OXFORD

THE GERONTOLOGICAL SOCIETY OF AMERICA®

Special Issue: Veterans Aging: Research Article

Effectiveness of Expanded Implementation of STAR-VA for Managing Dementia-Related Behaviors Among Veterans

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Abstract

Purpose of the Study: Nonpharmacological, psychosocial approaches are first-line treatments for managing behavioral symptoms in dementia, but they can be challenging to implement in long-term care settings. The Veterans Health Administration implemented STAR-VA, an interdisciplinary behavioral approach for managing challenging dementia-related behaviors in its Community Living Center (CLCs, nursing home care) settings. This study describes how the program was implemented and provides an evaluation of Veteran clinical outcomes and staff feedback on the intervention.
Design and Methods: One mental health professional and registered nurse team from 17 CLCs completed STAR-VA training, which entailed an experiential workshop followed by 6 months of expert consultation as they worked with their teams to implement STAR-VA with Veterans identified to have challenging dementia-related behaviors. The frequency and severity of target behaviors and symptoms of depression, anxiety, and agitation were evaluated at baseline and at intervention completion. Staff provided feedback regarding STAR-VA feasibility and impact.
Results: Seventy-one Veterans completed the intervention. Behaviors clustered into 6 types: care refusal or resistance, agitation, aggression, vocalization, wandering, and other. Frequency and severity of target behaviors and symptoms of depression, anxiety, and agitation all significantly decreased, with overall effect sizes of 1 or greater. Staff rated both benefits for Veterans and program feasibility favorably.
Implications: This evaluation supports the feasibility and effectiveness of STAR-VA, an interdisciplinary, behavioral intervention for managing challenging behaviors among residents with dementia in CLCs.

Key Words: Interdisciplinary training, Dementia, Challenging behaviors, Veterans, Nursing homes

National efforts to improve the care of individuals with dementia living in long-term care (LTC) settings are growing. In 2012, the Center for Medicare and Medicaid Services launched the National Partnership to Improve Dementia Care in Nursing Homes (https://www.nhqualitycampaign. org/dementiaCare.aspx). One focus of this partnership is to emphasize nonpharmacological, person-centered, interdisciplinary approaches to care. Likewise, in July 2014, the Joint Commission implemented new memory care requirements for nursing care center accreditation (The Joint Commission,

2014). These standards also emphasize patient-centered care by skilled staff in environments and with activities that match patients' needs and abilities and nonpharmacological interventions as the first line of treatment for behavioral symptoms (American Geriatrics Society, 2011; American Medical Directors Association, 2012).

Individuals with dementia almost universally experience behavioral symptoms at some point during their illness (Lyketsos et al., 2011). Behavioral symptoms associated with dementia may include agitation, aggression, vocalization, psychosis (delusions, hallucinations), disinhibition, and apathy as well as mood symptoms such as depression and anxiety. One review found that, in LTC settings in particular, the prevalence of behavioral and psychological symptoms was 78% among individuals with dementia (Seitz, Purandare, & Conn, 2010). Historically, medications, including antipsychotic medications, have been utilized as first-line treatments for these behavioral symptoms, but increasing research has demonstrated limited efficacy and adverse side effects of these pharmacological treatments (Seitz et al., 2013). Consequently, the prevalence of antipsychotic medication use is now tracked as a quality indicator for LTC facilities, with the national goal to reduce the use of these medications among residents for whom there is no clear clinical indication for their use (e.g., schizophrenia diagnosis; Center for Medicare & Medicaid Services, 2015).

In contrast, psychosocial treatments of behavioral symptoms, wherein behaviors are viewed in context of interactions between the individual with dementia and the environment, have significant empirical support (Kales, Gitlin, & Lyketsos, 2015; Logsdon, McCurry, & Teri, 2007; Resnick, Kolanowski, & Van Haitsma, 2014; Seitz et al., 2012). However, the delivery of behavioral and other nonpharmacological approaches for managing challenging-dementia-related behaviors in LTC settings has been limited due to staff training needs, staff time, and organizational implementation requirements (e.g., leadership buy-in, interdisciplinary staff support; Kales, Gitlin, & Lyketsos, 2014; Seitz et al., 2012).

