

Improving Dementia Care Through Behavioral Interventions

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Behavioral interventions are effective in treating neuropsychiatric symptoms of dementia, yet older adults with dementia who require long-term care lack consistent access to caregivers who are skillful in selecting and applying these interventions. This commentary describes national and state-level initiatives that can improve access to effective behavioral techniques.

The devastating effects of major neurocognitive disorders such as Alzheimer's disease, vascular dementia, Lewy body dementia, and frontotemporal dementia are well recognized, particularly the challenges presented by the neuropsychiatric symptoms (NPS) of such disorders [1]. A growing body of scientific evidence shows that behavioral treatment for NPS is effective for patients with dementia and that behavioral approaches can reduce the severity and frequency of caregiving challenges [2]. Although there is no cure for dementia, the lives of patients and their caregivers can be improved through more widespread and systematic implementation of behavioral approaches for managing NPS or other dementia-related challenging behaviors. Moreover, passage of the National Alzheimer's Project Act [3] in 2011 has focused more attention on dementia at the federal, state, and local levels, which has galvanized efforts to strengthen research, workforce development, and long-term care services that can improve the lives of those affected by dementia [4, 5]. The purposes of this commentary are to offer a brief review of the core features of behavioral approaches for the management of NPS in patients with dementia and to discuss promising practices for implementation across the long-term care spectrum.

According to the North Carolina Department of Aging and Adult Services, Alzheimer's disease is estimated to affect approximately 170,000 North Carolinians, and by 2030 that number is projected to rise to 300,000 [6]. Approximately 30% of affected individuals currently receive care in residential long-term care facilities, including both assisted living facilities and skilled nursing facilities [6]. One of the greatest challenges in caring for patients with dementia is dealing with NPS. These symptoms are highly prevalent, affecting almost all patients with dementia at some point during the course of their illness [1]. Dementia-related NPS can be categorized as behavioral excesses

(eg, agitation, aggressiveness, repetitive vocalizations, or pacing) or behavioral deficits (eg, withdrawal, apathy, or failure to initiate or engage in self-care or social activities); alternatively, they can be classified as behaviors that are dangerous (threatening caregivers or striking out) or as behaviors that annoy others but are not dangerous (hoarding or repetitive behaviors) [7].

Historically, antipsychotic and sedative medications were used to help manage dementia-related NPS; however, these uses are not approved by the US Food and Drug Administration (FDA). Importantly, studies over the past decade have demonstrated that antipsychotic medications have limited efficacy when used for this purpose, and there is also an increased risk of death in elderly patients who receive antipsychotic medications. The FDA therefore issued black-box warnings about such use; atypical antipsychotics received a black-box warning in 2005, and a similar warning regarding typical antipsychotics followed in 2008 [8]. Nevertheless, a 2011 study by the Office of Inspector General of the Centers for Medicare & Medicaid Services (CMS) [9] showed that antipsychotic medications continued to be used extensively in nursing homes without clear indications, evidence of adequate assessment, or care planning to address the potential causes underlying the behavioral disturbance.

Evidence to support the efficacy of a variety of nonpharmacological treatments for NPS has grown over the past 2 decades, and professional societies are now endorsing nonpharmacological interventions as the first line of therapy [10-12]. Behavioral interventions—a specific set of nonpharmacological interventions that focus on observing behaviors and modifying triggers or activators of the behaviors—have a particularly strong evidence base. An evidence synthesis prepared by the Health Services Research and Development Service in the US Department of Veterans Affairs [2] concluded that evidence from 3 systematic reviews, which together included 7 randomized controlled trials and 2 additional trials, supports the use of behavior management tech-

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niques as effective interventions for dementia-related NPS.

The rationale for behavioral interventions rests upon 2 psychological principles. First, dementia-related NPS are often triggered by 1 of 3 factors: the presence of an unmet physical need, such as hunger, pain, or fatigue; environmental conditions, such as overstimulation or understimulation; or difficulties interpreting verbal, visual, or tactile cues [13]. Removal or avoidance of the trigger is a cornerstone of behavioral interventions, and careful description is required to adequately describe the target behavior and isolate the triggers.

Second, people with dementia retain the ability to form implicit memories, which are formed through associative learning (so-called “stimulus-response” mechanisms) and thus do not require higher-order cognitive processing [14]. Having direct caregivers identify pleasant events and incorporate them into the daily routine of people with dementia may help to diminish some of the negative reactions (frustration or fear) that people with dementia may develop if they associate caregivers only with stimuli that are unpleasant, such as bathing or dressing experiences that do not take into account the cognitive level of the person with dementia. Thus behavioral intervention protocols focus on helping caregivers understand how dementia affects brain function, so that they can adjust how they interact with people with dementia; specifically, the goal is to try to understand and modify the underlying trigger for the behavior, rather than trying to control the behavior itself. A secondary aim is to help persons with dementia form positive associations with their caregivers by having the caregiver engage the person with dementia in pleasant activities.

