U.S. Preventive Services Task Force

Screening for Cognitive Impairment in Older Adults: Recommendation Statement

As published by the U.S. Preventive Services Task Force.

This summary is one in a series excerpted from the Recommendation Statements released by the USPSTF. These statements address preventive health services for use in primary care clinical settings, including screening tests, counseling, and preventive medications.

The complete version of this statement, including supporting scientific evidence, evidence tables, grading system, members of the USPSTF at the time this recommendation was finalized, and references, is available on the USPSTF website at http://www.uspreventiveservicestaskforce.org/.

This series is coordinated by Sumi Sexton, MD, Associate Medical Editor.

A collection of USPSTF recommendation statements published in *AFP* is available at http://www.aafp.org/afp/uspstf.

Summary of Recommendation and Evidence

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for cognitive impairment *(Table 1)*. **I statement.**

See the Clinical Considerations section for suggestions for practice regarding the I statement.

Rationale

IMPORTANCE

Dementia affects approximately 2.4 to 5.5 million Americans. Its prevalence increases with age, to 5% in persons aged 71 to 79 years, 24% in those aged 80 to 89 years, and 37% in those older than 90 years. Mild cognitive impairment (MCI) is different from dementia in that the cognitive impairment is not severe enough to interfere with instrumental activities of daily life. It is difficult to estimate the prevalence of MCI, and estimates range widely, from 3% to 42% in adults aged 65 years and older.

DETECTION

The USPSTF found adequate evidence that some screening tools have sufficiently high sensitivity and specificity to be clinically useful in identifying dementia.

BENEFITS OF DETECTION AND EARLY INTERVENTION

The USPSTF found inadequate direct evidence on the benefits of screening for cognitive impairment. Evidence shows that several drug therapies and nonpharmacologic interventions have a small effect on cognitive function measures in the short term for patients with mild to moderate dementia, but the magnitude of the clinically relevant benefit is uncertain. The USPSTF found adequate evidence that interventions targeted to caregivers have a small effect on measures of caregiver burden and depression, but the magnitude of the clinically relevant benefit is uncertain. The USPSTF found no published evidence on the effect of screening on decision making or planning by patients, clinicians, or caregivers.

HARMS OF DETECTION AND EARLY INTERVENTION OR TREATMENT

The USPSTF found inadequate evidence on the harms of screening for cognitive impairment and of nonpharmacologic interventions. It found adequate evidence that acetylcholinesterase inhibitors (AChEIs) are associated with adverse effects, some of which are serious, including central nervous system disturbances and arrhythmia. Gastrointestinal symptoms are also common.

USPSTF ASSESSMENT

The USPSTF concludes that the evidence on screening for cognitive impairment is lacking and that the balance of benefits and harms cannot be determined.

Clinical Considerations

PATIENT POPULATION UNDER CONSIDERATION

This recommendation applies to universal screening with formal screening instruments in community-dwelling adults in the general primary care population who are older than age 65 years and have no signs or symptoms of cognitive impairment. Early detection and diagnosis of dementia through the assessment of patient-, family-, or physician-recognized signs and symptoms, some of which may be subtle, are not considered screening and are not the focus of this recommendation.

SUGGESTIONS FOR PRACTICE REGARDING THE I STATEMENT

Potential Preventable Burden. The prevalence of dementia in the United States is 5% in

Table 1. Screening for Cognitive Impairment in Older Adults: Clinical Summary of the USPSTF Recommendation

Population	Community-dwelling adults who are older than age 65 years and have no signs or symptoms of cognitive impairment
Recommendation	No recommendation Grade: I statement
Risk assessment	Increasing age is the strongest known risk factor for cognitive impairment. Other reported risk factors for cognitive impairment include cardiovascular risk factors (such as diabetes, tobacco use, hypercholesterolemia, and hypertension), head trauma, learning disabilities (such as Down syndrome), depression, alcohol abuse, physical frailty, low education level, low social support, and having never been married.
Screening tests	Screening tests for cognitive impairment in the clinical setting generally include asking patients to perform a series of tasks that assess 1 or more cognitive domains (memory, attention, language, and visuospatial or executive functioning). The most widely studied instrument is the Mini-Mental State Examination. Other instruments with more limited evidence include the Clock Drawing Test, Mini-Cog, Memory Impairment Screen, Abbreviated Mental Test, Short Portable Mental Status Questionnaire, Free and Cued Selective Reminding Test, 7-Minute Screen, Telephone Interview for Cognitive Status, and Informant Questionnaire on Cognitive Decline in the Elderly.
Treatment	Pharmacologic treatments approved by the U.S. Food and Drug Administration include acetylcholinesterase inhibitors and memantine. Nonpharmacologic interventions include cognitive training, lifestyle behavioral interventions, exercise, educational interventions, and multidisciplinary care interventions. Some interventions focus on the caregiver and aim to improve caregiver morbidity and delay institutionalization of persons with dementia.
Balance of benefits and harms	The evidence on screening for cognitive impairment is lacking, and the balance of benefits and harms cannot be determined.
Other relevant USPSTF recommendations	The USPSTF has made recommendations related to several of the risk factors for cognitive impairment, including counseling on tobacco cessation, alcohol use, healthful diet, physical activity, and falls prevention and screening for high cholesterol, hypertension, and depression. These recommendations are available at http://www.uspreventiveservicestaskforce.org/.

