

# Advances in Geriatrics

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## An Innovative Approach to Managing Alzheimer Disease

**A**lzheimer disease (AD) is the most common cause of dementia. It is a chronic progressive brain disorder that occurs insidiously—resulting in irreversible memory loss, behavior and personality changes, decline in reasoning ability and executive function, and eventual total dependence. AD affected an estimated 3.4 million people aged 71 and older in the United States in 2002,<sup>1</sup> including more than 500,000 veterans.<sup>2</sup> Since both the incidence and the prevalence of AD increase with age, this number—and the profound demand it places on families and the VHA—will continue to increase as the veteran population ages. The prevalence is expected to peak at approximately 572,000 affected veterans in 2012.<sup>2</sup>

The slow but inexorable decrease in cognition and function caused by AD leads to a growing inability to carry out previously mastered tasks, which can result in potentially life threatening situations. For example, a veteran with AD who previously had been able to self-administer a daily anticoagulant safely or had been able to follow a diabetic treatment regimen accurately may slowly lose the ability to do so, precipitating a medical crisis that puts the veteran's life at risk, creates caregiver stress and burden, and incurs avoidable costs on the VA health care system.

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Although AD is common, there is a lack of AD-related best practices in medical literature. With disease incidence on the rise, it is imperative that management efforts focus on establishing best practices surrounding diagnosis and treatment.

AD is the unitary focus of the Geriatric Research, Education and Clinical Center (GRECC) at the Minneapolis VA Medical Center, Minneapolis, MN. Since the GRECC's founding in 1976, it has been an active and productive basic scientific and animal research enterprise, exploring the underlying mechanisms of AD with an eye toward the disease's recognition, prevention, and management. The focus has been reflected in the educational activities of the GRECC, which has offered on-site and satellite conference-based educational programs on the topic locally, regionally, and nationally.

In 2007, the clinical mission of the GRECC took a new turn, with the initiation of the VISN 23 Dementia Demonstration Project (DDP), which

has been showing great promise as an innovative model for dementia care. A particularly compelling characteristic of the DDP is that it offers screening and ongoing management without strict reliance on physician effort. This is a particularly important consideration for the Minneapolis GRECC's host VA Midwest Healthcare Network (VISN 23), which encompasses most of North and South Dakota, Minnesota, Iowa, and Nebraska, as well as northwestern Wisconsin. The approach has additional appeal in light of the severe national shortage of clinicians with expertise in geriatrics.<sup>3</sup>

### ALL ABOUT THE DDP

The purpose of the VISN 23 DDP is threefold: (1) to maximize the likelihood of patients with AD residing in the least restrictive setting; (2) to provide interventions at key benchmarks of the disease process, using evidence-based strategies tailored to the needs of the individual patient and caregiver; and (3) to provide family members and caregivers a protocol of

The VHA's Geriatric Research, Education and Clinical Centers (GRECCs) are designed for the advancement and integration of research, education, and clinical achievements in geriatrics and gerontology throughout the VA health care system. Each GRECC focuses on particular aspects of the care of aging veterans and is at the forefront of geriatric research and clinical care. For more information on the GRECC program, visit the web site (<http://www1.va.gov/grecc/>). This column, which is contributed monthly by GRECC staff members, is coordinated and edited by Kenneth Shay, DDS, MS, director of geriatric programs for the VA Office of Geriatrics and Extended Care, VA Central Office, Washington, DC.



support through education, counseling, and utilization of available VA and community resources. The DDP uses a primary care team approach. The team is headed by a Dementia Care Coordinator (DCC)—an advanced practice nurse (APRN) specializing in dementia—and is assisted and supported by consultation services from the extended care and rehabilitation and mental health service lines.

According to the chronic care model, an important set of partners in chronic disease management is engaged through collaboration with community resources.<sup>4</sup> We at the DDP have established a relationship with the Alzheimer's Association. This approach is an adaptation and modification of a model developed in the VA Healthcare Network Upstate New York (VISN 2) as part of a national demonstration program, "Chronic Care Networks for Alzheimer's Disease,"<sup>5</sup> which was cosponsored by the National Chronic Care Consortium and the Alzheimer's Association.

DCCs are trained by staff of the Minneapolis GRECC to screen older patients for warning signs of cognitive decline and to work with interdisciplinary teams that include clinicians from the social work, pharmacy, and occupational therapy disciplines. The DCCs and their teams evaluate positive dementia screening results; communicate findings and recommendations to patients, families, and other providers; and offer support, education, referrals, and care coordination. Currently, there are seven DDP sites in VISN 23, with eight DCCs actively working with patients.

