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Special Article

Managing Neurocognitive Disorders in the Real World: Optimizing Collaboration Between Primary Care Providers and Dementia Specialists

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ABSTRACT

Evaluating and managing cognitive disorders has become more sophisticated in the last decade with improved imaging, biomarkers, and the introduction of monoclonal antibody therapies for removing amyloid from the brain. Patients with early signs of cognitive loss are generally seen first by primary care physicians who then frequently consult one or more cognitive care subspecialists to obtain an accurate diagnosis and to seek optimized management. This communication serves as an updated review of that collaborative process that now includes decision-making about the suitability for time-critical monoclonal anti-amyloid therapy. (The American Journal of Geriatric Psychiatry: Open Science, Education, and Practice 2024; 1:17–27)

Highlights

- **What is the primary question addressed by this study?**
  This manuscript reviews recent changes in the collaborative relationship between primary care providers and dementia care specialists for providing a thorough diagnostic work-up and appropriate treatment options for those patients showing cognitive impairment.

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- **What is the main finding of this study?**
  The recent availability of anti-amyloid monoclonal antibody therapy for Alzheimers disease victims argues for a new level of collaborative effort where primary care providers may want to refer potential candidates for a thorough evaluation to a team of dementia care experts for guidance and administration of the treatment.
- **What is the meaning of this finding?**
  In the real world of anti-amyloid therapy, primary care providers may opt to refer potential candidates to a center of dementia care excellence for diagnostic clarity, treatment fidelity, and safety.

INTRODUCTION

The best chance for slowing progressive memory loss or cognitive impairment associated with a neurocognitive disorder (NCD) depends upon an accurate diagnosis made as early in the disease process as possible. Primary Care Physicians (PCPs) are the best-suited clinicians to notice early cognitive changes in the patients they follow longitudinally and to tailor educational efforts about NCDs for their patients and caregivers.

The Gerontological Society of America recognized the uncertainties that surround the question of the earliest detection of cognitive problems in their patients. They polled a bevy of dementia experts and published their KAER (pronounced "care") toolkit for PCPs in 2017.[1] This kit is free for anyone to download at https://www.geron.org/publications/kaer-toolkit as a comprehensive depot of resources that suggests that PCPs begin talking to patients about "brain health" as part of the annual Medicare wellness exam. This is the K in the KAER toolkit for "kickstarting" the conversation about brain health.[1] Discussions then follow about reducing risk factors to preserve brain function optimally. Screening for cognitive decline thus becomes de rigueur from that point forward even if there are no subjective complaints. Cross-checking suspected cognitive lapses with family members is strongly encouraged. After the brain health discussion is kickstarted, the other letters in the acronym stand for the actual Assessment (A) using a cognitive screening instrument. The (E) is for more in-depth Evaluation recognizing that a cognitive screening tool assessment is only the first step in a definitive diagnosis. A search for underlying cause(s) is important as treatment strategies for subtypes of NCDs differ.[1] Finally, the "R" in KAER stands for Referral which can mean a referral to community agencies such as senior centers, memory care units, the Alzheimer's Disease Association (www. ALZ.com), agencies that offer hired help, and even hospice which will accept patients with end-stage NCD even if their death is not imminent.[1]

The KAER website also includes educational webinars for healthcare personnel, copies of multiple cognitive screening instruments, and sample videos of patient interactions.

Receiving an NCD diagnosis is too often perceived by patients and families as a relentless march toward losing independence and nursing home placement which could not be further from the truth. Patients diagnosed with a cognitive disorder should be encouraged to assume an attitude of cautious optimism about maintaining a reasonably high quality of life when adjustments are made for appropriate help and surveillance. Striking a hopeful chord about new treatments and intensive ongoing research can instill therapeutic optimism over nihilism, shore up self-esteem, combat depression and anxiety,[2] and rally caregivers to be more involved in assisting those with NCDs to maintain a quality lifestyle. Achieving this endpoint requires the investment of time and patience to meet patients and family members where they are and guide them through the diagnostic process, the frequent need for greater supervision, the pros and cons of treatment options, and preparation for the future. Finally, care providers should acknowledge anticipatory grief when loved ones experience victims as losing parts of their familiar human essence. What PCPs might not know is that the time devoted to this kind of work is billable under Medicare code M5005. This billing code can also be used for other health

care personnel such as nurse practitioners under the same code that does not have time limits or multiple use limits.

