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Screening for Cognitive Impairment in Older Adults: U.S. Preventive Services Task Force Recommendation Statement

Virginia A. Moyer, MD, MPH, on behalf of the U.S. Preventive Services Task Force*

Description: Update of the 2003 U.S. Preventive Services Task Force (USPSTF) recommendation on screening for dementia.

Methods: The USPSTF reviewed the evidence on the benefits, harms, and sensitivity and specificity of screening instruments for cognitive impairment in older adults and the benefits and harms of commonly used treatment and management options for older adults with mild cognitive impairment or early dementia and their caregivers.

Population: This recommendation applies to universal screening with formal screening instruments in community-dwelling adults in the general primary care population who are older than 65 years and have no signs or symptoms of cognitive impairment.

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

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For author affiliation, see end of text.

* For a list of USPSTF members, see the **Appendix** (available at www.annals.org).

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The U.S. Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific preventive care services for patients without related signs or symptoms.

It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.

The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.

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. (I statement)

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

See the **Figure** for a summary of the recommendation and suggestions for clinical practice.

Appendix Table 1 describes the USPSTF grades, and **Appendix Table 2** describes the USPSTF classification of levels of certainty regarding net benefit (both tables are available at www.annals.org).

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 or 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

See also:

Summary for Patients I-20
Related article: Ann Intern Med. 2013;159:601-12.

Web-Only
Consumer Fact Sheet

Figure. **Screening for cognitive impairment in older adults: clinical summary of U.S. Preventive Services Task Force recommendation.**

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U.S. Preventive Services TASK FORCE
www.USPreventiveServicesTaskForce.org

SCREENING FOR COGNITIVE IMPAIRMENT IN OLDER ADULTS CLINICAL SUMMARY OF U.S. PREVENTIVE SERVICES TASK FORCE RECOMMENDATION

Population	Community-dwelling adults who are older than 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 the 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 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.
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 rates 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 www.uspreventiveservicestaskforce.org.

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

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 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 MCI in older adults 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 or 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 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 $\varepsilon 4$ 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 the 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 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 www.uspreventiveservicestaskforce.org).

Other Considerations

Research Needs and Gaps

More research on screening for and treatment of MCI is needed. Evidence on the effect of screening and early detection of mild to moderate dementia on decision making, planning, or other important patient outcomes is a critical gap in the evidence. Given the lack of evidence that treatment affects long-term cognitive outcomes for mild to moderate dementia, its effect on decision making and planning could be the most compelling reason for screening. However, no studies provided information on this effect. More research on the harms of screening is needed. Research on new interventions that address the changing needs of patients and families and interventions that clearly have an effect on the long-term clinical course of mild to moderate dementia are also critically needed.

Discussion

Burden of Disease

Dementia is an acquired condition characterized by a decline in at least 2 cognitive domains (loss of memory, attention, language, and visuospatial or executive functioning) that is severe enough to affect social or occupational functioning (7). Patients with dementia may also exhibit behavioral and psychological symptoms. The major dementia syndromes in older adults include Alzheimer disease, vascular dementia, frontotemporal dementia, dementia with Lewy bodies, Parkinson disease with dementia, and dementia of mixed cause (8). Mild cognitive impairment is different from dementia in that the cognitive impairment is not severe enough to interfere with instrumental activities of daily life.

Dementia affects approximately 2.4 to 5.5 million Americans, but its prevalence is difficult to determine because of differences in definitions and populations used in studies (8–10). Age is the most important risk factor. Data from large population-based surveys indicate that the prevalence of dementia in the United States is 5% in persons aged 71 to 79 years, 24% in those aged 80 to 89 years, and 37% in those older than 90 years (8). Prevalence varies by race; prevalence in adults aged 71 years or older in 1 large study was 21.3% for blacks and 11.2% for whites (11). The prevalence of Alzheimer disease in Hispanics is approximately 1.5 times that seen in the white population (11–13). Dementia also affects more women than men. In persons aged 71 years or older, approximately 16% of women have dementia compared with 11% of men; these differences are primarily explained by women's longer life expectancy rather than any sex-based risk factors (14). Alzheimer disease accounts for 60% to 80% of all dementia, frontotemporal dementia accounts for 12% to 25%, 10% to 20% is considered vascular dementia, 5% to 10% is considered dementia with Lewy bodies, and 10% to 30% is considered dementia with mixed cause (8, 10, 15). It is difficult to estimate the prevalence of MCI, and estimates range widely, from 3% to 42% in adults aged 65 years and older, depending on the population and diagnostic criteria used (16, 17).

