Outcomes

The large number of residents who were screened and not eligible for participation in the study (43%) points to two main issues. First, nurses' knowledge of residents' mental/emotional status may not be as accurate as researchers or other providers may think. As emphasized in Minimum Data Set 3.0 procedures (Centers for Medicare & Medicaid [CMS], 2010), direct assessment of older adults may provide important information that caregivers do not perceive (Bruhl, et al., 2007). Second, residents may deny or underreport depression symptoms (NIMH, 2003), requiring adjustments in approaches, terminology used, and explanations to assure best outcomes. The stigma associated with depression and other mental illness is an ongoing concern for many elders (Roeloffs et al., 2003) and must be considered in assessments and care by both clinicians and researchers.

Another important finding is that depression levels decreased significantly over the four months of assessment in all three groups. One explanation is that depression was being sufficiently treated, but not necessarily as a result of the depression training taken by nurses. As noted in other research, the large number of NH residents taking antidepressant medications suggests that depression may be better recognized and treated than in the past, but disparities still exist (Gaboda, Lucas, Siegel, Kalay, & Crystal, 2011). A competing explanation is that the changes may reflect the natural course of major depression, in which the person eventually recovers irrespective of treatment. Finally, the observation that DFDs were greater among residents whose nurses completed training is a promising trend, one that might be better understood in a larger, better powered study or by tracking resident changes as part of a quality improvement project associated with depression training for staff members.

In summary, findings of this pilot project provide considerable guidance for implementing depression training programs in nursing homes and other settings where depression symptoms are often not recognized by daily care providers. Nurse evaluations indicate that using standardized assessments and psychosocial interventions were feasible and had a positive impact on residents. Findings also suggest that organizational commitment is essential to improving depression care and treatment, and may be secondary to the role of psychiatric nurse consultants who provide education, consultation, and technical support. Collectively, these findings provide an important foundation for implementing depression training programs like DTN in long term care settings and conducting psychiatric-mental health research focused on older adult outcomes. Additional research related to factors that impede or facilitate the uptake of evidence-based psychiatric-mental health training in LTC settings is needed to promote use of best practices in this important care environment.

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Figure 1.
Study Flowchart

Figure 2.

Proportion of Depression Free Days for Residents Paired with Nurses over Time

Note. DFD=depression free days; W1=week 1 or baseline assessment; W8=8 week assessment; W12=12 week assessment; W16=16 week assessment; Percents are reported due the different size of the groups (Completed=24; Did not complete=11).

Table 1Depression Training to Promote Nurses as Advocates for Older Adults¹

Module	Lecture Objectives	Handouts ²	Exercise	Case-based Learning
Part 1: Understanding Depression in Late Life	<ol style="list-style-type: none"> 1 Identify common signs and symptoms of depression in older adults. 	<ul style="list-style-type: none"> ▪ Diagnostic Criteria ▪ Signs & Symptoms ▪ Common Causes & Complicating Factors ▪ Physical Illnesses that cause symptoms ▪ Medications that cause symptoms 	Review CD materials	None
Part 2: Assessing Depression	<ol style="list-style-type: none"> 1 Administer and interpret scores on the PHQ-9, a depression assessment tool. 2 Use problem-solving methods to identify factors that may cause or contribute to depression in late life. 	<ul style="list-style-type: none"> ▪ Cycle of Depression ▪ Depression Assessment ▪ PHQ-9 Scale and Instructions ▪ Six Item Screener ▪ GAD-7 (anxiety) ▪ Iowa Pain Thermometer 	<p><i>Depression Assessment:</i> Use the PHQ-9 scale to assess 3 older adults who likely</p> <ol style="list-style-type: none"> a. does <u>not</u> have depression; b. <u>does</u> have depression; and c. <u>may</u> have depression, but you are unsure. 	Sandra Jo Green (depressed older adult) is introduced and administration of the PHQ-9 rating scale is illustrated. Case questions focus on assessment of common problems.
Part 3: Depression Care for Older Adults	<ol style="list-style-type: none"> 1 Select and apply interdisciplinary daily care interventions that target health promotion and depression reduction. 2 Identify person-centered outcomes, and setting-specific outcome monitoring methods. 3 Make a referral for depression evaluation to a professional provider in your community. 	<ul style="list-style-type: none"> ▪ Decision-Making in Depression Care ▪ Independent Nursing Interventions ▪ Pleasant Activities ▪ Common Problems and Associated Outcomes in Depression Care 	<p><i>Care Plan Development:</i> Four main steps include:</p> <ol style="list-style-type: none"> a. Conduct an assessment; b. Make two lists, one for pleasant activities, another depression-related problems; c. Identify outcomes & interventions. d. Put plans into action. 	Sandra Jo is interviewed, focusing on identifying a pleasant activities and helping her make a plan to select one activity and implement it. Case questions focus on identifying, selecting, and assisting without taking over.
Part 4:	<ol style="list-style-type: none"> 1 Make a referral for depression evaluation to a professional provider in your community. 2 Initiate needed follow-up interventions with 	<ul style="list-style-type: none"> ▪ Nurse-Physician Communication ▪ Guidelines for Using Antidepressants ▪ Talking to Older Adults about Antidepressants 	<p><i>Referral and Follow-up:</i> Case examples and questions focus on 3 main activities:</p> <ol style="list-style-type: none"> a. Sharing information (how much; what type); 	Sandra Jo reports feeling better, but not fully well. After discussion of her current problems and options, she agrees to try an antidepressant medication. Case questions focus on managing comorbid

