

A Transdisciplinary Program for Care of Veterans With Neurocognitive Disorders

Mario F. Mendez, MD, PhD^{a,b}; Rebecca A. Melrose, PhD^{a,b}; Denise G. Feil, MD^{a,b}; Kelsey A. Holiday, PhD^{a,b}; Marianne Hunt, LCSW^a; Ali Najafian Jazi, MD^a; Sukh L. Lamba, RN-BC^a; Michael E. Mahler, MD^{a,b}; Daniel E. Okobi, MD, PhD^{a,b}; Hans F. Von Walter, MD^{a,b}

Background: Veterans face specific risk factors for neurocognitive disorders. Providing them with comprehensive care for dementia and related neurocognitive disorders is a challenge as the population ages. There is a need for family-centered interventions, specialized expertise, and collaboration among clinicians and caregivers. The literature suggests that application of a transdisciplinary care model can address these needs and provide effective dementia care.

Observations: The Veterans Affairs Greater Los Angeles Healthcare System has employed existing expertise to create a conference-centered transdisciplinary model that responds to the US Department of Veterans Affairs directive for a dementia system of care. This model involves direct participation

of behavioral neurology, geriatric psychiatry, geriatrics, neuropsychology, nursing, and social work. In this model, the social worker serves as a dementia care manager and, along with the nurse specialist, assures long-term management through follow-up and monitoring. Transdisciplinary interactions occur in a clinical case conference where each discipline contributes to the veteran's care. The team generates a final report on treating these veterans, the caregiver's needs, referral for psychosocial services, and plans for monitoring and follow-up.

Conclusions: This model could be a template of a program for implementing the Dementia System of Care across Veteran Affairs medical centers.

Author affiliations can be found at the end of this article.

Correspondence:

Mario Mendez
(mmendez@ucla.edu)

Fed Pract. 2023;40(suppl 2):e0343.
Published online December 14, 2022.
doi:10.12788/fp.0343

Dementia is a devastating condition resulting in major functional, emotional, and financial impact on patients, their caregivers, and families. Approximately 6.5 million Americans are living with Alzheimer disease (AD), the most common of many causes of dementia.¹ The prevalence of AD could increase to 12.7 million Americans by 2050 as the population ages.¹ Studies suggest that dementia, also known as major neurocognitive disorder, is common and underdiagnosed among US veterans, a population with a mean age of 65 years.² During cognitive screening, memory impairment is present in approximately 20% of veterans aged ≥ 75 years who have not been diagnosed with a neurocognitive disorder.³ In addition, veterans might be particularly vulnerable to dementia at an earlier age than the general population because of vascular risk factors and traumatic brain injuries.⁴ These concerns highlight the need for effective dementia care programs at US Department of Veterans Affairs (VA) facilities.

The US health care system often does not adequately address the needs of patients with dementia and their caregivers.⁵ Dementia care requires specialized medical care among collaborating professionals and caregiver and psychosocial interventions and services. However, the US health care system is fragmented with different clini-

cians and services siloed into separate practices and most dementia care occurring in primary care settings.⁶ Primary care professionals (PCPs) often are uncomfortable diagnosing and managing dementia because of time constraints, lack of expertise and training, and inability to deal with the range of care needs.⁷ PCPs do not identify approximately 42% of their patients with dementia and, when recognized, do not adhere to dementia care guidelines and address caregiver needs.⁸⁻¹⁰ Research indicates that caregiver support improves dementia care by teaching behavioral management skills and caregiver coping strategies, allowing patients to stay at home and delay institutionalization.^{6,11,12} Clinicians underuse available resources and do not incorporate them in their patient care.¹⁰ These community services benefit patients and caregivers and significantly improve the overall quality of care.⁶

Memory clinics have emerged to address these deficiencies when managing dementia.¹³ The most effective memory clinics maximize the use of specialists with different expertise in dementia care, particularly integrated programs where disciplines function together rather than independently.^{1,5,14} Systematic reviews and meta-analyses have documented the effectiveness of collaborative care management programs.^{11,12,15} Integration of dementia care management is associated with

earlier diagnosis and interventions, decreased functional and cognitive symptom severity, decreased or delayed institutionalization, improved quality of life for patients and caregivers, enhanced overall quality of care and cost-effectiveness, and better integration of community services.^{11,12,14-19} In these programs, designating a dementia care manager (DCM) as the patient's advocate facilitates the integrated structure, increases the quality of care, helps caregivers, facilitates adherence to dementia practice guidelines, and prevents behavioral and psychological symptoms of dementia (BPSD).^{1,6,11,12,20,21}

