### Pharmacological Treatment of Dementia

<table>
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<th>Measure Description</th>
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<tr>
<td>Percentage of patients with dementia or their caregivers with whom available guideline-appropriate pharmacological treatment options and nonpharmacological behavior and lifestyle modifications were discussed at least once in the last 12-month period.</td>
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<th>Measure Components</th>
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<td><strong>Numerator Statement</strong></td>
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<th>Supporting Guideline &amp; Other References</th>
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<td>The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:</td>
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<td>- “Cholinesterase inhibitors should be considered in patients with mild to moderate AD (Standard), although studies suggest a small average degree of benefit. There is insufficient evidence to support the use of other antioxidants, anti-inflammatories, or other putative disease-modifying agents specifically to treat AD because of the risk of significant side effects in the absence of demonstrated benefits.” (1)</td>
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<td>- “The type of dementia, the individual symptom constellation and the tolerability should determine what medication should be used. There are hints that combination therapy of drugs with different therapeutic mechanisms might improve the efficacy. In treating neuropsychiatric symptoms (NPS), psychosocial intervention should be the treatment of first choice. Pharmaceuticals can only be recommended when psychosocial interventions is not adequate. However, even then the side effects of pharmaceuticals limit their use.” (2)</td>
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<td>- “Many cases of dementia have more than one condition contributing to causation. Most commonly this will be a combination of AD with other brain pathology. We recommend management be based on those diagnoses that are believed to be the predominant contributing cause(s). (Grade 1B)” (3)</td>
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<td>- “We recommend ChEIs as a treatment option for AD with cerebrovascular disease. (Grade 1B)” (3)</td>
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<td>- “We recommend ChEIs as a treatment option for dementia associated with Parkinson’s disease. (Grade 1A)” (3)</td>
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<td>- “There is insufficient and inconsistent evidence on which to make a recommendation either for or against the use of the currently available ChEIs for the treatment of vascular dementia. (Grade 2B)” (3)</td>
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<td>- “All three ChEIs have demonstrated efficacy for mild to severe AD. We recommend a trial of a ChEIs for most patients with AD. (Grade...” (3)</td>
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1A)” (3)

- “Direct comparisons do not suggest differences between ChEIs (Grade 2B). Selection of which agent to be used will be based on the adverse effect profile, ease of use, familiarity, and differences between the agents in their pharmacokinetics and other mechanisms of action.” (3)

- The specific goals of therapy are to preserve cognitive and functional ability, minimize behavioral disturbances, and slow disease progression with maintenance of patients’ and caregivers’ QoL. Nevertheless, realistic expectations of treatment outcomes are needed because the impact for most patients is likely to be modest and temporary, with not every patient responding to treatment. The main benefit of pharmacotherapy is an attenuation of decline over time rather than an improvement in cognitive or behavioral symptoms. Despite minor variations in their mode of action there is no evidence to suggest any difference in efficacy between the 3 commonly used ChEIs. Likewise, the tolerability profile is similar between the ChEIs for the oral formulations. Donepezil, rivastigmine, and galantamine cause a broad spectrum of AEs, of which nausea, vomiting, diarrhea, and weight loss are the most common.” (4)

- “Use of cholinesterase inhibitors (ChEIs), memantine or selective serotonin reuptake inhibitors (SSRIs) in any of the FTLD subtypes is possibly ineffective for cognitive improvement (Level C) (Bei et al., 2010; Lebert et al., 2004). Dopaminergic replacement with bromocriptine in progressive aphasias is probably ineffective (Good Practice Point) (Reed et al., 2004). Given the insufficient classes II and III evidence and the evidence being largely based on class IV, the use of ChEIs and memantine in FTLD cannot be recommended. There is little class III evidence in support of rivastigmine and memantine (Bei et al., 2010; Lebert et al., 2004). There is no independent evidence for recommending any therapeutic intervention for CBS (Litvan et al., 2001; Zerr, 2009). Rivastigmine is the approved ChEI for the treatment of PDD with class I evidence. PDD diagnosis warrants the use of rivastigmine (Good Practice Point) (Maidment, Fox, & Boustani, 2006). Parallels with PDD in terms of clinical picture and disease mechanisms suggest that rivastigmine is possibly effective in DLB (GPP). The evidence for the efficacy of galantamine is insufficient for both PDD and DLB. Memantine is probably effective for both PDD and DLB (Level B) as there were consistently significant improvements in global measures, but not in cognitive measures in two class II studies (Aarsland et al., 2009; Emre et al., 2010). There is insufficient evidence for recommending any specific agent in the treatment of human prion diseases. Surgical treatment can be considered in normal pressure hydrocephalus (NPH) (Level C), and risk to benefit ratio must be individualized for each patient (Marmarou et al., 2005; Esmonde & Cooke, 2002). There is insufficient evidence for recommending any of non-pharmacological treatments.” (5)

- “In patients with AD, treatment with ChEIs (donepezil, galantamine,
or rivastigmine) should be considered at the time of diagnosis, taking into account expected therapeutic benefits and potential safety issues (Level A). Benefits on cognitive and non-cognitive symptoms have been demonstrated in those with mild, moderate, and severe disease (Level A). Realistic expectations for treatment effects and potential side effects should be discussed with the patient and caregivers (Good Practice Point). 