The Clinical Presentation of NCDs: Multiple Contributing Factors

In autopsy series,[3] the brains of NCD victims sometimes show one predominant pathologic process but more commonly reveal a mix of pathologies including amyloid plaques, neurofibrillary tangles, vascular lesions, balloon cells, and Lewy bodies.[4] It should therefore come as no surprise that a mix of NCD pathologies often contribute to the clinical presentation. Delirium from any cause can include cognitive dulling that may improve if the underlying cause can be corrected.[5,6] Chronic depression and anxiety both negatively impact cognitive function.[7] Vascular risk factors hasten the onset and worsen the severity of Alzheimer's disease over and above any direct brain impairments from strokes, microvascular changes, anoxic events, and hypoperfusion.[5] Corrective action to restore sleep quality such as treating sleep apnea can improve cognition.[8] Traumatic brain injury and seizure disorders are risks for short and long-term cognitive decline and thus brain protection is key to TBI prevention,[9] particularly in aging individuals with a more fragile brain vasculature. Recommendations for protecting optimal brain health include foregoing ladders to avoid fall risks, wearing head protection while sporting, defensive driving practices, and ceasing to drive altogether at the appropriate time. Maintaining a high index of suspicion for brain manifestations of other disease states can reveal other medical diseases that require specific treatments such as infections (e.g., AIDS), prion disease (Creutzfeldt-Jacob Disease),[10] inflammatory disorders (e.g., systemic lupus erythematosus), endocrine or metabolic perturbations (e.g., hypo or hyperthyroidism or hypercalcemia),[11] and toxicities (e.g., heavy metal poisoning).[12]

Symptom Patterns Matter

A good clinical history and physical examination are essential for making the correct NCD diagnosis by evaluating symptom patterns, and onset. AD typically begins with short-term memory loss, word finding difficulty, visuospatial disorientation (such as getting lost while driving), repeating questions, and frequently misplacing objects. AD does not always begin with memory loss. Early declines in executive function such as difficulties in planning, anticipating, problem-solving, and disinhibited behaviors can be the initial presentation. This presentation is often referred to as behavioral variant AD or bvAD. Another variant caused by AD pathology that presents initially with prominent visuospatial problems is known as Posterior Cortical Atrophy (PCA).

Cognitive impairment due to vascular disease can usually be inferred from a strong pattern of vascular risk factors, prior TIA's, gait or balance disturbance, claudication, ischemic heart disease, or peripheral vascular disease.[13] VaD typically shows stepwise declines in cognition and is often accompanied by motor impairment and/or affective lability. Cerebral Amyloid Angiopathy (CAA) can cause isolated brain bleeds and NCD.

Parkinson's disease is easy to detect when the classic symptoms of tremor,[14] masked facies, bradykinesia, truncal instability, and autonomic changes are present but more commonly, symptoms are more subtle and variable. They are described as Parkinsonism when mild, and its presence can signal an overlap of multiple neurological etiologies.

Lewy body dementia typically presents with initial symptoms unrelated to memory such as vivid visual hallucinations (often of little people or animals that are seen as curiosities but sometimes can lead to paranoia),[14] fluctuations in symptoms day-to-day, repeated falls, parkinsonian symptoms and REM sleep phenomenon such as nightmares, sleepwalking, motor hyperactivity while sleeping, or talking while asleep. DLB is distinguished clinically from Parkinson disease- related dementia by an arbitrary cut-off. Non-parkinsonian symptoms must precede parkinsonian symptoms sufficient to diagnose Parkinson's Disease by 12 months. DLB and early Parkinson's Disease-related dementia can be difficult to distinguish in their early phases.