These challenges for implementing empirically supported behavioral dementia care approaches in LTC settings are consistent with implementation research emphasizing that multiple organizational, cultural, leadership, care provider, and patient factors influence translation of evidence-based innovative practices in "real-world" clinical settings (e.g., Chaudoir, Dugan, & Barr, 2013; Flottorp et al., 2013). To date, the application of implementation science regarding knowledge translation in LTC settings is limited (Boström, Slaughter, Chojecki, & Estabrooks, 2012; Cammer et al., 2014).

The Veterans Health Administration (VHA) recognized an opportunity to bridge science and practice and translate nonpharmacological approaches for managing challenging dementia-related behaviors into nursing home settings in VHA (now called "Community Living Centers [CLCs]"). In 2010, VHA launched an initiative to adapt the evidence-based Staff Training in Assisted Living Residences (STAR) training program (Teri, Huda, Gibbons, Young, & van Leynseele, 2005; Teri et al., 2009, 2010) into an interdisciplinary clinical intervention for Veterans residing in CLCs (Karlin, Visnic, McGee, & Teri, 2014). In this initiative, psychologists at 17 CLC sites were trained to lead the interdisciplinary CLC team in using this behavioral approach for understanding and managing challenging behaviors in Veterans with dementia. Evaluation findings revealed that the intervention led to clinically significant reductions in the frequency and severity of challenging behaviors and in symptoms of depression and anxiety. Importantly, the findings also suggested opportunities for increasing engagement and long-term support for the intervention among interdisciplinary staff through the use of multilevel implementation support mechanisms, such as high-level and facility leadership support and local champions to encourage staff acceptance of a new care approach.

In light of the positive outcomes of STAR-VA with Veterans, implementation of the intervention was expanded to 19 additional CLC sites. Based on the STAR-VA pilot experience as well as lessons learned from the national dissemination and implementation of evidence-based psychotherapies in VHA (Karlin & Cross, 2014), emphasis was placed on focused and strategic implementation in expanding STAR-VA. Implementation support mechanisms included the establishment of a "Nurse Champion" role to promote and sustain buy-in of nursing staff and other members of the interdisciplinary CLC team at the unit-level, coordinated top-down support from national mental health and nursing leadership and a structured recruitment process for implementation sites to promote visibility and support at the medical center level.

This article reports on outcomes associated with the expanded implementation of STAR-VA along two domains: (a) Veteran clinical outcomes in terms of frequency and severity of target behaviors as well as symptoms of depression, anxiety, and agitation and (b) staff feedback on feasibility and effectiveness of the intervention. Program successes and challenges for sustainability and implications for improving dementia care in other LTC settings are then discussed.

Methods

STAR-VA Intervention Description

STAR-VA is a multicomponent, psychosocial intervention for managing challenging dementia-related behaviors (Karlin et al., 2013). Based on the STAR program (Teri et al., 2005), STAR-VA was adapted as an interdisciplinary clinical intervention for Veterans with dementia in VA CLC settings while maintaining the core components of the original program (Karlin et al., 2014).

A detailed description of the STAR-VA intervention is available elsewhere (Karlin et al., 2014). Briefly, STAR-VA has three core components—(a) ABCs: identifying and changing intrapersonal, interpersonal, or environmental Activators to and Consequences that may reinforce or exacerbate the challenging Behaviors; (b) Pleasant Events: identifying and increasing, through a structured and individualized process, personally relevant and meaningful pleasant events consistent with the individual's abilities; and (c) Realistic Expectations and Communication Skills: Promoting realistic expectations of residents with dementia and increasing effective verbal and nonverbal communication strategies with these residents, including the Listen with Respect, Comfort, and Redirect approach.

In the STAR-VA pilot implementation initiative, CLC psychologists were trained to work closely with and train the interdisciplinary CLC team on STAR-VA concepts and implementation. In the expanded implementation initiative, the "STAR-VA Nurse Champion" role was established to promote staff engagement and local implementation of STAR-VA. The Nurse Champion, a CLC registered nurse, partnered with the "STAR-VA Behavioral Coordinator," a CLC mental health provider (psychologist or psychiatrist) to implement the STAR-VA approach with local CLC interdisciplinary staff, known as "Staff Partners." Staff Partners included all levels of CLC nursing staff as well as team physicians, nurse practitioners, physicians' assistants, social workers, recreation therapists, physical and occupational therapists, chaplains, dieticians, and even administrative and janitorial staff. The Behavioral Coordinator–Nurse Champion teams engaged their CLC interdisciplinary teams to learn the STAR-VA core components through in-service trainings, team meeting discussions, brief huddles, 1:1 coaching, modeling, and collaborative behavioral assessment and care planning.