In patients with moderate to severe AD, treatment with memantine should be considered taking into account expected therapeutic benefits and potential safety issues (Level A). Benefits on cognitive and noncognitive symptoms are apparent, some non-cognitive symptoms (agitation, delusions) may respond better than others (Level B). Realistic expectations for treatment effects and potential side effects should be discussed with the patient and caregivers (Good Practice Point).” (6)

- “Cholinesterase inhibitors (donepezil, rivastigmine, and galantamine) are effective for mild to moderate Alzheimer's disease (A) and memantine for moderate to severe Alzheimer's disease (A). Until further evidence is available other drugs, including statins, anti-inflammatory drugs, vitamin E and Ginkgo biloba, cannot be recommended either for the treatment or prevention of Alzheimer's disease (A). Neither cholinesterase inhibitors nor memantine are effective in those with mild cognitive impairment (A). Cholinesterase inhibitors are not effective in frontotemporal dementia and may cause agitation (A), though selective serotonin reuptake inhibitors may help behavioural (but not cognitive) features (B). Cholinesterase inhibitors should be used for the treatment of people with Lewy body dementias (Parkinson's disease dementia and dementia with Lewy bodies (DLB)), especially for neuropsychiatric symptoms (A). Cholinesterase inhibitors and memantine can produce cognitive improvements in DLB (A).” (7)

- “An increasing number of nonpharmacologic therapies are now available for people with dementia, including behavioral therapy, reality orientation, art therapy, music therapy, complementary therapy, aromatherapy and bright-light therapy, as well as cognitive behavioral therapies; …….. it is therefore useful for clinicians to be familiar with several of these approaches to enable a combination of treatments to be tailored to individual requirements …….. Nonpharmacologic interventions can be as simple as redirecting and refocusing the patient, increasing social interaction, initiating enjoyable activities, establishing regular sleep habits, eliminating sources of conflict and frustration (eg, activities that the patient can no longer undertake), and establishing rewards for successes, however small………..the removal of any triggers of behavioral problems or the provision of comforting stimulation, such as the patient’s favorite music, also may be beneficial.” (4)

- “In the early stages of the disease, a referral [to occupational therapy] is indicated if cognitive limitations are barriers to participation in daily living skills, social activities, leisure interests, or work and volunteer activities. In the middle stages of the disease, additional indications for referrals may be to determine service needs such as
home health assistance, memory care or day service programs, or
caregiver respite support. In later stages of the disease, occupational
therapy is referred to resolve barriers to performance in self-care or
to manage challenging behaviors such as agitation, aggression,
disruptive vocalizations, wandering, altered sleep–wake cycles,
catastrophic reactions, or frustrations related to communication
problems.” (8)

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<th>Relationship to Desired Outcome</th>
<th>Pharmacologic therapy to address symptomatic progression and occupational therapy to maximize function and safety are available and should be discussed with patients and their caregivers, with the goal of improving quality of life and delaying or preventing institutionalization.</th>
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<tr>
<td>Opportunity for Improvement</td>
<td>Guideline-adherent dementia interventions occurred in 33-91% of primary care practices according to a recent meta-analysis.(9) Individual health care providers can provide counseling about simple interventions that may be novel to caregivers: redirecting and refocusing, providing tolerable social interaction, adhering to good sleep hygiene, ceasing activities that provoke frustration, addressing and ameliorating triggers, and offering soothing measures (music, aromas) that provide comfort. Occupational therapy is available in most medical centers. Newer, more involved interventions, such as cognitive behavior or dialectical behavior therapy, light therapy, reality orientation and others will be available more sparsely; to date no national directory is available. The AAN has created a shared decision-making tool to assist providers and patients who are starting a discussion on if a medication is appropriate for their situation.(10) Health care providers need to tailor treatment recommendations based on each individual patient situation. Health care providers must provide patients and caregivers with information on efficacy and lack of efficacy for treatment options. Memantine is not approved for treatment of mild AD and there is no current evidence supporting the benefits of supplemental oils, foods or other nutritional supplements to prevent the advancement of dementias. Treatment options for the beginning stages will vary greatly from patients who may opt to end pharmacological treatments as they near their end-of-life.</td>
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| National Quality Strategy Domains | □ Patient and Family Engagement
□ Patient Safety
□ Care Coordination
□ Population/Public Health
□ Efficient Use of Healthcare Resources
☐ Clinical Process/Effectiveness |
| Harmonization with Existing Measures | No measures addressing treatment via pharmacologic and non-pharmacologic means are known. |
| Measure Purpose (Check all that apply) | ☒ Quality improvement
☐ Accountability |
| Type of Measure (Check all that apply) | ☒ Process
□ Outcome |
## References


- 99201, 99202, 99203, 99204, 99205 (Office or other outpatient visit-New Patient);
- 99211, 99212, 99213, 99214, 99215 (Office or other outpatient visit-Established Patient);
- 99241, 99242, 99243, 99244, 99245 (Office or Other Outpatient Consultation-New or Established Patient);
- 99201, 99202, 99203, 99204, 99205 (E/M Codes);
- 99211, 99212, 99213, 99214, 99215 (E/M Codes);
- 90791, 90792, 90832, 90833, 90834, 90836, 90837, 90838 (Psychiatric Diagnostic Evaluation and psychotherapy);
- 96116, 96118, 96119, 96120 (Neurobehavior status exam and neuropsychological testing);
- 96150, 96151, 96152, 96153, 96154, 96155 (Health and behavior assessment and interventions);
- 99490, 99487, 99489 (Complex Chronic Care Management);
- 99497, 99498 (Advance care planning);
- 97003, 97004 (Occupational therapy evaluation and re-evaluation);
- 97001, 97002 (Physical therapy evaluation and re-evaluation); 99304, 99305, 99306, 99307, 99308, 99309, 99310 (Nursing Home Consultation);
- 99318 (Other Nursing Facility Services);
- 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337 (Domiciliary, Rest Home Care Services);
- 99339, 99340 (Domiciliary, Rest Home Care Services Care Plan Oversight);
- 99341, 99342, 99343, 99344, 99345 (Home Care);
- 99347, 99348, 99349, 99350 (Home Care).