Behavior Variant frontotemporal dementia (bvFTD) typically presents with personality changes, disinhibition, and executive dysfunction rather than memory loss which usually follows later. FTD can be very slowly progressive over a decade or longer and frequently show parkinsonism concomitantly.[15]

Progressive worsening of expressive or receptive aphasia or both can be a harbinger of Primary Progressive Aphasia (PPA) caused by either AD or FTD.[15]

The Complete Dementia Evaluation

The standard of practice for evaluation includes the use of screening instruments such as the Mini-Mental State Examination (MMSE),[16] or the Montreal Cognitive Assessment (MOCA)[17] or similar to screen for cognitive impairment. These and others are available to print and use for free on the KAERS tool kit website (ww.gsa/KAER-toolkit.org). Cut-off scores are provided for each scale but do not necessarily rule out the presence of cognitive decline in highly functional individuals with substantial cognitive reserve. Memory loss was once a cardinal requirement for a diagnosis of a neurocognitive disorder but that changed in DSM-5[18] where a diagnosis of NCD can now be made if any one of six cognitive domains (complex attention, executive function, learning and memory, language, perceptual-motor skill, and social cognition) show deficits severe enough to interfere with independent functioning. Mild NCD, often referred to as mild cognitive impairment (MCI) presents with modest declines in one or more cognitive domains that do not rise to the level of impairing independent function (although greater effort or accommodation may be required). Detailed neuropsychological testing can characterize the nature and severity of cognitive impairment with greater precision.

Those whose symptom burden does impair independent function are said to have a major NCD.

Obtaining a longitudinal history corroborated by family members or close friends is very important. In some cases, patients may not recall key details, incidents, and/or timelines and they may lack insight due to their underlying cognitive pathology. Interviewing knowledgeable family or key supports is therefore essential. Allowing caregivers to speak openly in confidence is the best way to obtain a complete snapshot of the cognitive deficits of the patient and provides an opportunity to gauge an accurate degree of caregiver distress. Other rating scales to more formally assess caregiver perspectives of functional decline are included on the KAER website. In the diagnostic differential of NCDs, clinical suspicions based on the subjective complaints of the patient, caregiver, or family reporting and the clinician's observations and examination are then correlated with other diagnostic modalities.

Knowing the source of the referral for cognitive decline ahead of time helps prepare the clinician to employ the best strategies for psychoeducation which may differ based on education level, capacity for insight, or perceived animosity between the patient and family members. The psychoeducation process can thus begin before the patient with cognitive decline arrives in the office. This preparation helps to establish trusting clinician-patient and clinician-caregiver relationships that are key to the successful management of cognitive disorders. At the end of the day, these disorders constitute chronic illnesses. The compassionate clinician thoroughly explains the evaluation process, allays excessive fears, and encourages a reasonable perspective that counters any trend toward catastrophizing on the part of the patient and/or their accompanying family members.

Biomarkers for NCDs

At this writing, there are no body fluid biomarkers that have proven themselves capable of serving as definitive tests for AD although many are under consideration.[19] As genomic testing becomes more sophisticated, such tests may be coming shortly. One classification of core Alzheimer features called A-T-N is based on CSF marker quantification cut-offs for amyloid and phosphorylated tau plus severity scores of atrophy on brain imaging.[16] Apolipoprotein E4 is a known risk factor for AD which increases the risk of developing late-onset AD about 3 times with one ApoE4 allele and 9-15X the risk for the patient with two Apo E4 alleles.[20-22]. New and emerging biomarkers that are measurable with a blood test show promise for detecting subclinical Alzheimer's Disease and for charting the rate of progression among AD subtypes.[23]

Accessing NCD Expertise for Diagnostic Clarity and Management Advice

The acumen and experience of specialists in geriatric medicine, neurology, geriatric psychiatry, neuroradiology, and neuropsychology can all contribute to the most accurate assessment of all contributing

factors in each patient's neurocognitive symptom presentation. Ideally, a consensus of expertise works best in which all relevant findings are presented to a diverse group of NCD experts in the same meeting for a collaborative discussion of symptom patterns, blood work results, and contributing data from neuroradiology and neuropsychology. Consensus conferences are rarely held outside of academic or research centers but referrals from primary care practices to these centers are increasingly common to seek or confirm the most accurate diagnoses. A more detailed outline of the focus of each NCD specialist is included in the appendix.

A Definitive NCD Diagnosis Can Be Elusive

The clinical picture of cognitive impairment is sometimes at odds with the imaging findings or the NP testing. Complete surprises occasionally stump the experts in the field such as in a patient with a clinical presentation that looks classic for AD but has no hallmark amyloid deposits within the brain. Some of these comparatively rare entities are among the differential diagnoses debated in academic circles that include such diagnoses as posterior cortical atrophy (a variant of AD), behavioral variant AD vs. behavioral variant FTD, Suspected non-Alzheimer disease pathology (SNAP), hippocampal sclerosis,[24,25] and Limbic-predominant age-related TDP-43 encephalopathy (LATE)[26] for which references are listed for further reading.