STAR-VA Training Program Description

The STAR-VA Training Program was modeled after the VHA national competency-based evidence-based psychotherapy training programs (Karlin & Cross, 2014). These training programs include in-person experientially based training followed by weekly, telephone-based consultation over 6 months with expert training consultants while the intervention is implemented. In STAR-VA, a psychologist or psychiatrist and a registered nurse from each of 19 CLCs attended a 2.5 day in-person clinical workshop (June 2013) that included didactic presentations, small group activities that allowed practice of behavioral assessment and treatment planning skills, and interactive discussion and feedback. Training addressed core STAR-VA components (ABCs, pleasant events, realistic expectations and communication skills) and strategies for the Behavioral Coordinator–Nurse Champion team to partner with and teach the STAR-VA approach to their teams and to collaborate with local leadership, using the Interprofessional Education Collaborative competency domain framework (Interprofessional Education Collaborative Expert Panel,

2011). Training was further supported by a detailed intervention manual that each participant received (Karlin et al., 2013). All but 2 of the 19 sites were new to STAR-VA. Two were returning sites that had participated in the pilot training program but, due to staff turnover (the trained psychologist had left the position) and expressed need, those two sites were included in the current wave of training and implementation.

During the 6-month implementation and consultation phase, each CLC team completed the STAR-VA intervention with four to six Veterans. Each Behavioral Coordinator participated in a weekly consultation group conference call (approximately four participants per group) led by an expert STAR-VA Training Consultant to support development of STAR-VA behavioral intervention competencies. To complete the training program, Behavioral Coordinators were required to attend at least 75% of these calls; attendance was very regular. Likewise, Nurse Champions met as a group monthly under the leadership of STAR-VA nursing faculty. These conference call meetings focused on strategies for engaging Staff Partners and leadership in implementation of behavioral plans for participating Veterans. During this first year of Nurse Champion training, nurse attendance was not strictly required and was variable due to scheduling conflicts; most nurses attended at least half of the monthly calls.

Participants: Behavioral Coordinators, Nurse Champions, Staff Partners, and Veterans

Nineteen mental health providers (16 psychologists and 3 psychiatrists), trained as Behavioral Coordinators, and 19 registered nurses, trained as Nurse Champions, completed the in-person training workshop. The Nurse Champions served in diverse roles within the CLC, including staff nurse, resident assessment coordinator, nurse manager, nurse practitioner, and associate chief nurse for geriatrics and extended care. Seventeen sites completed the 6-month consultation phase. Two sites dropped from the training program over the course of the consultation phase, one due to a lengthy personal leave of absence for the psychologist and one due to local staffing challenges that did not enable full participation and implementation. Of the many CLC Staff Partners who participated in learning and applying STAR-VA concepts in caring for Veterans during the 6-month consultation phase, 126 staff across 12 sites responded to a request for anonymous feedback. Sites varied in the number of "Staff Partner Feedback" forms submitted; 10 sites sent a range of 5–14 forms, with 2 sites completing 3 and 36 forms, respectively.

Seventy-seven Veterans were enrolled in STAR-VA. CLC teams identified Veterans with dementia who displayed repeated behaviors that were distressing to the resident, other residents, staff, and/or family. Veterans whose behaviors were directly related to delirium, other acute medical illness, acute psychotic symptoms, or a recent traumatic brain injury were excluded. Of the 77 Veterans enrolled, 71 (92%) completed the intervention

(70 men and 1 woman). Reasons for noncompletion included death (*n* = 2), transfer to another clinical setting (*n* = 2), and insufficient assessment data collected or submitted (*n* = 2).

Measures

Administration of Clinical Measures
The clinical measures described subsequently were administered by the Behavioral Coordinators, with input from Staff Partners who worked closely with the Veteran when informant interviews are indicated. Behavioral Coordinators were trained to administer the measures during the in-person workshop training.

Cognitive and Functional Status
The Blessed Orientation-Memory-Concentration (BOMC; Meiran, Stuss, Guzman, Lafleche, & Willmer, 1996) Test was administered at baseline to screen for cognitive functioning. A weighted score of 10 or greater suggests the presence of dementia. The overall weighted mean BOMC score for Veterans enrolled in STAR-VA was 20.8 (standard deviation [*SD*] = 6.9), indicating significant cognitive impairment.