Scope of Review

In 2003, the USPSTF concluded that the evidence was insufficient to recommend for or against routine screening for dementia in older adults. To update its recommendation, the USPSTF commissioned a systematic review of the evidence on screening for cognitive impairment, including dementia and MCI. The review gathered evidence on the benefits, harms, and test performance of screening instruments to detect cognitive impairment in older adults and the benefits and harms of commonly used treatment and management options for older adults with MCI or early dementia and their caregivers. Important potential benefits included decision making, cognitive function, physical function, quality of life, safety, and caregiver burden. The USPSTF reviewed a substantial amount of evidence, including available studies on caregiver burden and future planning (the full evidence report is available at www.uspreventiveservicestaskforce.org) (1). The review focused on screening adults in the general primary care population and management of screen-detected patients with cognitive impairment, excluding delirium. The review on treatment and management focused on studies of adults with mild to moderate dementia because these are the patients most likely to be identified by screening.

Accuracy of Screening Tests

The review identified 55 studies on instruments that screen for cognitive impairment. Forty-six of the studies provided evidence on the sensitivity and specificity of screening for dementia, and 27 provided evidence on MCI. Included studies had to use a diagnostic reference standard (such as the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition* or *Diagnostic and Statistical Man-*

ual of Mental Disorders, Fourth Edition) or criteria from the National Institute of Neurological Disorders and Stroke and the Alzheimer's Disease and Related Disorders Association (now known as the Alzheimer's Association). These studies were conducted in primary care–relevant populations, and most instruments were brief (≤10 minutes) and administered in a clinical setting. Studies on self-administered instruments were also reviewed.

Screening instruments evaluated in more than 2 studies include the MMSE, Clock Drawing Test, verbal fluency tests, Informant Questionnaire on Cognitive Decline in the Elderly, Memory Impairment Screen, Mini-Cog Test, Abbreviated Mental Test, and Short Portable Mental Status Questionnaire. The MMSE was the most evaluated instrument, with 25 published studies. The MMSE is a 30-point instrument with 11 items. It has been studied in various populations; the mean age of participants ranged from 69 to 95 years, the mean prevalence of dementia ranged from 1.2% to 38.0%, and education level also varied widely but was not always reported. For the most commonly reported cut points (23/24 or 24/25 [score considered "positive"/"negative"]), the pooled sensitivity from 14 studies (involving 10 185 participants) was 88.3% (95% CI, 81.3% to 92.9%) and specificity was 86.2% (CI, 81.8% to 89.7%) (1, 2). The other instruments were studied in far fewer studies (4 to 7 studies each), had limited reproducibility in primary care–relevant populations, and had unknown optimum cut points. Sensitivity and specificity ranged widely in these studies.

Effectiveness of Early Detection and Treatment

No trials evaluated the direct effect of screening for cognitive impairment by comparing screened and unscreened older adults and reporting important patient outcomes, including decision-making outcomes. The review identified more than 130 studies on several interventions for managing or treating mild to moderate dementia, including pharmacologic and nonpharmacologic interventions. Pharmacologic interventions included U.S. Food and Drug Administration–approved medications for the treatment of Alzheimer disease with the purpose of preventing or delaying cognitive impairment (AChEIs and memantine), medications for cardiovascular risk reduction for vascular dementia, nonsteroidal anti-inflammatory drugs, gonadal steroids, and dietary supplements. The review also considered evidence on nonpharmacologic interventions, including interventions aimed primarily at the caregiver or patient–caregiver dyad and at the patient (such as cognitive training, rehabilitation, or stimulation, with or without motor skills training interventions; exercise interventions; multidisciplinary care interventions involving assessment and care coordination; and education-only interventions).

Fifty-four trials provided evidence on AChEIs for the treatment of mild to moderate Alzheimer disease (donepezil, galantamine, rivastigmine, and tacrine), including 4 trials of persons with MCI. Ten additional trials reported on memantine in persons with moderate dementia. Many studies reported differences in scores on the Alzheimer's Disease Assessment Scale–Cognitive Subscale (ADAS-cog). The ADAS-cog is a validated instrument that assesses memory, attention, orientation, language, and praxis. Scores range from 0 to 70, with higher scores signifying greater cognitive impairment; a change of 4 points or more is commonly accepted to be clinically significant for patients with mild to moderate dementia. Acetylcholinesterase inhibitors and memantine improved global cognitive function by approximately 1- to 3-point differences on the ADAS-cog. A meta-analysis of 7 rivastigmine trials reported a 3-point difference on the ADAS-cog (−3.06 [CI, −4.48 to −1.65]; $I^2 = 92.6\%$). Only 4 trials were conducted in persons with MCI and reported global cognitive function (18–21). These trials of donepezil and galantamine generally showed a small but unclear clinical effect on global cognitive function. Only one half of the trials reported global physical function; findings were inconsistent and sparsely reported. Few studies reported outcomes beyond 6 months. Longer-term studies were generally consistent with studies of shorter duration and demonstrated statistically significant small improvements of unknown clinical importance.