### Dementia screening

Patients aged 70 years and older who have no prior diagnosis of cognitive impairment and are being seen for a routine follow-up visit in primary care are offered dementia screening (Figure). The dementia screen-

ing instrument used by the DDP is the 5-point Mini-Cog tool.<sup>6</sup> The Mini-Cog consists of a three-word registration task (worth 0 points), a clock-draw interference task (worth 2 points), and a three-word recall task (worth 3 points). The instrument is administered by the DCC and takes less than two minutes to complete. Patients with a total score of 3 points or less are asked to return for a more in-depth "dementia further evaluation" (DFE). All patients who are screened are given a copy of the Alzheimer's Association handout "The 10 Warning Signs of Alzheimer's" to take home,<sup>7</sup> and the contents are reviewed with the patient.

### The DFE

The DFE is modeled after a process developed for local use by the Minneapolis GRECC. The DFE is accomplished by the DCC and takes about 90 to 120 minutes to complete. It consists of a dementia-focused medical

### Consensus diagnosis

For diseases, such as AD, that lack specific biomarkers, expert opinion is the preferred method of diagnosis. The DDP uses a consensus conference as the means for achieving diagnostic agreement for patients undergoing a DFE. An interdisciplinary team comprised of advanced practice nurses and physicians reviews the details of the patient's history and DFE results and eventually agrees on a diagnosis. This method is employed to ensure adherence to the diverse diagnostic criteria employed by different disciplines, thus increasing the validity and reliability of the ultimate diagnosis.

If the diagnosis is some form of cognitive impairment, a family meeting is convened. Attendees include the patient, his or her caregiver, extended family, close friends, and health care professionals who participated in the diagnosis process. The patient's medical history leading up to the DFE is reviewed, along with test results, the

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history and physical examination, an evaluation of medications, the Montreal Cognitive Assessment (MoCA),<sup>8</sup> the Neuropsychiatric Inventory (NPI-Q),<sup>9</sup> the Dependence scale,<sup>10</sup> a driving screen, a caregiver needs assessment, and laboratory tests and brain imaging as appropriate. If indicated, patients also receive the Cognitive Performance Test (CPT), a performance-based functional assessment.<sup>11</sup>

diagnosis, and treatment plan. Having all interested parties in the same room to hear the diagnosis and prognosis minimizes ambiguity and misunderstanding and helps to facilitate implementation of the plan of care.

### The DDP intervention matrix

Patients' care is followed by the DCC, with their dementia managed through the DDP Intervention Matrix. The