The Functional Assessment Staging Tool (FAST; Reisberg, 1988) was used to assess baseline functional status of enrolled Veterans. Scores on the FAST range from 1 to 7, with 1 indicating no functional impairment and 7 indicating severe functional impairment. The overall mean score on the FAST was 5.9 (*SD* = 0.7), which represents moderate to severe functional impairment.

Challenging Behaviors
The severity and frequency of behaviors that were the target of the intervention were assessed weekly using the STAR-VA ABC Card behavioral severity and frequency scales. The ABC Card provides a structured method for identifying target behaviors and developing a plan to change the activators and consequences of those behaviors. The Behavioral Coordinator obtained team input in making severity and frequency ratings. Frequency ratings are based on a 4-point Likert scale where 0 = *never* and 4 = *daily or more often*. Baseline mean frequency rating was 3.4 (*SD* = 0.8). Severity ratings are likewise based on a 4-point Likert scale where 0 = *not at all* and 4 = *extreme*. Baseline mean severity rating was 3.1 (*SD* = 0.8), indicating clinically severe levels of behavioral problems.

Depression
The Cornell Scale for Depression in Dementia (CSDD; Alexopoulos, Abrams, Young, & Shamoian, 1998) was used to assess level of depressive symptoms, at baseline and at conclusion of the intervention period. The CSDD incorporates information from semistructured interviews with the patient and another reliable informant. Each of 19 questions are rated on a 3-point Likert scale,

where 0 = *absence of symptoms*, 1 = *mild or intermittent symptoms*, and 2 = *severe symptoms*. A total score of ≥8 indicates significant symptoms of depression. The baseline CSDD mean score was 12.6 (*SD* = 5.5), indicating clinically significant symptoms of depression on average.

Anxiety
The Rating Anxiety in Dementia (RAID; Seignourel, Kunik, Snow, Wilson, & Stanley, 2008; Shankar, Walker, Frost, & Orrell, 1999) was utilized to measure level of anxiety symptoms among enrolled Veterans at baseline and at conclusion of the intervention period. The RAID is completed based on participant observation, interview, and informant report. Each of 18 questions is rated on a Likert scale from 0 to 3, with 0 = *an absence of symptoms*, 1 = *mild or intermittent symptoms*, 2 = *moderate symptoms*, and 3 = *severe symptoms*. A total score of ≥11 indicates significant symptoms of anxiety. The baseline RAID mean score was 13.4 (*SD* = 7.7), suggesting clinically significant symptoms of anxiety on average.

Agitation
The Cohen-Mansfield Agitation Inventory—Short Form (CMAI-SF; Werner, Cohen-Mansfield, Koroknay, & Braun, 1994; Whall et al., 1999) was utilized to assess the frequency of agitated behaviors among Veterans at baseline and at conclusion of the intervention period. The CMAI-SF is completed via interview with nursing staff regarding the frequency of 14 behaviors during the previous 2 weeks. Each behavior is rated on a 5-point frequency scale from 1 to 5, where 1 = *never*, 2 = *less than once a week*, 3 = *once of several times a week*, 4 = *once or several times a day*, and 5 = *a few times an hour or continuous for half an hour or more*. The baseline CMAI-SF mean score was 28.6 (*SD* = 6.7); although the CMAI-SF does not have a "cutoff" score, this baseline indicates clinically significant distress.

Perceived Feasibility and Effectiveness
At the conclusion of the 6-month consultation phase, the Behavioral Coordinators and Nurse Champions responded to 12 questions assessing perceived feasibility and impact of the intervention for Veterans and staff. For example, questions asked about extent to which their teams engaged in implementing each of the STAR-VA core components with Veterans; these questions were rated on a 7-point Likert scale with anchor points of 1 = *not at all*, 4 = *somewhat*, and 7 = *extremely*. This form also asked for open-ended feedback regarding the Behavioral Coordinator and Nurse Champion roles, training program resources, and aspirations and concerns about sustaining STAR-VA.

In addition, Staff Partners at each CLC site were asked to respond to a 10-item questionnaire, developed at an eighth grade reading level, assessing their perceptions of personal benefit from the STAR-VA Training Program. Items included "STAR-VA helped me to better understand

how dementia can affect a person"; "The STAR-VA ABC Card helped me to figure out *why* a Veteran might be displaying a difficult behavior"; "Since the STAR-VA program started here, I feel better able to respond when Veterans with dementia display a difficult behavior." Each item was rated on a 4-point Likert scale: 1 = *not at all*, 2 = *a little bit*, 3 = *somewhat*, and 4 = *very much*.