An essential part of the method is careful and systematic description of behaviors—including their timing, frequency, and severity—as well as the environmental circumstances before, during, and after the behavioral symptoms. Once a clear description of the behavior and its triggers has been formulated, prevention and treatment of dementia-related NPS focuses either on anticipating the unmet need or on adjusting caregiver expectations regarding how communication and environmental conditions should be managed.

Specific behavioral intervention protocols vary with respect to the number of core components and how these components are delivered. Recent work has translated the Staff Training in Assisted-Living Residences (STAR) program to nonresearch settings [15, 16], and this program provides a set of theoretically consistent, evidence-based behavioral interventions that can be used to guide implementation efforts. There are several core features of effective behavioral intervention programs for NPS: they teach caregivers about the nature of the brain damage that occurs in dementia, so that caregivers develop more realistic expectations of the abilities of the person with dementia; they use a systematic approach to understanding NPS triggers and measuring responses to interventions in order to reduce the frequency and severity of behavioral symptoms; they

teach caregivers to alter their interactions with the person with dementia to avoid NPS triggers; they advocate controlling the environment of care to avoid both overstimulation and understimulation of the patient; they capitalize on the preserved abilities of patients to form rudimentary motor or stimulus-response memories of pleasant daily events; and they use an individualized, person-centered, systematic approach to problem solving that includes evaluation of the patient’s response over time and adjustment of the plan based on the patient’s response. An interdisciplinary panel of experts recently summarized core elements of the behavioral approach to dementia-related NPS using the acronym DICE: describe, investigate, create, and evaluate [7].

A variety of initiatives are ongoing both nationally and at the state level to support implementation of these evidence-based practices. For example, CMS has established a National Partnership to Improve Dementia Care in Nursing Homes [17], which is focused on reducing use of antipsychotic medications. Likewise, a variety of professional and quality improvement organizations are participating in the Advancing Excellence campaign [18], which uses learning collaboratives and quality improvement initiatives to equip frontline staff members with the necessary knowledge, skills, and attitudes to implement behavioral interventions. Over the course of the 3 years that these initiatives have been ongoing, antipsychotic use among long-stay nursing home residents has been reduced by 15% nationally and by 27% in North Carolina [19].

In community care, the Administration on Aging of the US Department of Health & Human Services and the US Department of Veterans Affairs each have developed programs that support implementation of evidence-based behavioral approaches for caregivers and people with dementia in community-based long-term care. In North Carolina, these have been coordinated by the North Carolina Division of Aging and Adult Services [20] and by the Veterans Administration [21], respectively. North Carolina is also rich in workforce training programs; Table 1 contains a list of organizations and online resources that can help health care staff members learn how to use behavioral interventions.

We are fortunate that effective treatments for dementia-related NPS are available and that evidence shows that these interventions can be implemented outside the research context in North Carolina. However, a critical barrier to access for long-term care residents is that not all caregivers have an understanding of the role of behavioral interventions in managing dementia-related NPS nor are all caregivers competent to play their assigned role in these behavioral interventions. Promising models have been proposed and implemented in North Carolina to address this key need.

At a 2010 conference on managing challenging behaviors in older adults, Teepa Snow, MS, OTR, FAOTA, who was then a master trainer with Alzheimers North Carolina, proposed a practical model and a set of methods that could help care-

TABLE 1.
Selected Dementia Workforce Training Resources in North Carolina

Organization	Web site	Dementia-specific offerings and their target audiences
Alzheimers North Carolina	http://www.alznc.org/index.php/alzheimers-conferences-workshops	Education conferences and workshops for caregivers, conducted throughout the state
The Carolinas Center for Medical Excellence: Action Collaborative for Excellence in Long-Term Care	http://www.ccmemedicare.org/default.aspx?pn=ACE	Webinars and in-person learning collaboratives on quality improvement in dementia care, provision of person-centered care in long-term care facilities, and use of quality assurance/performance improvement framework to improve outcomes (eg, reduction in use of antipsychotic medication)
Duke Geriatric Education Center	http://geriatriceducation.duke.edu/	Community Dementia Roundtable, a monthly continuing education series for community-based professional caregivers
Duke Center of Geriatric Nursing Excellence	http://cgne.nursing.duke.edu/	Geriatric Grand Challenge Institute (GGCI), a continuing education program for health care professionals; helps participants acquire basic information about dementia and implement practice improvements in dementia care in their local community
University of North Carolina School of Medicine: Carolina Geriatric Education Center	http://www.med.unc.edu/aging/cgcec/courses/Continuing%20Medical%20Education	Continuing education courses on dementia sponsored by various North Carolina Area Health Education Centers

