GUIDELINE SYNTHESIS

Screening for Cognitive Impairment in Older Adults

Guidelines Being Compared:

1 Canadian Task Force on Preventive Health Care (CTFPHC)

e impa in older adults.

2016 Jan 05

View Summary >

2 U.S. Preventive Services Task Force (USPSTF)

Screening for cognitive impairment in older adults: U.S. Preventive Services Task Force recommendation statement.

2014 Jun 03

View Summary >

Areas of Agreement and Difference

A direct comparison of recommendations presented in the above guidelines for screening for cognitive impairment in adults is provided. The recommendations address screening community-dwelling adults 65 years of age or older without symptoms suggestive of cognitive impairment or dementia using formal screening instruments (e.g., the MMSE).

Areas of Agreement

Areas of Difference

Screening for Cognitive Impairment in Older Adults

The guideline developers offer different guidance for screening asymptomatic, community-dwelling adults 65 years of age or older for cognitive impairment using formal screening instruments (e.g., the MMSE). The USPSTF concluded that the evidence on screening for cognitive impairment in this population is lacking and that the balance of benefits and harms cannot be determined (an "**I statement**"). Although the overall evidence on routine screening is insufficient, the USPSTF provides suggestions for implementing the I statement in clinical practice. The developer recommends that clinicians remain alert to early signs or symptoms of cognitive impairment (for example, problems with memory or language) and evaluate as appropriate. Recognizing early cognitive impairment can help patients make diagnostic and treatment decisions, and allows clinicians to anticipate problems patients may have in understanding and adhering to recommended therapy, notes the USPSTF. 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.

On the basis of low-quality evidence, CTFPHC strongly *recommends against* screening asymptomatic adults 65 years of age or older for cognitive impairment. Given the lack of evidence on the efficacy of screening and the lack of clinically effective treatments for MCI, the CTFPHC felt a strong recommendation against screening asymptomatic patients for cognitive impairment was warranted. The developer explains that this recommendation places a relatively higher value on the lack of evidence evaluating the benefits and harms of screening, evidence showing that pharmacologic treatment is not effective, and evidence showing a small but clinically insignificant benefit of nonpharmacologic treatment. A relatively lower value is placed on limited evidence about patient preferences and limited evidence showing that treatment of MCI is not associated with an increase of serious adverse events or psychosocial harms. Although CTFPHC recommends against screening for cognitive impairment, it also provides considerations for implementation of this recommendation. Similar to USPSTF, CTFPHC encourages practitioners to examine and

potential cognitive decline.

Comparison of Recommendations

Screening for Cognitive Impairment in Older Adults

CTFPHC (2016)	<u>Summary of Recommendations for Clinicians and Policy-makers</u> The CTFPHC recommends not screening asymptomatic adults 65 years of age or older for cognitive impairment. (**Strong recommendation, low quality evidence**) The recommendation applies to community-dwelling adults 65 years of age or older in whom cognitive impairment has not been identified as a specific concern. This recommendation does not apply to men and women who have symptoms suggestive of cognitive impairment (e.g., loss of memory, language, attention, visuospatial or executive functioning, or behavioural or psychological symptoms) or who are suspected of having cognitive impairment by clinicians, family or friends. **Rationale for Recommendation** The findings of the evidence review highlight the lack of high-quality studies evaluating the benefits and harms of screening for cognitive impairment and the lack of effective treatments for MCI. If screening for cognitive impairment were to be conducted in the asymptomatic general population, most cases detected would likely be MCI, not dementia. Therefore, the task force felt it was important to examine the effectiveness of treatments for MCI. Given the lack of evidence on the efficacy of screening for cognitive impairment and the lack of clinically effective treatments for MCI, the task force felt a strong recommendation against screening asymptomatic patients for cognitive impairment was warranted. A strong recommendation means that the task force

	This recommendation places a relatively higher value on the lack of evidence evaluating the benefits and harms of screening, evidence showing that pharmacologic treatment is not effective, and evidence showing a small benefit of nonpharmacologic treatment, which was not clinically significant. This recommendation places a relatively lower value on limited evidence about patient preferences, which showed that about 50% of first-degree relatives of people with diagnosed cognitive impairment may be willing to be screened (see "Patient values and preferences" in the original guideline document), and limited evidence showing that treatment of MCI is not associated with an increase of serious adverse events or psychosocial harms. The evidence supporting this recommendation is rated overall as low quality because no evidence was found on the effectiveness of screening, because the RCTs evaluating the effectiveness of pharmacologic treatments were all rated as low quality, and because the five RCTs showing a small benefit (not clinically significant) of nonpharmacologic interventions on cognition, although rated as moderate quality, were downgraded because of serious study limitations.
USPSTF (2014)	<u>Summary of Recommendation and Evidence</u> The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for cognitive impairment. (**I statement**) <u>Clinical Considerations</u> **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

recommendation.