The review considered 26 studies that evaluated other medications or supplements, including low-dose aspirin, 3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitors (or "statins"), nonsteroidal anti-inflammatory drugs, gonadal steroids, and dietary supplements, and did not find any evidence that they provided a benefit in global cognitive or physical function in persons with mild to moderate dementia or MCI (1).

The review identified 59 studies that evaluated the effect of nonpharmacologic interventions aimed at the caregiver or both the patient and caregiver. Most of these trials evaluated interventions that included an educational component designed to increase caregiver skills. Although the approaches to education in the interventions varied, there was a generally consistent finding of a small benefit on caregiver burden and depression outcomes in persons caring for patients with moderate dementia. The clinical meaning of the changes in caregiver burden and depression is unknown but, on average, is probably small at best. Ten studies on exercise interventions were reviewed; the clinical effect of these results on important outcomes is uncertain because of the limited number of trials and variability in studied populations, exercise interventions, and reported outcomes.

Fifteen cognitive intervention trials provided somewhat inconsistent evidence that cognitive stimulation with or without cognitive training seems to improve global cognitive function measures in the short term for persons with MCI or dementia. However, the magnitude and certainty of the clinical benefit is difficult to determine because of

the limited number of trials, clinical and statistical heterogeneity combined, and imprecision of results.

Potential Harms of Screening and Treatment

No studies reported on direct or indirect harms from false-positive or false-negative results, psychological harms, unnecessary diagnostic testing, or labeling. One study provided some information on the potential harms of screening for cognitive impairment in primary care. In this study of 3573 older adults, approximately one half of patients who had a positive screening result for cognitive impairment (207 out of 434 patients) declined a formal diagnostic work-up for dementia. Only 233 out of 3573 participants initially declined to be screened (22, 23).

Adverse effects from AChEIs are common. Withdrawal or discontinuation rates in studies of AChEIs were 14% for donepezil and rivastigmine and 17% for galantamine. Serious adverse effects from these medications seem to occur with similar frequency across different AChEIs. Bradycardia and adverse effects related to it (such as falls and syncope) may result from taking AChEIs. Tacrine, which had very high discontinuation rates in trials, has an uncommon but serious adverse effect of liver toxicity. Tacrine is no longer used in the United States for this reason. In trials, memantine did not differ from placebo in the percentage of withdrawals from medication due to adverse or serious adverse effects. Evidence on the harms of nonpharmacologic interventions in patients with dementia or their caregivers is limited.

Estimate of Magnitude of Net Benefit

The USPSTF found no evidence on the direct benefits and harms of screening for cognitive impairment and therefore considered the indirect evidence on screening accuracy, early treatment, and harms. Evidence is adequate that some screening tools can accurately identify dementia. Treatment of mild to moderate dementia with several drug therapies and nonpharmacologic interventions results in small improvements in measures of cognitive function and caregiver outcomes, but the clinical significance of these improvements is uncertain. The USPSTF found no published evidence on the effect of screening on decision making or planning by patients, clinicians, or caregivers. Evidence on the harms of screening and nonpharmacologic interventions is inadequate. The USPSTF found adequate evidence that AChEIs are associated with adverse effects, some of which are serious. Overall, the USPSTF was unable to estimate the balance of benefits and harms of screening for cognitive impairment.

How Does Evidence Fit With Biological Understanding?

Dementia is the manifestation of various pathophysiologic changes in the brain; therefore, the development of early interventions that result in an important clinical effect on all types of dementia is difficult. The exact causal mechanism for many types of dementia is unknown. Most dementia in the United States is a result of Alzheimer disease, which is the target of most U.S. Food and Drug Administration–approved drugs for dementia. Given that current therapies for dementia do not seem to affect the long-term progression of mild to moderate cognitive impairment, the hope is for effective interventions that can help patients and caregivers prepare for dealing with dementia symptoms.