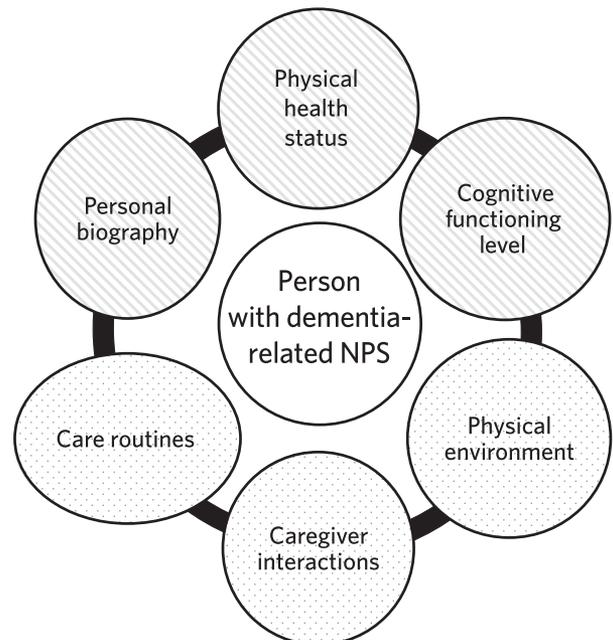
givers and their teammates align their expertise with their responsibilities when implementing behavioral approaches [22]. The Snow model outlines how frontline caregivers can work with professionals serving in a primary care or behavioral consulting role to develop the rich behavioral descriptions required to understand dementia-related NPS and symptom triggers; working together, these health care providers can then develop realistic plans for reducing or eliminating these triggers.

Figure 1 shows 6 domains of responsibility that should be included in any behavioral assessment and targeted behavioral plan. The first 3 domains involve the health status, level of cognitive functioning, and personal history (life patterns and preferences) of the person with dementia; these domains are the responsibility of the registered nurse assessor, the primary care provider, the diagnostician, and the behavioral consultant. The other 3 domains pertain to patterns and care routines, the physical environment of care, and caregiver interactions that require direct care skills. These domains are typically the responsibility of the frontline staff members who provide direct care. These staff members should know how to approach, cue, and adjust routines and environmental conditions, and they need to make these adjustments in a manner that is consistent with the behavioral intervention plan and with the level of cognitive functioning of the person with dementia [22]. Snow's premise is that a team approach is required for successful behavioral management of dementia-related NPS. The assessor, diagnostician, or consultant first leads a team assessment of the behavior being classified as a dementia-related NPS and then leads development of the care plan by engaging direct-care staff members in describing the behavior and considering which environmental triggers, routines, or caregiving skills improve or worsen the targeted NPS.

A brief case example involving a patient in a long-term care facility can illustrate how interprofessional care can improve

the management of dementia-related NPS. Mr. Smith, who resided in a skilled nursing facility and had moderately severe dementia, was brought to the attention of the treatment team because he was very agitated at night and was sleeping poorly. The behavior assessment revealed that he was agitated only at night and that the period of agitation began when a staff member placed heel protectors on his

FIGURE 1.
Model of Interprofessional Collaboration in Treating Neuropsychiatric Symptoms (NPS) of Dementia



Note. Circles with hatching represent domains in which the prescriber, diagnostician, and consultant have the greatest expertise; circles with dots represent domains in which direct caregivers have the greatest expertise. All domains should be included in any behavioral assessment and targeted behavioral plan.

Source: Adapted from a presentation given by Teepa Snow [22].

feet to help prevent pressure ulcers. The behavioral health coordinator (a consulting psychologist) learned from a review of the resident's history that he had been a prisoner of war; this insight led the behavioral health coordinator to suspect that a potential trigger for the agitation was a feeling of confinement. When members of the nursing staff stopped using the heel protectors and instead used pillows to "float the heels" off the mattress, the patient's agitation was markedly reduced. When the psychologist or the nursing staff operate in isolation, they are unlikely to uncover all of the information needed to develop a comprehensive behavior plan. When observations and expertise are pooled in a systematic manner, however, it is possible to uncover key details of a person's biography or care routine that can provide a roadmap for targeted behavioral interventions.

Although progress toward the prevention and cure of major neurocognitive disorders remains frustratingly slow, important progress has been made on treatment of dementia-related NPS. This commentary has described a variety of models, resources that can support implementation, and important frontiers on which we are continuing to make progress. North Carolinians should take pride in the fact that our state is leading the nation in this effort—in both residential facilities and community-based programs of long-term care—and the state is well positioned to take further strides in improving the quality of life of persons with dementia and their caregivers. *NCMJ*

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