Date Collection and Analysis

Each Veteran was assigned an identification code for tracking clinical measures. All clinical measures were administered prior to the intervention; measures related to behavior frequency and severity, depression, anxiety, and agitation were also administered within 1 week postintervention. Assessment data were sent to the independent STAR-VA Program Evaluator who monitored quality and completeness of program data, established databases, and analyzed data for program evaluation purposes.

Behaviors targeted for the intervention, as completed on the ABC Card, were reviewed and assigned to behavior categories. Baseline and postintervention behavior frequency, severity, and clinical measure score means were compared via paired *t* tests and calculation of effect sizes (Cohen's *d*) across all behaviors and by each behavior type.

Descriptive statistics—frequency distributions, means, and *SD*s—were calculated on scaled program feedback from Behavioral Coordinators, Nurse Champions, and Staff Partners. Open-ended responses were reviewed for themes.

Results

During the training consultation period, the average length of time for implementation of the STAR-VA intervention across enrolled Veterans was 35.8 days (*SD* = 16.1 days), with a median of 30 days. During this time, the team worked to develop and refine the behavioral plan until the team was able to manage the target behaviors. Staff Partners actively contributed to the STAR-VA behavioral assessment and/or plan. Across the 71 cases, all behavior plans included involvement of nursing staff, including 62 (87%) that involved a nursing assistant and 52 (73%) that involved a nurse manager; 62 (87%) a recreation therapist, 41 (58%) a physician, 19 (27%) a physical and/or occupational therapist, and 16 (23%) a chaplain.

Behavior Types

Behaviors for which residents were referred for the STAR-VA intervention clustered into six behavior types. These clusters included: (a) care refusal or resistance, such as refusing to bathe, receive personal care, or take medications (*n* = 15; 21%); (b) agitation, such as anxiety or irritability (*n* = 15; 21%); (c) physical and/or verbal aggression, such as hitting, striking out, cursing, or name-calling (*n* = 14; 20%); (d) vocalization, such as repetitive calling or

questions (*n* = 7; 10%); (e) wandering, such as exit seeking or entering other residents' rooms (*n* = 5; 7%); and (f) other behaviors that did not fit well into the other behavior clusters, such as self-isolation, sexually inappropriate behaviors, and getting up unsafely with fall risk (*n* = 15; 21%). If the target behavior fell into more than one of these categories, it was coded only once, with this priority: care refusal/resistance, physical/verbal aggression, and all others.

Veteran Outcomes

Baseline and final frequency and severity of target behaviors, as rated on the weekly STAR-VA ABC Card, are presented in Table 1. Mean frequency score, across all behaviors, reduced from a baseline score of 3.4 (*SD* = 0.8) to a final score of 1.8 (*SD* = 1.2), *t*(70) = −10.2, *p* = <.0001, *d* = 1.2, representing a 45.4% average decline. Mean severity score, across all behaviors, reduced from a score of 3.1 (*SD* = 0.8) at baseline to a final score of 1.1 (*SD* = 1.1), *t*(70) = −13.7, *p* = <.0001, *d* = 1.6, a 63.8% average reduction in behavior severity.

Baseline and final CSDD depression, RAID anxiety, and CMAI-SF agitation scores also appear in Table 1. The overall CSDD mean score reduced from 12.6 (*SD* = 5.5) at baseline to 6.8 (*SD* = 3.8) at final assessment, *t*(60) = −10.2, *p* < .0001, *d* = 1.3, a 46% average decline. The overall mean RAID score reduced from 13.4 (*SD* = 7.7) at baseline to 6.7 (*SD* = 5. 0) at final assessment, *t*(61) = −8.4, *p* < .0001, *d* = 1.0, a 50% decline. The overall mean score on the CMAI reduced significantly from 28.5 (*SD* = 6.6) at baseline to 20.8 (*SD* = 4.8) at final assessment, *t*(67) = −8.0, *p* < .0001, *d* = 1.0, a 27.3% decline.