Sometimes, the atrophy pattern is much more severe in a given patient's brain than their level of cognitive functioning would predict leading to the worry that further degeneration might soon reach a tipping point with rapid clinical deterioration. Other patients show a considerable drop in cognitive function but few discernible structural changes on MRI. FDG-PET imaging[27] can detect functional changes in specific brain regions long before atrophy is evident on structural images, but it is an expensive test and therefore reserved for differentiating ambiguous cases and not as a screening tool. FDG-PET scanning is approved by Medicare to attempt to differentiate FTD from AD where the former shows more hypometabolism in the frontal and temporal lobes and the latter primarily in the temporal and parietal areas. In patients who show vague or overlapping symptoms with several possible diagnoses, reevaluation every 6 −12 months is all that can be done until the disease process more clearly reveals itself.

Although quite expensive, an amyloid-PET scan can detect the presence of amyloid in the brain and can confirm a suspected diagnosis of AD by detecting the pattern of distribution of amyloid using a radioactive ligand administered intravenously that specifically binds to amyloid in the brain. As of July 2023, CMS has agreed to pay for these scans as a tool to confirm the presence of amyloid deposits in patients who are potential candidates for anti-amyloid therapy. Alternatively, analyzing a sample of spinal fluid for the concentration of hyperphosphorylated tau protein,[28] amyloid AB42 and their ratio can also confirm an AD diagnosis if these values exceed specified cut-off levels. A suspected diagnosis of Diffuse Lewy Body dementia can be validated using specialized dopamine scans.

Practical Management Strategies for Patients With NCDs and Their Caregivers

Taken together, the combined tools of clinical assessment (a thorough clinical history and physical examination including a detailed neurological examination), screening blood work, neuroradiologic findings, and neuropsychological test pattern results can provide a powerful level of crosschecking across these various modalities to determine whether a given patient's symptoms are best characterized as a pure form of a known specific neurocognitive disorder or a combination of underlying factors or disorders. These distinctions are academic, however, unless we can prescribe treatments that are helpful to the patient and their caregivers. At the very least, explaining the findings in fully understandable terms can often relieve uncertainty, pave the way for encouraging the use of pharmacological treatments to slow disease progression, encourage compliance with non-pharmacologic lifestyle changes, and rally caregiver support.

In a similar way to being informed about a potentially terminal cancer diagnosis, NCDs can evoke similar emotions in patients and supporters as NCD can eventually be a fatal illness too although it robs the victim of independence long before death occurs. Spiritual support can thus be very helpful and encouraging this option is part of comprehensive management for those inclined to do so. Our

cognitive management group includes a chaplain for this reason.

Allowing time to lay the groundwork for a thorough understanding of NCDs often galvanizes the identified patient and their caregivers to actually carry out specific recommendations. Adjusting to the reality of an NCD diagnosis often requires providing more help to the victim or more supervision for keeping finances and medication regimens accurate as a priority. High-responsibility jobs where safety or other demands can be compromised by declining cognitive function may need to be confronted with an action plan that includes legal advice (such as for cognitive disease victims who happen to be physicians themselves, airline pilots, or CEO's managing complex financial operations that potentially impact the lives of many others).

Non-Pharmacological Interventions

Active non-pharmacological interventions that have been shown to slow the progression of degenerative dementias outlined earlier include reducing vascular risk factors through improved nutrition by transitioning to some version of the Mediterranean Diet (such as the MIND diet)[24,29,30] as well as by encouraging a program of regular aerobic exercise for 30 minutes per day or 150 minutes per week.[31-33] Preserving cognitive capacity can also be aided by reading, gaming, hobby participation, religious participation, and exploring multiple ways of increasing social interaction such as by joining clubs, planning more social outings, or exercising with partners.