Module	Lecture Objectives	Handouts ²	Exercise	Case-based Learning
	the older adult, family member(s), daily care providers and health care professionals to assure optimal depression care outcomes.	<ul style="list-style-type: none"> ▪ Talking Therapies and Late Life Depression 	<ul style="list-style-type: none"> b. Maintaining confidentiality; c. Making referrals for assessment or re-evaluation. 	problems, education about antidepressants, and gaining physician cooperation.

¹ The CD-based training program was developed, disseminated statewide, and evaluated by faculty of the Iowa Geriatric Education Center and The University of Iowa College of Nursing with grant funding from the Wellmark Foundation (2007–2008). The program is available for purchase from the IGEC at www.medicine.uiowa.edu/igec/

² Handouts and other materials contain depression-specific content. Abbreviated titles are provided here for brevity.

Table 2

Evaluation of Feasibility Issues

Component: Possible Issues	Evaluation Method
Nursing home participation	<ul style="list-style-type: none"> Number eligible vs. willing to participate
<ul style="list-style-type: none"> Time constraints Nurse turnover 	<ul style="list-style-type: none"> Reasons for non-participation Attrition following agreement to participate Completion of human subjects training by facility leader (required for Institutional Review Board approval)
Nurse participation	<ul style="list-style-type: none"> Number eligible vs. willing to participate
<ul style="list-style-type: none"> Time constraints Motivational issues 	<ul style="list-style-type: none"> Number and reasons for withdrawal following consent Number that don't participate (reported or observed) Type of technical and/or training assistance provided Number who report completing the training/complete evaluations Feedback & comments on post-training evaluations
Older adult participation	<ul style="list-style-type: none"> Number referred by staff
<ul style="list-style-type: none"> Frequency of depression without cognitive impairment Acceptability of interviews, scales Availability for follow-up 	<ul style="list-style-type: none"> Number screened Number meeting study criteria Number that withdraw & reasons Issues related to conducting interviews/using scales Issues related to accessing chart information Challenges to scheduling/completing follow-up assessments

Table 3**Outcome Measures: Nurse and Resident Participants**

Focus	Scale/Approach Description
Nurse Outcomes Nurse perceptions of depression training	<p><i>Depression Training Program Evaluation (DTPE)</i></p> <ul style="list-style-type: none"> Personal/professional background (9 items) Influence of training; items rated 1=very little to 6=very much <ul style="list-style-type: none"> Knowledge & skills (18 items) Care provided to residents (19 items) Resident outcomes (13 items) Open-ended questions <ul style="list-style-type: none"> Other ways training influenced knowledge, care, outcomes (3 items) 3 things done differently because of training (1 item) Training methods: 5 items rated 1=useless to 6=useful <ul style="list-style-type: none"> Video training, handouts, work place exercises, case-based learning, appendix information Training methods: 1 item asking for 3 least and 3 most useful aspects of training <p><i>Semi-structured interviews</i></p> <ul style="list-style-type: none"> Other ideas/viewpoints not addressed in the DTPE Personal experiences Recommendations for future use
Resident Outcomes Depression symptoms	<p><i>9-Item Patient Health Questionnaire (PHQ-9)</i></p> <ul style="list-style-type: none"> 9 criteria for major depression Rated 0=not at all to 3=nearly every day; total score 0 to 27 Cut-points include: 0–4=no depression, 5–9=mild, 10–14=moderate, 15–19=moderately severe, and >20=severe
Anxiety symptoms	<p><i>7-Item Generalized Anxiety Disorders (GAD-7) scale</i></p> <ul style="list-style-type: none"> 7 criteria for generalized anxiety disorder Rated 0= not at all to 3=nearly every day; total score 0 to 21 Cut-points include: 0–4=no anxiety, 5–9=mild, 10–14=moderate, 15–19=moderately severe, and >20=severe
Pain	<p><i>Iowa Pain Thermometer (IPT)</i></p> <ul style="list-style-type: none"> Vertical image of a pain thermometer Verbal descriptors include: no pain, slight, mild, moderate, severe, very severe, most intense imaginable Scores range from 0 to 13
Quality of life	<p><i>Single self-report question: Overall quality of life</i></p> <ul style="list-style-type: none"> Rated from 1=about as bad as dying to 10=life is perfect