NOTE: *For a summary of the evidence systematically reviewed in making this recommendation, the full recommendation statement, and supporting documents, go to http://www.uspreventiveservicestaskforce.org/.*

USPSTF = U.S. Preventive Services Task Force.

persons aged 71 to 79 years, increasing to 24% in those aged 80 to 89 years and 37% in those older than 90 years.[1,2] The prevalence of older adults with MCI is difficult to estimate because of differences in the definition of MCI and methods used in studies; estimates range widely, from 3% to 42% in adults age 65 years and older. Approximately 40% to 50% of older adults report subjective memory symptoms. The rate of progression of MCI to dementia is uncertain.[1,2]

Although the evidence on routine screening is insufficient, there may be important reasons to identify early cognitive impairment. In addition to its potential to help patients make diagnostic and treatment decisions, including treatment of reversible causes of dementia and management of comorbid conditions, early recognition of cognitive impairment allows clinicians to anticipate problems patients may have in understanding and adhering to recommended therapy. This information may also be useful to patients and their caregivers and family members in anticipating and planning for future problems that may develop as a result of progression of cognitive impairment. Although the overall evidence on routine screening is insufficient, clinicians should remain alert to early signs or symptoms of cognitive impairment (for example, problems with memory or language) and evaluate as appropriate. The National Institute on Aging

has information on the detection and management of cognitive impairment for patients and clinicians, including a database of tools to detect cognitive impairment (available at http://www.nia.nih.gov).

Potential Harms. Information about the harms of screening, including labeling and the effect of false-positive results, is limited. Acetylcholinesterase inhibitors are associated with adverse effects, some of which are serious, including central nervous system disturbances and bradycardia.

Gastrointestinal symptoms are also common. Information about the harms of nonpharmacologic interventions is limited, but these harms are assumed to be small. Exercise interventions are not associated with serious adverse effects.

Costs. The cost of screening varies depending on the screening instrument. Some instruments take little time and are free to the public. The most widely studied instrument, the Mini-Mental State Examination (MMSE), takes approximately 10 minutes to administer and is not free. Total health, long-term, and hospice care costs for dementia in the United States were an estimated $183 billion in 2011. Medicare and Medicaid pay approximately 40% to 70% of these costs, representing $130 billion. These costs do not include the estimated $202 billion in uncompensated care that informal caregivers provide annually.[3]

Current Practice. At present, diagnosis of dementia primarily occurs as a result of a clinician's suspicion of patient symptoms or caregiver concerns and not as a result of routine formal screening. As much as 29% to 76% of patients with dementia or probable dementia in the primary care setting are undiagnosed.[4-6] In 2011, Medicare added detection of cognitive impairment to the new annual wellness visit benefit, and the Alzheimer's Association has published guidance on how to implement this benefit.

ASSESSMENT OF RISK

Increasing age is the strongest known risk factor for cognitive impairment. The ε4 allele of the apolipoprotein E gene is a reported risk factor for Alzheimer disease. Other reported risk factors for cognitive impairment include cardiovascular risk factors (such as diabetes, tobacco use, hypercholesterolemia, hypertension, and the metabolic syndrome), head trauma, learning disabilities (such as Down syndrome), depression, alcohol abuse, physical frailty, low education level, low social support, and having never been married.

Several dietary and lifestyle factors have been associated with decreased risk for dementia; these factors have weaker supporting evidence than those previously mentioned. Adequate folic acid intake, low saturated fat intake, longer-chain ω-3 fatty acids, high fruit and vegetable intake, Mediterranean diet, moderate alcohol intake, educational attainment, cognitive engagement, and participation in physical activity are all associated with decreased risk for dementia.

SCREENING TESTS

Screening tests for cognitive impairment in the clinical setting generally include asking patients to perform a series of tasks that assess at least 1 cognitive domain (memory, attention, language, and visuospatial or executive functioning). Blood tests and radiology examinations are not currently used as screening tests but are often used after a positive screening result to confirm the diagnosis of dementia and determine its subtype. Although optimum sensitivity and specificity of the MMSE probably vary depending on the patient's age and education level, a large body of literature suggests that a general cut point of 23/24 or 24/25 (score considered "positive"/"negative") is appropriate for most primary care populations.

Other instruments with more limited evidence include the Clock Drawing Test, Mini-Cog Test, Memory Impairment Screen, Abbreviated Mental Test, Short Portable Mental Status Questionnaire, Free and Cued Selective Reminding Test, 7-Minute Screen, Telephone Interview for Cognitive Status, and Informant Questionnaire on Cognitive Decline in the Elderly. Each of these tests has reasonable performance in some studies, but estimates of sensitivity and specificity vary, and the optimum diagnostic threshold or cut point for many of these instruments is unclear. For information on all instruments reviewed by the USPSTF, including the Montreal Cognitive Screening Assessment, the St. Louis University

Mental Status examination, and other instruments with 2 or fewer studies, see the full evidence report (available at http://www.uspreventiveservicestaskforce.org).[1]

TREATMENT AND INTERVENTIONS

Treatment of cognitive impairment focuses on several signs and symptoms, including quality-of-life, cognition, mood, and behavioral impairments.

Several pharmacologic and nonpharmacologic interventions aim to prevent, slow, or reverse cognitive impairment in older adults or improve caregiver burden and depression. Pharmacologic treatments approved by the U.S. Food and Drug Administration include AChEIs and memantine. Nonpharmacologic interventions include cognitive training, lifestyle behavioral interventions, exercise, educational interventions, and multidisciplinary care interventions. Several interventions focus on the caregiver and aim to improve caregiver morbidity and delay institutionalization of persons with dementia.

OTHER APPROACHES TO PREVENTION

The USPSTF has published recommendations related to several of the risk factors for cognitive impairment, including counseling on tobacco cessation, alcohol use, healthful diet, physical activity, and falls prevention and screening for high cholesterol, hypertension, and depression (available at http://www.uspreventiveservicestaskforce.org).

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The "Other Considerations," "Discussion," "Update of Previous USPSTF Recommendation," and "Recommendations of Others" sections of this recommendation statement are available at http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/cognitive-impairment-in-older-adults-screening.

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