The FINGERS study randomly assigned Finnish citizens to various lifestyle change combinations and then followed them for two years. They found robust benefits for preserving cognitive functioning compared to a usual care group.[34] Similar studies are underway in multiple other countries that are specifically designed to harmonize their cumulative results with the FINGERS model to further refine future guidance about these modifiable risk and protective factors.[34] These activities speak to the construct that the typical downward trajectory of an NCD diagnosis can be resisted with coordinated and synergistic action planning.

Driving safety must be assessed and acted upon as necessary. Hired help may be required to perform necessary Instrumental Activities of Daily Living (IADLs) at some point such as maintaining a home or yard, managing finances and guarding against fraudulent scams. With more advanced NCDs, help with Activities of Daily Living (ADLs) such as bathing, or ambulating safely may be required.[31] A move to a more manageable and/or supervised setting may provide peace of mind for caregivers although conflicts often follow when the identified patient typically wishes to remain in their familiar setting. Preserving self-esteem by trying to maintain the identified patient's societal roles such as leadership roles within a family, or honoring work accomplishments, skills, hobbies, food preparation abilities or legacies can help protect against demoralization and depression. Legal mechanisms such as power-of-attorney for medical and financial needs, last will and testaments, and advanced directives should all be explored for appropriate action. Caregiver knowledge, coping ability, and willingness to provide care run the gamut in a typical primary care practice from highly robust to negligent, and thus the caregiver's ability to deliver care must be assessed. The caregiver needs and the risk for burnout must be monitored.

Pharmacological Interventions for NCD's

Pharmacological interventions that might improve cognitive function include optimizing control of vascular risk factors, normalizing vitamin deficiencies and hormonal imbalances (particularly thyroid function and B12 deficiency), and reducing deleterious drugs such as benzodiazepines, narcotics, or the patient's cumulative anticholinergic burden. Merely reducing total medication lists to the minimum necessary can reduce the chances for untoward toxic medication interactions which pharmacists can help detect. Reducing or eliminating substance abuse can improve cognition. For those NCD victims who insist on the continued use of modest alcohol, substituting non-alcohol beer or wine may be acceptable for some.

Optimizing the treatment of depression, anxiety, delusions, paranoia, agitation, insomnia, irritability, physical or verbal aggressiveness, and oppositional behavior can markedly improve overall comorbidity from degenerative NCDs for the victim and their caregivers.[35–37] Serotonin-boosting drugs should always be considered the first-line treatment for these symptoms as they often work very well if given for an adequate trial (4–6 weeks minimum) at an adequate

dosage. Antipsychotic drugs should be avoided unless frank psychosis causes severe morbidity or is disruptive to caregiving. Black box warnings exist for using both serotonin-boosting drugs (specifically citalopram which should not be dosed greater than 20mg in those over age 60[38] and antipsychotics due to small but statistically significant increased risk for myocardial infarction and stroke. Proper documentation should therefore reflect the risk/benefit discussion held with the patient and caregivers regarding the use of these medications.

Boosting acetylcholine neurotransmission in damaged neuronal circuits that are involved in thinking and memory has been shown in RCTs to have a modest slowing effect on further deterioration of cognitive symptoms in NCDs that can temporarily preserve functional ability, independence, delay nursing home placement by a couple of years, and modestly reduce all-cause mortality.[39] The mechanism of action of cholinergic enhancers is best explained to patients as increasing the availability of acetylcholine in the synaptic cleft of neurons that may be damaged but not yet dead due to the disease process. It must be clarified, however, that, these drugs cannot bring back neurons that are already dead from the disease process and thus they cannot restore the victim to their premorbid baseline. Donepezil is usually tried first if there is no contraindication to its use such as bradycardia or severe COPD. If gastrointestinal side effects preclude continuing donepezil, a switch to the long-acting version of oral rivastigmine or the rivastigmine skin patch can reduce these side effects. The three cholinergic enhancers available now are donepezil, rivastigmine and galantamine. An alternative pharmacologic strategy is to use memantine which is an NMDA receptor blocker that provides a degree of neuroprotection against over-excitation damage from glutamate neurotransmission. Memantine has also been shown in RCTs to provide a modest slowing effect on cognitive deterioration similar to cholinergic enhancers.[40] The combination of both of these drugs shows a modestly superior combined benefit to either drug given singly and thus they are typically co-prescribed, if tolerated and affordable. A branded combination pill (Namzaric) is available although it is more costly.[41]