Table 4**Nurses' Self-Reported Knowledge, Care Practices, and Outcomes for Residents¹**

Training changed your KNOWLEDGE and SKILLS	Mean (SD)
Diagnostic criteria for depression	5.1 (0.7)
Administering & interpreting the PHQ-9	5.1 (1.2)
Using other screening & rating scales	5.0 (1.1)
Importance of scheduling pleasant events	5.0 (0.8)
Using scale scores in decision-making	4.9 (1.1)
<i>Other ways training influenced knowledge or skills:</i>	
<ul style="list-style-type: none"> • Training brought things together in a way to see how the pieces fit together. • I like the idea that it can take only one thing such as activity, family visit, whatever that can make a huge difference in someone's life. • It made me realize that after depression is assessed, it needs to be monitored closer than we do here with frequent follow-ups. 	
Training changed the CARE you provide	
Starting a pleasant activity list for the person	5.1 (0.8)
Using standardized depression rating scales	4.9 (1.0)
Using depression-related nursing interventions	4.8 (1.1)
Recognizing depression in older patients	4.8 (0.9)
Talking with older adults about depression	4.8 (0.8)
<i>Other ways training changed what you do in practice:</i>	
<ul style="list-style-type: none"> • [I'm] trying to change as much as possible to allow for resident to "bloom" and be able to enjoy life rather than wither up. • [I'm] communicating with other disciplines (social services and activities). I also realized that 10 minutes of one on one communication can be very productive with residents. 	
Training changed OUTCOMES for older adults with depression	
Increased comfort, well-being	4.7 (1.1)
Increased identification of depression	4.7 (1.1)
Increased use of pleasant activities in care	4.7 (1.1)
Increased monitoring of depression	4.7 (1.0)
Reduction of complicating factors	4.4 (1.2)
<i>Other ways training changed outcomes for older adults with depression</i>	
<ul style="list-style-type: none"> • [My resident is] now ready to watch the Cubs game on time by eating early. • The resident that I worked with had major co-morbidities and significant life limiting disease processes. This project helps to pull more if the pieces together among the health care team providers. 	

¹ Items are examples. Narrative comments are reported as written in the evaluation.

Table 5**Examples of Three Things Done Differently as a Result of Training**

<i>Recognizing Depression</i>	<ul style="list-style-type: none"> • Being more attentive to depressive signs/symptoms • Increased understanding of resident with depression; more empathy • Think of treatment as more than just medication
<i>Assessing Depression</i>	<ul style="list-style-type: none"> • Considered depression as a factor in pain management • Look at things such as physical illness that might cause depression • Looking at how PHQ9 is more effective than GDS and how PHQ9 is a better indicator of depression • Using assessment scales more • Look for signs of depression more frequently • More follow up assessments/closer monitoring
<i>Listening and Responding</i>	<ul style="list-style-type: none"> • Engaging in conversations about mood, behavior and depression signs/symptoms • I always enter a resident's room with a smile and a cheery voice. In return there is always a smile being returned to me. • I have found that even if the person doesn't want to talk just sitting there even a couple of minutes gives them a sense of security. • Knowing it can take only one thing or something so simple to make a great change
<i>Using Pleasant Activities</i>	<ul style="list-style-type: none"> • Brought in candy and snack for Cubs game • Position in bed with pillows so she can see TV better • Scheduling more pleasurable activities for resident • Speaking with families regarding usual past times • Spending uninterrupted time • Suggesting/encourage to try activities – not be left alone as their only choice • More personal 1 on 1 time with resident

Note: Statements are provided as written in Depression Training Program Evaluation form.

Table 6

Resident Depression Levels by Pairing with Nurses over Time

Week ²	None ¹ PHQ9 = 0 – 4		Mild PHQ9 = 5 – 9		Moderate PHQ9 = 10 – 14		Mod-Severe PHQ9 = 15 – 19		Severe PHQ9 = 20	
	Did ³	Not	Did	Not	Did	Not	Did	Not	Did	Not
1	0	0	0	0	86% ⁴	72%	14%	28%	0	0
8	18%	11%	41%	56%	32%	11%	9%	22%	0	0
12	23%	28%	59%	33%	14%	11%	4%	17%	0	11%
16	18%	28%	64%	44%	18%	17%	0	11%	0	0

¹ PHQ9 is the 9-item Patient Health Questionnaire for depression. Cut-points for none, mild, moderate, moderately-severe and severe depression are reported by Kroenke and colleagues (2001). A score of 10 is considered clinically significant depression and was used as inclusion criteria for the study.

² Week 1 is the baseline assessment.

³ Did=Residents who were paired with nurses who did complete the training program; Did Not=Residents who were paired with nurses who did not complete the training program.

⁴ Percents are reported due to the different sizes of the two groups.