The best interprofessional model for dementia care might be the transdisciplinary model that includes a DCM. To meet the specific demands of dementia care, there must be a high level of interprofessional collaboration rather than multiple health care professionals (HCPs) delivering care in isolation—an approach that is time consuming and often difficult to implement.²² Whereas multidisciplinary care refers to delivery of parallel services and interdisciplinary care implies a joint formulation, transdisciplinary care aims to maximize integration of HCPs and their specific expertise and contributions through interactions and discussions that deliver focused input to the lead physician. The transdisciplinary model addresses needs that often are missed and can minimize disparities in the quality of dementia care.²³ A DCM is an integral part of our program, facilitating understanding and implementation of the final care plan and providing long-term follow-up and care. In this article, we outline a conference-centered transdisciplinary dementia care model with a social worker as DCM (SW-DCM) at our VA medical center.

PROGRAM DESCRIPTION

In 2020, the VA Greater Los Angeles Healthcare System (VAGLAHS) in California established a multispecialty clinic dedicated to evaluation and treatment of veterans with memory and neurocognitive disorders and to provide support for their caregivers and families. With the agreement of leadership in mental health, neurology, and geriatrics services on the importance of collaboration for dementia care, the psychiatry and neurology services created a joint Memory and Neurobehavior Clinic, which

completed its first 2 years of operation as a full-day program. In recent months, the clinic has scheduled 24 veterans per day, approximately 50% new evaluations and 50% follow-up patients, with wait times of < 2 months. There is a mean of 12 intake or lead physicians who could attend sessions in the morning, afternoon, or both. The general clinic flow consists of a 2-hour intake evaluation of new referrals by the lead physician followed by a clinic conference with transdisciplinary discussion. The DCM then follows up with the veteran/caregiver presenting a final care plan individualized to the veterans, caregivers, and families.

The Memory and Neurobehavior team includes behavioral neurologists, geriatric psychiatrists, neuropsychologists, geriatric fellows, advanced clinical nurses, and social workers who function as the DCM (Table 1). In addition, regular meetings of the VAGLAHS dementia committee allow involvement with other professionals (physical, occupational, and speech therapists, an audiologist, an optometrist, and a dietitian) who routinely consult with veterans in the clinic. The Memory and Neurobehavior Clinic also includes trainees from different disciplines, fulfilling the VA's role in educating future clinicians in managing neurocognitive disorders. These trainees are residents in neurology and psychiatry; fellows in behavioral neurology, geriatric psychiatry, and geriatric medicine; neuropsychology interns; medical students; and nurse practitioner students.

Procedures

Before the office visit, the coordinating geriatric psychiatrist triages veterans to neurology, psychiatry, or geriatric physicians based on the clinical presentation, history of neurologic signs or symptoms, BPSD or psychiatric history, functional decline, or comorbid medical illnesses. Although veterans often have overlapping concerns, the triage process aims to coordinate the intake evaluations with the most indicated and available specialist with the intention to notify the other specialists during the transdisciplinary conference.

Referrals to the program occur from many sources, notably from primary care (70.8%),