One important point worth stressing for psychoeducation is the following: a minority of patients given these medications show subjective or objective improvement in cognitive function and thus families need to be reminded that the real reason to give them is to slow the rate of further deterioration in cognitive function. Since you cannot prove a negative, this point requires some reiteration and time to digest as patients and families are prone to stop the drug and conclude it did not work for them if they do not see improved cognition in a month or two. A simple but accurate rationale is to say something like: "Studies show that AD victims who take these medications get worse more slowly, stay out of nursing homes longer, and live longer than people who don't. The effect is modest, not huge, but statistically significant. It must be clarified that none of these medications arrest the degenerative process which will continue to progress although hopefully at a slower rate. Stabilizing patients on both drugs is now considered the current standard of recommended practice by several medical organizations.

Slowing or Potentially Stopping AD Progression by Removing Amyloid From the Brain

The exact pathophysiology of Alzheimer's Disease is currently not known. The amyloid cascade hypothesis has been predominant for decades and has generated billions of dollars of research to test various approaches to reducing amyloid in the brain. A vaccine trial and drugs targeting enzymes that process amyloid proteins have both failed. Trials that have used monoclonal antibodies to remove amyloid plaques in the human brain have been disappointing until recently. Several trials have been negative for slowing further cognitive decline but questions remained about the interpretation of those study results related to the lack of subject homogeneity and study timing. Further analysis of existing data prompted the FDA to first approve the use of Aducanumab despite criticism that the data was not strong enough to show a meaningful benefit and simultaneously assure safety. Another monoclonal named Lecanumab was approved by the FDA in January 2023 after showing a twenty-seven percent difference in deterioration rates compared to those receiving a placebo after eighteen months of treatment.[42,43] It was subsequently given full traditional approval by the FDA in July 2023. A third monoclonal antibody named Donanumab showed a 35% difference in

deterioration rates compared to placebo in 1,700 subjects and is being considered for FDA approval.[44]

Monoclonal antibody therapy to date must be intravenously infused thus requiring the use of an infusion center. Whether these therapies prove to be effective in significantly reducing or stopping the progression of AD is an open question at this writing. A modest statistically significant advantage compared to placebo on standardized measurements of cognitive function does not necessarily translate into pragmatically meaningful preservation of cognitive function attributable to these treatments. Time will tell if gradually improving techniques, longer periods of infusions and patient selection will show more robust benefits from these treatments. Monoclonal anti-amyloid therapy must be given for at least 1 −2 years (and carries the risk of small brain bleeds called ARIA's (amyloid-related imaging abnormalities) which require repeat MRI scanning to reassess this risk. Fatal brain swelling occurred in one subject in the Lecanumab trial. Those individuals with bleeding disorders or significant coexisting cerebrovascular disease are excluded from these treatments for safety reasons. The high cost in terms of dollars and time spent receiving these intravenous infusions at regular intervals are also important unanswered questions about their cost/benefit ratio. As of July 2023, the Federal Drug Administration has given full approval for the use of this treatment in selected patients and Medicare has approved payment for anti-amyloid monoclonal antibody infusion therapy. The cumulative costs related to administering this treatment to insurers and taxpayers are yet to be determined.

The public has been understandably hungry for any novel treatments that show even a small promise of advancing our ability to further slow and ultimately prevent the devastation wrought by progressive NCDs. Taken together, our treatment options to date have been mildly effective in slowing but not arresting the disease process. Any drug or treatment that can show even modest but safe benefits will thus generate great interest among victims and caregivers as well as great profits for manufacturers.

New Roles for Primary Care in Managing NCD's

New roles for clinicians managing cognitive disorders will now require explanations of the risks, potential benefits, and eligibility criteria for these new FDA-approved treatments to remove amyloid from the brain to allow patients and families to make informed decisions about whether to pursue them. Obtaining the actual treatment will require referral to a treatment center providing monoclonal therapy but the lead-up discussion of risks and benefits will likely take place in primary care settings. More commonly, high hopes will lead to disappointment for family members who seek the newest treatment for their relative with cognitive decline when they learn that their loved one is ineligible since their cognitive decline is too far advanced at the time of evaluation or that they do not have sufficient evidence that amyloid brain deposits exist. Only those in the minor NCD or early major NCD categories who have verifiable brain amyloid as the putative culprit are candidates for treatment. An important point to stress is that the death of neurons in the brain from the Alzheimer's disease process cannot be brought back to life or restored function by this treatment. Monoclonal treatment only target the interruption of more amyloid deposits being laid down which will hopefully interrupt the degenerative process from damaging additional brain tissue.