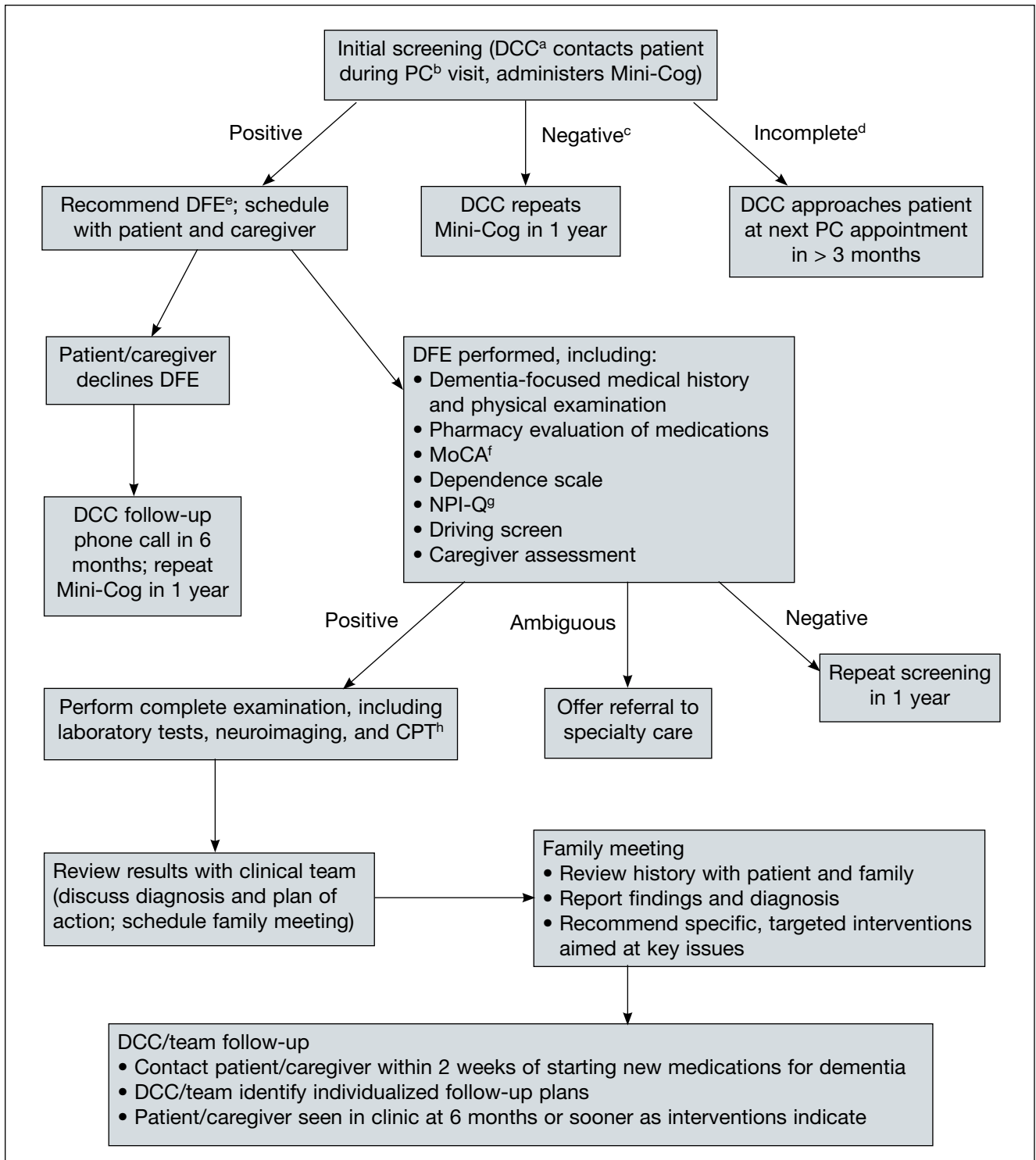


Figure. Dementia evaluation and treatment algorithm used by the VISN 23 Dementia Demonstration Project. <sup>a</sup>DCC = Dementia Care Coordinator. <sup>b</sup>PC = primary care. <sup>c</sup>Negative result is a score < 3. <sup>d</sup>Screening is incomplete if patient refuses the Mini-Cog (fewer than 2% of patients refuse this test). <sup>e</sup>DFE = dementia full evaluation. <sup>f</sup>MoCA = Montreal Cognitive Assessment. <sup>g</sup>NPI-Q = Neuropsychiatric Inventory. <sup>h</sup>CPT = Cognitive Performance Test.

Intervention Matrix tailors the plan of care to individual patient and caregiver needs. The plan of care is specific to dementia severity and function, is evidence based, and has components of scheduled and ad hoc contact with the patient or caregiver to address any new and ongoing issues.

A key component to the plan of care is caregiver support and education. After identifying the caregiver's needs through a structured needs assessment, the DCC and DDP social worker collaborate to: (1) help the caregiver lay groundwork for anticipated changes in the patient's cognition and function abilities and (2) promote caregiver wellness through education, counseling, and connection to VA and community resources.

### PRELIMINARY OUTCOMES

To date, 8,700 patients have received the dementia screen through the DDP. The invitation to participate in screening is well received, with nearly 99% of patients approached agreeing to be screened. Of the 120 veterans who have refused (1.4% of those approached), most cite a lack of time as the reason for refusal. Often, patients express their appreciation at the offer to be screened, and some who screen negative nonetheless request a further evaluation because of their own concerns about their memory and cognition.

Of the patients screened, 2,340 (27%) received a score of 3 points or less and a recommendation for a follow-up appointment for DFE. Of the 982 patients who agreed to the DFE (42% of those for whom it was recommended), 915 patients (93%) did have some level of cognitive impairment.

Although many patients who failed the dementia screening did return for a DFE, others did not. Some reasons given by patients and caregivers for

not pursuing the DFE were that they lived too far away from the medical center to make the trip, denied any memory problems existed, or did not want to know if they had a memory problem. Interestingly, patients who initially failed the dementia screening and refused the DFE were more likely to agree to a DFE after failing the screening for a second time, upon repeated annual dementia screening. We are finding an increased likelihood of cognitive impairment among those patients who fail repeat dementia screening after refusing the DFE the first time.

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Preliminary resource utilization data suggest that intervention and case management by the DCCs decreased urgent visits to VA primary care providers by 30%, decreased visits to VA emergency departments and urgent care clinics by 25%, and decreased unscheduled hospital admissions by more than 50% (P.A., unpublished data, 2009).

Overwhelmingly, the VISN 23 DDP has been well accepted by patients, caregivers, and primary care providers. While, initially, the primary care providers working with the DCCs were a bit skeptical about the project, a survey of those providers conducted one year after the project began showed that most believed the DCCs provided a valuable service not otherwise available to their patients (P.A., unpublished data, 2009).

### LOOKING AHEAD

Since the DDP was initiated, the lives of thousands of patients with dementia have been improved through DCC-coordinated education, case management, and patient-centered dementia care. All of this has been accomplished while reducing the use of scarce resources. Our future plans include continued data collection and analysis to identify and refine best practices and to spread the principles of DDP to other sites in VISN 23. In particular, issues of comparative efficacy and cost-effectiveness need to be examined to help inform

decisions regarding further development and dissemination of this care model. ●

#### Author disclosures

The authors report no actual or potential conflicts of interest with regard to this column.

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