Response to Public Comment

A draft version of this recommendation statement was posted for public comment on the USPSTF Web site from 5 November to 2 December 2013. Several comments agreed with the insufficiency of the evidence. A few comments disagreed with the recommendation, and some comments expressed confusion about the meaning of an I statement and how it may affect early detection. The recommendation contains suggestions for practice regarding the I statement and notes that, although evidence on routine screening is insufficient, there may be important reasons to identify early cognitive impairment in specific circumstances. Other comments requested clarification on the meaning of screening and for whom the recommendation is intended; in response, information was added to the recommendation. Some comments provided evidence on additional risk factors for cognitive impairment and suggested additional research gaps; these were added to the Clinical Considerations section. The importance of vascular causes of dementia was mentioned in a few comments, and information on USPSTF recommendations related to vascular risk factors was added.

Update of Previous USPSTF Recommendation

This recommendation updates the 2003 USPSTF recommendation on screening for dementia. This updated recommendation differs from the 2003 recommendation in that it considers the evidence on screening for and treatment of MCI in addition to dementia and how screening affects decision making and planning. The current evidence review found much more information on the test performance of screening instruments than in 2003, and the USPSTF concluded that there is now adequate information on the test performance of some screening tools. Similar to the findings of the 2003 evidence review and recommendation, the USPSTF found that pharmacologic treatments result in small benefits of unknown clinical significance and concluded again that the overall evidence is insufficient to make a recommendation on screening.

Recommendations of Others

In 2011, Medicare began covering the detection of cognitive impairment as a part of the new annual wellness visit benefit. In 2013, the Alzheimer's Association published guidance on the detection of cognitive impairment during the annual wellness visit and recommended an algorithm involving a health risk assessment, patient observation, and unstructured questioning. It recommends the

use of a brief structured assessment (such as the General Practitioner Assessment of Cognition, Mini-Cog Test, Memory Impairment Screen, Alzheimer Disease 8-Item Informant Interview, or the short version of the Informant Questionnaire on Cognitive Decline in the Elderly) if signs or symptoms of cognitive impairment are present or if an informant is not available to confirm the absence of signs or symptoms (24).

From the U.S. Preventive Services Task Force, Rockville, Maryland.

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Requests for Single Reprints: Reprints are available from the USPSTF Web site (www.uspreventiveservicestaskforce.org).

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Appendix: U.S. Preventive Services Task Force

Members of the U.S. Preventive Services Task Force at the time this recommendation was finalized† are Virginia A. Moyer, MD, MPH, *Chair* (American Board of Pediatrics, Chapel Hill, North Carolina); Michael L. LeFevre, MD, MSPH, *Co-Vice Chair* (University of Missouri School of Medicine, Columbia, Missouri); Albert L. Siu, MD, MSPH, *Co-Vice Chair* (Mount Sinai School of Medicine, New York, and James J. Peters Veterans Affairs Medical Center, Bronx, New York); Linda Ciofu Baumann, PhD, RN (University of Wisconsin, Madison, Wisconsin); Susan J. Curry, PhD (University of Iowa College of Public Health, Iowa City, Iowa); Mark Ebell, MD, MS (University of Georgia, Athens, Georgia); Francisco A.R. García, MD, MPH (Pima County Department of Health, Tucson, Arizona); Jessica Herzstein, MD, MPH (Air Products, Allentown, Pennsylvania); Douglas K. Owens, MD, MS (Veterans Affairs Palo Alto Health Care System, Palo Alto, and Stanford University, Stanford, California); William R. Phillips, MD, MPH (University of Washington, Seattle, Washington); and Michael P. Pignone, MD, MPH (University of North Carolina, Chapel Hill, North Carolina). Former USPSTF members Rosanne Leipzig, MD, PhD; Kirsten Bibbins-Domingo, MD, PhD; and Adelita Gonzales Cantu, PhD, RN, also contributed to the development of this recommendation.

† For a list of current Task Force members, go to www.uspreventiveservicestaskforce.org/members.htm.

Appendix Table 1. **What the USPSTF Grades Mean and Suggestions for Practice**

Grade	Definition	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer/provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer/provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer/provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the Clinical Considerations section of the USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

Appendix Table 2. **USPSTF Levels of Certainty Regarding Net Benefit**

Level of Certainty*	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as: the number, size, or quality of individual studies; inconsistency of findings across individual studies; limited generalizability of findings to routine primary care practice; and lack of coherence in the chain of evidence. As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: the limited number or size of studies; important flaws in study design or methods; inconsistency of findings across individual studies; gaps in the chain of evidence; findings that are not generalizable to routine primary care practice; and a lack of information on important health outcomes. More information may allow an estimation of effects on health outcomes.

* The USPSTF defines *certainty* as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general primary care population. The USPSTF assigns a certainty level on the basis of the nature of the overall evidence available to assess the net benefit of a preventive service.