PCPs should also anticipate the arrival of the "worried well" presenting as potential candidates for treatment "before it is too late" and thus clinicians will be tasked with the job of distinguishing between those whose subjective cognitive complaints are within the range of normal vs. those who have crossed a defined cut-off point on specific testing to be diagnosable as having mild NCD. Referral for neuropsychological testing may become key to making this distinction with precision. Also, as aging is the single greatest risk factor for developing Alzheimer's disease, those who test as normal at one point in time may continue to worry about how to tell when the threshold might be crossed in the future that would indicate it is time to initiate anti-amyloid therapy to prevent a declining cognitive trajectory if the underlying pathology is determined to be Alzheimer's disease. Repeat testing annually may be reassuring for some. If future studies of monoclonal anti-amyloid therapy confirm that such treatments are safe, meaningfully efficacious, and cost-permissive, there will then be time pressure to contend with for eligible candidates to receive treatment as early in their disease as possible in order to preserve as much brain function as possible. It is not known how long anti-amyloid monoclonal therapy will need to be continued at this writing.

SUMMARY

Managing NCDs in the Primary Care Setting can be a challenging task to provide comprehensive, compassionate, and life-affirming care for patients with cognitive disorders and the family and other caregivers who provide support for them. Differentiating which diagnostic NCD category a given patient's presentation falls into can be tricky and can require keen judgment to decide which diagnostic tests are most appropriate and how to interpret their results. Lastly, treatment decisions are now more complicated if you include the option for monoclonal anti-amyloid antibody therapy. For these reasons, greater cooperation, communication, and collaboration are required between PCPs and NCD experts to find these answers in the patient's best interest.

From a disease management perspective, clinicians managing patients with NCDs often encounter strong demoralization after a cognitive disorder is diagnosed and thus patients and caregivers need to be oriented to a roadmap for practical management strategies. Aside from any corrective steps taken to address comorbid conditions and disease-slowing interventions, behavioral symptoms associated with dementia may also require appropriate pharmacotherapy, behavioral interventions,[45] or both. Taking advantage of the KAER toolkit that provides the benefit of the latest useful research-driven techniques and recommendations is a "no-brainer." https://www.geron.org/publications/kaer-toolkit

Basic psychoeducation should point out that most individuals with cognitive disorders continue to live their lives without much change in the short term. What, if anything, should be done to inform others regarding their diagnosis is a personal decision but doing so can often be rewarded with compassionate responses from others. Beyond taking appropriate medications to try to modify the course of NCDs or treat its complications, the answer to questions from patients such as: "What can I do to help myself" can now be answered with confidence by informing them that there is now good evidence that tight control of vascular risk factors, 30−45 minutes of daily aerobic exercise (merely walking is fine),[34,38] maintaining robust social interactions and nutritional adjustment (transitioning to the Mediterranean or MIND diet)[31,46] have all been shown to lower the risk of further cognitive decline.[47,48]

Making an accurate diagnosis (see the appendix for concise descriptions of dementia care specialists), carrying out adequate trials of disease-slowing interventions, and managing the associated behavioral disturbances are only part of the comprehensive longitudinal care for individuals with dementia, however. Compassionate psychoeducation also involves allowing ample time to discuss long-term planning and legal issues, strategies to help maintain self-esteem, and a perceived valued role in family life and society. Allowing time to acknowledge the sense of lost capacity, autonomy, former roles, and even a sense of self in individuals and their caregivers who must also adjust to these changes is also part of good longitudinal care. Devoting the necessary time required for comprehensive NCD management can be billed to Medicare under the G0505 code.[49] Busy physicians may want to delegate or collaborate with their geriatric-trained colleagues in nursing, social work, psychology, and psychiatry to help them accomplish all these tasks in the best interest of their patients.

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The authors have no disclosures to report.

DATA STATEMENT

The data has not been previously presented orally or by poster at scientific meetings.

SUPPLEMENTARY MATERIALS

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.osep.2024.04.001.

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