TABLE 1 Transdisciplinary Team Members' Roles

Positions	Major roles	Specific tasks	Expertise
Neurologist	Intake evaluations Evaluate for neurocognitive disorders Discuss overall management	Review veterans for neurologic dysfunction Focus on veterans with neurologic impairment and rapidly progressive dementia	Neurologic examination Diagnostic criteria Biomarkers Neuroimaging assessment Medications used for managing cognitive impairment
Geriatric psychiatrist	Intake evaluations Evaluate for neurocognitive disorders Discuss overall management	Review veterans for psychiatric dysfunction Focus on veterans with BPSD and psychoactive medication management	Psychiatric assessment Nonpharmacologic and psychotherapeutic interventions, and psychoactive medications
Geriatrician ^a	Intake evaluations Evaluate for neurocognitive disorder Discuss overall management	Review for medical illnesses and medications Focus on medical management and older adult issues (eg, fall risk)	Medical assessment and medications Laboratory and other medical tests Geriatric care issues
Neuropsychologist	Cognitive screening or neuropsychologic testing Explain and discuss cognitive profile	Review veterans' cognitive abilities, functional status, risk assessment/safety Focus on mild cognitive impairment, differentiating from psychiatric illness, and capacity	Cognitive evaluation Capacity assessments Counseling veterans, families Brain or memory training Support groups
Social worker	Psychosocial assessment Establish long-term patient and caregiver relationship	Review patient-caregiver needs Focus on eligibility for VA and community programs and becoming care coordination advocate	Support services, respite and day care, transportation, senior services, legal/financial referral Support groups
Nurse specialist	Intake vital signs and medication check Follow-up on medication use and scheduled tests	Review basic nursing needs Focus on patient safety and vulnerabilities, medication usage, coordinating home health, and monitoring follow-up	Nursing and medical care Instruction on medication use Assessing patient safety Follow-up phone calls regarding tests, medications, and appointments

Abbreviations: BPSD, behavioral and psychological symptoms of dementia; VA, US Department of Veterans Affairs.

^aGeriatric medicine fellows who have completed internal medicine residencies.

mental health (16.7%), and specialty clinics (12.5%). The clinic also receives referrals from the affiliated Veterans Cognitive Assessment and Management Program, which provides dementia evaluation and support via telehealth screening. This VAGLAHS program services a diverse population of veterans: 87% male; 43% aged > 65 years (75% in our clinic); 51% non-Hispanic White; 19% non-Hispanic African American; 16% Hispanic; 4% Asian; and 1% Native American. This population receives care at regional VA medical centers and community-based outpatient clinics over a wide geographic service area.

The initial standardized assessments by intake or lead physicians includes mental status screening with the Montreal Cognitive Assessment (with certified clinicians), the Neurobehavioral Status Examination for a more detailed assessment of cognitive domains, the Columbia-Suicide Severity Rating Scale, the

Patient Health Questionnaire for depression screening, and assessment for impairments in instrumental or basic activities of daily living. This initial evaluation aims to apply clinical guidelines and diagnostic criteria for the differential diagnosis of neurocognitive disorders, determine eligibility for cognitive-enhancing medications and techniques, assess for BPSD and the need for nonpharmacologic or pharmacologic interventions, determine functional status, and evaluate the need for supervision, safety concerns, and evidence of neglect or abuse.

As part of its mission, the clinic is charged with implementing the VA Dementia System of Care (DSOC). The stated goals of the DSOC are to provide individualized person-centered dementia care to help veterans experiencing dementia and their caregivers maintain a positive and optimal quality of life and create an environment where VA medical center staff understand the health care needs

TABLE 2 Benefits for Veterans With Dementia and Their Caregivers^a

Benefits	Coordinators	Types
VA benefits for veterans with dementia	Social worker dementia care manager	Respite care; adult health day care; prosthetics; transportation; housing; home-based primary care; employment
VA financial benefits	Social worker dementia care manager	Service-connected compensation; not service-connected pension; aid and attendance (wartime veterans cash benefit)
Non-VA benefits	Social worker dementia care manager	US Social Security Administration benefits; state disability insurance; in-home supportive services
Caregiver support	Social worker dementia care manager, neuropsychologist	Program of Comprehensive Assistance for Family Caregivers; telephone support group for caregivers of veterans with dementia ^b ; in-person monthly support group ^b ; referral to Alzheimer's Association support groups
Counseling	Neuropsychologist	Mind-body classes ^b ; brain training program for older veterans without a neurocognitive disorder ^b ; memory training program for veterans with mild cognitive disorder or mild dementia ^b

Abbreviation: VA, US Department of Veterans Affairs.

^aSubject to eligibility criteria based on level of disability, finances, living situation, service connection.