Behavioral Coordinator and Nurse Champion Feedback: Perceived Feasibility and Effectiveness

Sixteen of 17 Behavioral Coordinators (BC) and 16 of 17 Nurse Champions (NC) completed feedback forms at the conclusion of the 6-month training period. Feedback regarding the impact of STAR-VA at local CLC sites was generally quite positive, albeit with some variability across sites (Figure 1). The highest (most positive) mean scores, for both Behavioral Coordinators and Nurse Champions, were on items that asked whether Veterans benefited from the STAR-VA intervention (BC Mean = 6.2, *SD* = 0.8; NC Mean = 6.3, *SD* = 0.7) and whether STAR-VA was compatible with ongoing cultural transformation efforts in the CLC (BC Mean = 6.8, *SD* = 0.4; NC Mean = 6.4, *SD* = 0.7). Mean scores on items asking about the extent to which CLC team engaged in the ABC approach, engaged in pleasant event planning and implementation, worked to have realistic expectations of and communication with individuals with dementia were rated approximately 5 points on the 1–7 rating scale, with *SD*s ranging from 1.0 to 1.5. There were no significant differences in mean scores on scale items between Behavioral Coordinators and Nurse Champions.

Table 1. Mean Baseline and Final Scores on Clinical Measures

Measure	Baseline, mean (SD)	Final, mean (SD)	Change (95% CI)	Effect size
ABC Card: behavior frequency (n = 71)	3.4 (0.8)	1.8 (1.2)*	−1.8 < μ < −1.2	1.2
ABC Card: behavior severity (n = 71)	3.1 (0.8)	1.1 (1.1)*	−2.3 < μ < −1.7	1.6
CSDD (n = 61)	12.6 (5.5)	6.8 (3.8)*	−7.0 < μ < −4.7	1.3
RAID (n = 62)	13.4 (7.7)	6.7 (5.0)*	−8.3 < μ < −5.0	1.0
CMAI-SF (n = 68)	28.5 (6.6)	20.8 (4.8)*	−9.7 < μ < −5.9	1.0

Note: CMAI-SF = Cohen-Mansfield Agitation Inventory—Short Form; CSDD = Cornell Scale for Depression in Dementia; RAID = Rating Anxiety in Dementia ; μ = population mean.

*p < .0001.

In response to open-ended questions, Behavioral Coordinators and Nurse Champions described the professional and/or personal characteristics they believed were most helpful to be an effective STAR-VA Behavioral Coordinator and Nurse Champion. Each group responded regarding both roles. There was broad consensus that both roles required a commitment to being a team player, enthusiasm about STAR-VA and staff training, excellent listening and communication skills, compassion, patience, ability to convey respect for and provide positive feedback to others, and a positive attitude. In response to questions regarding aspirations and/or concerns about maintaining STAR-VA at their sites, both groups described plans to expand the intervention to additional units/care settings, to continue to train all staff, and to integrate STAR-VA principles into "best practice as usual" or part of defined competencies for all CLC staff. Both groups reported challenges in keeping staff motivated and engaged, time and resources to continue staff training, and getting all staff and leaders "on board."

Staff Partner feedback was quite positive, with approximately one half to two thirds of respondents stating that STAR-VA` helped Veterans or themselves "very much" for most items, with mean scores ranging from 3.25 to 3.64. Items with strongest endorsement of positive impact were: "I plan to use the STAR-VA approach in my job from now on" (M = 3.64, SD = 0.57); "STAR-VA helped me to think about how to provide pleasant experiences/activities for the Veterans I care for" (M = 3.58, SD = 0.66); "The STAR-VA ABC Card helped me to figure out *why* a Veteran might be displaying a difficult behavior" (M = 3.58, SD = 0.65).

Discussion

This evaluation reports on the effectiveness of an interdisciplinary, nonpharmacological intervention for managing challenging behaviors among Veterans with dementia, following expanded implementation in the VA health care system. This 6-month training and implementation of STAR-VA in 17 CLCs demonstrated positive clinical outcomes for enrolled Veterans, with clinically significant improvements in the frequency and severity of target behaviors as well as depression, anxiety, and agitation. These outcomes replicate and expand STAR-VA pilot

program findings and lend support to the intentional focus on implementation factors at multiple organizational levels. These factors included addition of the Nurse Champion role, which helped address the need to promote buy-in and engagement of care staff at the unit level as well as enhanced engagement of facility nursing, medical, mental health, and administrative leadership.