^bAvailable for veterans at Veterans Affairs Greater Los Angeles Healthcare System.

of veterans with dementia and their caregivers' role. As part of this initiative, the clinic includes (1) coordination of care through a SW-DCM; (2) an education plan disseminating information on early signs of dementia to medical center clinicians; (3) evaluation of veterans and caregivers for VA benefits and care services (Table 2); and (4) collaboration with dementia committees at our VA, Veterans Integrated Service Network, and national levels.

Transdisciplinary Conference

Clinic conferences are held after the veterans are seen. Staff gather to discuss the patient and review management. All team members are present, as well as the head of the clinical clerical staff who can facilitate appointments, make lobby and wait times more bearable for our patients and caregivers, and help manage emergencies. Although this is an in-person conference, the COVID-19 pandemic has allowed us to include staff who screen at remote sites via videoconferencing, similar to other VA programs.²⁴ The Memory and Neurobehavior Clinic has two ≤ 90-minute conferences daily. The lead physicians and their senior attendings present the new intake evaluations (4-6 at each conference session) with a preliminary formulation and questions for discussion. The moderator solicits contributions from the different disciplines, going from one to the next and recording their responses for each veteran. Further specialists are available for consultation through

the conference mechanism if necessary. The final assessment is reviewed, a diagnosis is established, and a tailored, individualized care plan for adjusting or optimizing the veteran's care is presented to the lead physician who makes the final determination. At the close of the conference, the team's discussion is recorded along with the lead physician's original detailed intake evaluation. Currently, the records go into the Computerized Patient Record System, but we are making plans to transition to Cerner as it is implemented.

During the discussion, team members review several areas of consideration. If there is neuroimaging, neurologists review the images projected on a large computer screen. Team members also will assess for the need to obtain biomarker studies, such as blood, cerebrospinal fluid, or positron emission tomography. Psychiatrists could review management of BPSD and use of psychotropic agents, and neuropsychologists might consider the need for more precise cognitive testing and whether a capacity assessment is indicated. Social work might bring up the need for a durable power of attorney as well as applicable caregiver and community resources. Geriatric medicine and nursing could provide input into medical management and care and the ability of veterans and caregivers to follow the prescribed regimen. Further areas of discussion include driving safety and restrictions on driving (as required in California) and the presence of guns in the home. Finally, brief education is provided in

short 10-to-15-minute lectures covering pertinent topics so staff remain up-to-date in this changing field.

Postconference Continuity

After the conference, the SW-DCM continues to provide support throughout the disease course, helping veterans and their caregivers understand and follow through on recommendations. The SW-DCM, who is experienced and trained in case management, forms an ongoing relationship with the veterans and their caregivers and remains an advocate for their care. The SW-DCM communicates the final plan by phone and, when necessary, requests the lead physician to call to clarify any poorly understood or technical aspects of the care plan. About 50% of our veterans—primarily those who do not have a neurocognitive disorder or have mild cognitive impairment—return to their PCPs with our care plan consultation; about 25% are already enrolled in geriatric and other programs with long-term follow-up. The assigned SW-DCM follows up with the remaining veterans and caregivers regularly by phone, facilitates communication with other team members, and endeavors to assure postvisit continuity of care and support during advancing stages of the disease. In addition, the SW-DCM can provide supportive counseling and psychotherapy for stressed caregivers, refer to support groups and cognitive rehabilitation programs, and help develop long-term goals and consideration for supervised living environments. The nurse specialist participates with follow-up calls regarding medications and scheduled tests and appointments, clearing up confusion about instructions, avoiding medication errors, and providing education in dementia care. Both social worker and nurse are present throughout the week, reachable by phone, and, in turn, able to contact the clinic physicians for veterans' needs.

DISCUSSION

Because of the heterogeneous medical and psychosocial needs of veterans with dementia and their caregivers, a transdisciplinary team with a dedicated DCM might offer the most effective and efficient model

for dementia care. We present a transdisciplinary program that incorporates dementia specialists in a single evaluation by maximizing their time through a conference-centered program. Our program involves neurologists, psychiatrists, geriatricians, psychologists, nurses, and social workers collaborating and communicating to enact effective dementia care. It further meets the goals of the VA-DSOC in implementing individualized patient and caregiver care.

This transdisciplinary model addresses a number of issues, starting with the differential diagnosis of underlying neurologic conditions. Within the transdisciplinary team, the neurologist can provide specific insights into any neurologic findings and illnesses, such as Alzheimer disease and other neurodegenerative dementias, vascular dementia syndromes, normal pressure hydrocephalus, Creutzfeldt-Jakob disease, neurosyphilis, and others. Most veterans with dementia experience BPSD at some point during of their illness. The psychiatrists on the transdisciplinary team can maximize management of BPSD with nonpharmacologic interventions and the fewest and least aversive psychoactive medications. Our program also addresses the need for more precise cognitive evaluation. Neuropsychologists are present and available for administering neuropsychologic tests and interpreting cognitive performance and any earlier neuropsychologic testing. This model also cares for the caregivers and assesses their needs. The social worker—as well as other members of the team—can provide caregivers with strategies for coping with disruptive and other behaviors related to dementia, counsel them on how to manage the veteran's functional decline, and aid in establishing a safe living space. Because the social worker serves as a DCM, these coping and adjustment questions occupy significant clinical attention between appointments. This transdisciplinary model places the patient's illness in the context of their functional status, diagnoses, and medications. The team geriatrician and the nurse specialist are indispensable resources. The clinic conference provides a teaching venue for staff and trainees and a mechanism to discuss new developments in dementia care, such as the increasing need to assess individuals with mild cognitive impairment.²⁵

This model depends on the DCM's invaluable role in ensuring implementation of the dementia care plan and continuity of care.

CONCLUSIONS

We describe effective dementia care with a transdisciplinary team in a conference setting and with the participation of a dedicated DCM.⁵ To date, this program appears to be an efficient, sustainable application of the limited resources allocated to dementia care. Nevertheless, we are collecting data to compare with performance measures, track use, and assess the programs effects on continuity of care. We look forward to presenting metrics from our program that show improvement in the health care for veterans experiencing a devastating and increasingly common disorder.

Author affiliations

^aVeterans Affairs Greater Los Angeles, California

^bUniversity of California, Los Angeles

Author disclosures

The authors report no actual or potential conflicts of interest or outside sources of funding with regard to this article.

Disclaimer

The opinions expressed herein are those of the authors and do not necessarily reflect those of *Federal Practitioner*, Frontline Medical Communications Inc., the US Government, or any of its agencies.

Ethics and consent

This program description is not classified as research, and thus did not require institutional review board approval.

References

- 2022 Alzheimer's disease facts and figures. *Alzheimers Dement*. 2022;18(4):700-789. doi:10.1002/alz.12638
- National Center for Veterans Analysis and Statistics. Profile of veterans: 2016. Accessed October 12, 2022. https://www.va.gov/vetdata/docs/SpecialReports/Profile_of_Veterans_2016.pdf
- Chodosh J, Sultzer DL, Lee ML, et al. Memory impairment among primary care veterans. *Aging Ment Health*. 2007;11(4):444-450. doi:10.1080/13607860601086272
- Kennedy E, Panahi S, Stewart IJ, et al. Traumatic brain injury and early onset dementia in post 9-11 veterans. *Brain Inj*. 2022;36(5):620-627. doi:10.1080/02699052.2022.2033846
- Heintz H, Monette P, Epstein-Lubow G, Smith L, Rowlett S, Forester BP. Emerging collaborative care models for dementia care in the primary care setting: a narrative review. *Am J Geriatr Psychiatry*. 2020;28(3):320-330. doi:10.1016/j.jagp.2019.07.015
- Reuben DB, Evertson LC, Wenger NS, et al. The University of California at Los Angeles Alzheimer's and Dementia Care program for comprehensive, coordinated, patient-centered care: preliminary data. *J Am Geriatr Soc*. 2013;61(12):2214-2218. doi:10.1111/jgs.12562
- Apesoa-Varano EC, Barker JC, Hinton L. Curing and caring: the work of primary care physicians with dementia