Evaluation feedback from Behavioral Coordinators, Nurse Champions, and CLC Staff Partners indicated generally high levels of perceived feasibility and benefit of the program for Veterans. Participants also reported improved staff knowledge and skill in using behavioral approaches. Findings support the strength of mental health professional and nursing collaboration for implementing a new behavioral care model. Leadership skills, including the ability to listen well and communicate clearly, a commitment to a new behavioral team approach to care, and capacity for empathy, respect, and giving positive feedback to others, were listed as critical for success in their roles by both Behavioral Coordinators and Nurse Champions. This program also appears to have helped the CLC team to understand why a Veteran may be exhibiting distressed behavior and empower the team to adjust interpersonal and environmental care approaches to meet the needs and preferences of each Veteran.

Limitations of this study reflect the exigencies of conducting any real-world effectiveness evaluation, which included pre–post assessments of clinical outcomes and feasibility and did not entail a controlled research study. Although this evaluation approach increases external validity, it comes at some potential cost to internal validity. Accordingly, we cannot state with certainty that the observed improvements among Veterans were due to the intervention, as opposed to the passage of time or other factor(s). Certainly, clinical wisdom and existing phenomenological data on behavioral problems indicate this is unlikely; unattended problems rarely resolve on their own. Our analysis did not include longitudinal follow-up; therefore, it is not clear to what extent clinical gains were sustained. Nevertheless, staff success in modifying activators and consequences during the consultation period, if integrated into ongoing treatment plans, would likely yield continued reduction in target behaviors.

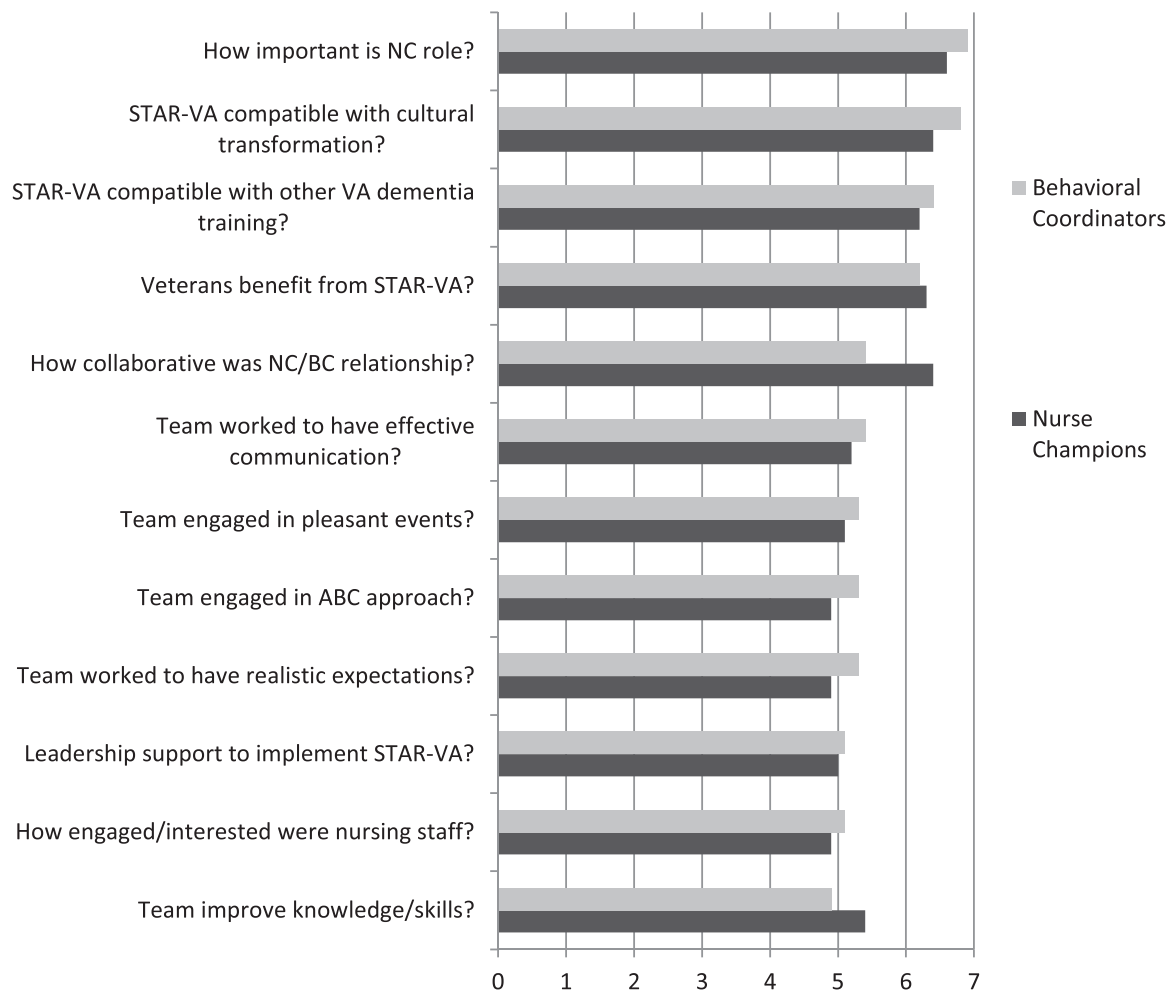It is important to note that STAR-VA was not implemented based on a predetermined duration of the

Figure 1. Behavioral Coordinator and Nurse Champion feedback at completion of 6-month STAR-VA consultation and implementation phase.

intervention. Rather, the intervention length is flexible and based on the identified behavioral goals for the resident. Although this would be a limitation in a clinical trial, this feature is an advantage in program evaluation because it is consistent with how treatment is delivered in clinical practice. Use of baseline and final clinical outcome measures allowed examination of overall intervention impact, but not the longitudinal trends of change during the approximate month of developing the behavioral care plan. Weekly frequency and severity ratings for the target behavior were collected; future analysis may examine the trends in these ratings over the course of the intervention.

In addition, although data on antipsychotic medication prescribing would be valuable, these data were not available in this implementation evaluation. The positive behavioral and mood changes noted in STAR-VA would be expected to relate to decreased prescription of antipsychotic or other psychotropic medications and we have received anecdotal reports of such prescribing changes. However, we cannot say to what extent reductions in the frequency and severity of challenging behaviors and in associated psychological symptoms were accompanied by changes in prescribing rates.

Future efforts aim to examine VA pharmacy data, which will allow comparison of prescribing patterns across VA CLCs that have, and have not, participated in STAR-VA training.

A final limitation concerns the fact that individuals receiving the intervention were predominantly male Veterans. The extent to which findings generalize to women and non-Veterans is largely unknown, though there is no reason to believe that the intervention would not have utility for other populations especially given that interventions on which STAR-VA is based have shown to be effective with other groups.

Implications for ongoing program development, evaluation, and translation are at least threefold. First, sustainability is a critical concern for any new program (Wiltsey Stirman et al., 2012). It will be important to determine the extent to which the STAR-VA approach is maintained at these CLCs and both facilitators and barriers for sustainability. Second, competency-based training and evaluation models are critical for helping staff to develop new skills (e.g., Kaslow et al., 2009; Wright, 2005). STAR-VA requires staff to learn, practice, and receive feedback on both clinical skills and ability to collaborate with Staff Partners from different professions, rather than simply attend a few

knowledge-based, in-service presentations. Translation of such training models, which require time and resources, to other LTC settings is critical but remains challenging (Kales et al., 2014; Seitz et al., 2012). In the STAR-VA experience, it has been important to emphasize that time invested in training and behavioral care planning is a worthwhile investment for time saved in addressing and preventing behavioral issues and emergencies and for increasing quality of life for residents and morale for staff.

Third, and relatedly, it will be important to consider how the VHA experience implementing STAR-VA may translate to non-VA LTC settings, which have varying payment models and staffing resources. For example, STAR-VA incorporates the behavioral health expertise of doctoral level psychologists or psychiatrists into its training and implementation model. However, nursing homes vary widely in access to mental health professionals (Li, 2010; Reichman & Katz, 2009; Rosowsky, Casciani, & Arnold, 2009). Implementation of this approach in non-VA facilities should consider how behavioral health expertise can be accessed when implementing behavioral interventions.

In sum, the current evaluation provides significant support for the utility and effectiveness of STAR-VA, a structured, yet personalized, team-based intervention for managing challenging behaviors among Veterans in real-world LTC settings. VHA experience with STAR-VA may help to guide and encourage other health care organizations and systems to realize opportunities for bridging science and practice for those often highly neglected. In so doing, it will be important for policymakers, practitioners, and researchers to consider how existing approaches may best fit or be adapted for particular systems and how implementation support mechanisms can be incorporated to maximize implementation outcomes and sustainability.

Funding

Acknowledgments

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