- patients. *Qual Health Res*. 2011;21(11):1469-1483. doi:10.1177/1049732311412788
- Creavin ST, Noel-Storr AH, Langdon RJ, et al. Clinical judgement by primary care physicians for the diagnosis of all-cause dementia or cognitive impairment in symptomatic people. *Cochrane Database Syst Rev*. 2022;6:CD012558. doi:10.1002/14651858.CD012558.pub2
 - Sivanathan SN, Puyat JH, McGrail KM. Variations in self-reported practice of physicians providing clinical care to individuals with dementia: a systematic review. *J Am Geriatr Soc*. 2013;61(8):1277-1285. doi:10.1111/jgs.12368
 - Rosen CS, Chow HC, Greenbaum MA, et al. How well are clinicians following dementia practice guidelines? *Alzheimer Dis Assoc Disord*. 2002;16(1):15-23. doi:10.1097/00002093-200201000-00003
 - Reilly S, Miranda-Castillo C, Malouf R, et al. Case management approaches to home support for people with dementia. *Cochrane Database Syst Rev*. 2015;1:CD008345. doi:10.1002/14651858.CD008345.pub2
 - Tam-Tham H, Cepoiu-Martin M, Ronksley PE, Maxwell CJ, Hemmelgarn BR. Dementia case management and risk of long-term care placement: a systematic review and meta-analysis. *Int J Geriatr Psychiatry*. 2013;28(9):889-902. doi:10.1002/gps.3906
 - Jolley D, Benbow SM, Grizzell M. Memory clinics. *Postgrad Med J*. 2006;82(965):199-206. doi:10.1136/pgmj.2005.040592
 - Muhlichen F, Michalowsky B, Radke A, et al. Tasks and activities of an effective collaborative dementia care management program in German primary care. *J Alzheimers Dis*. 2022;87(4):1615-1625. doi:10.3233/JAD-215656
 - Somme D, Trouve H, Drame M, Gagnon D, Couturier Y, Saint-Jean O. Analysis of case management programs for patients with dementia: a systematic review. *Alzheimers Dement*. 2012;8(5):426-436. doi:10.1016/j.jalz.2011.06.004
 - Ramakers IH, Verhey FR. Development of memory clinics in the Netherlands: 1998 to 2009. *Aging Ment Health*. 2011;15(1):34-39. doi:10.1080/13607863.2010.519321
 - LaMantia MA, Alder CA, Callahan CM, et al. The aging brain care medical home: preliminary data. *J Am Geriatr Soc*. 2015;63(6):1209-1213. doi:10.1111/jgs.13447
 - Rubinsztein JS, van Rensburg MJ, Al-Salihy Z, et al. A memory clinic v. traditional community mental health team service: comparison of costs and quality. *BJPsych Bull*. 2015;39(1):6-11. doi:10.1192/pb.bp.113.044263
 - Lee L, Hillier LM, Harvey D. Integrating community services into primary care: improving the quality of dementia care. *Neurodegener Dis Manag*. 2014;4(1):11-21. doi:10.2217/nmt.13.72
 - Bass DM, Judge KS, Snow AL, et al. Caregiver outcomes of partners in dementia care: effect of a care coordination program for veterans with dementia and their family members and friends. *J Am Geriatr Soc*. 2013;61(8):1377-1386. doi:10.1111/jgs.12362
 - Callahan CM, Boustani MA, Unverzagt FW, et al. Effectiveness of collaborative care for older adults with Alzheimer disease in primary care: a randomized controlled trial. *JAMA*. 2006;295(18):2148-2157. doi:10.1001/jama.295.18.2148
 - Leggett A, Connell C, Dubin L, et al. Dementia care across a tertiary care health system: what exists now and what needs to change. *J Am Med Dir Assoc*. 2019;20(10):1307-12 e1. doi:10.1016/j.jamda.2019.04.006
 - Brown AF, Vassar SD, Connor KI, Vickrey BG. Collaborative care management reduces disparities in dementia care quality for caregivers with less education. *J Am Geriatr Soc*. 2013;61(2):243-251. doi:10.1111/jgs.12079
 - Powers BB, Homer MC, Morone N, Edmonds N, Rossi MI. Creation of an interprofessional teledementia clinic for rural veterans: preliminary data. *J Am Geriatr Soc*. 2017;65(5):1092-1099. doi:10.1111/jgs.14839
 - Galvin JE, Aisen P, Langbaum JB, et al. Early stages of Alzheimer's Disease: evolving the care team for optimal patient management. *Front Neurol*. 2020;11:592302. doi:10.3389/fneur.2020.592302