Suggestions for Practice Regarding the I Statement

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).

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.

	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 from the USPSTF Web site [see also the "Availability of Companion Documents" field in the NGC summary]).

Strength of Evidence and Recommendation Grading Schemes

CTFPHC (2016)

Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group Grades of Evidence

High quality — Further research is very unlikely to change confidence in the estimate of effect.
Moderate quality — Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate.
Low quality — Further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change the estimate.
Very low quality — The Canadian Task Force on Preventive Health Care (CTFPHC) is very uncertain about the estimate.

Grading of Recommendations

- **Strong recommendations** are those for which the Canadian Task Force on Preventive Health Care (CTFPHC) is confident that the desirable effects of an

desirable effects (strong recommendation against an intervention). A strong recommendation implies that most people will be best served by the recommended course of action.

- **Weak recommendations** are those for which the desirable effects probably outweigh the undesirable effects (weak recommendation for an intervention) or undesirable effects probably outweigh the desirable effects (weak recommendation against an intervention) but appreciable uncertainty exists. A weak recommendation implies that most people would want the recommended course of action, but many would not. For clinicians, this means they must recognize that different choices will be appropriate for each individual, and they must help each person arrive at a management decision consistent with his or her own values and preferences. Policy-making will require substantial debate and involvement of various stakeholders. Weak recommendations result when the balance between desirable and undesirable effects is small, the quality of evidence is lower, and there is more variability in the values and preferences of patients.

USPSTF (2014)

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer/provide this service.

	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.	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.

Statement	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 measured.	Considerations" section of the USPSTF Recommendation Statement (see the "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Definition: 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 based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description

	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 factors such as: • The number, size, or quality of individual studies • Inconsistency of findings across individual studies • Limited generalizability of findings to routine primary care practice • 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.

		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 not generalizable to routine primary care practice • A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

Methodology

Click on the links below for details of guideline development methodology	
CTFPHC **(2016)**	**USPSTF** **(2014)**
The CTFPHC and USPSTF guidelines were developed from systematic reviews of the evidence and original meta-analyses conducted by the McMaster Evidence Review and Synthesis Centre (ERSC) Team and the Kaiser Permanente Research Affiliates Evidence-based Practice Center (EPC), respectively. Both systematic reviews provide relevant details of the literature search and selection process, including the electronic databases that were searched, time period of the search, search terms used, and the inclusion and	

the selected evidence, the guideline developers weighted it according to a rating scheme and provide the scheme. Both CTFPHC and the USPSTF formulated the guideline recommendations using an expert consensus process, and rated the strength of the individual recommendations according to a scheme. To validate the guidelines, both CTFPHC and the USPSTF sought internal and external peer review and compared their recommendations to those in guidelines developed by other groups.

Benefits and Harms

Benefits

CTFPHC (2016)	**Benefits of Screening and Treatment** The evidence review identified no trials that examined the effectiveness of screening for cognitive impairment on patient outcomes (function, quality of life, health care utilization and safety), family and caregiver outcomes (quality of life, caregiver burden) or societal outcomes (safety) (see Appendix 1 in the online appendices [see the "Availability of Companion Documents" field in the NGC summary]). The review identified 12 RCTs that examined the effects of treatment interventions for MCI on cognition, function, behaviour and global status. No studies were identified that examined the effect of treatment interventions on mortality. For all results on the outcome of cognition reported, it is important to note that negative and positive effects are outcome-measure dependent. For MMSE, increases in score (positive values) indicate an improvement; however, for Alzheimer's Disease Assessment Scale (ADAS-cog), decreases in score (negative values) indicate an improvement. See the original guideline document for specific interventions, such as cholinesterase inhibitors, dietary supplements and vitamins, and nonpharmacologic interventions.
USPSTF	**Benefits of Detection and Early Intervention**

	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

CTFPHC (2016)	**Harms** No studies were identified by the Evidence Review and Synthesis Centre on the harms of screening (shown in Appendix 1 in the online appendices [see the "Availability of Companion Documents" field in the NGC summary]). The systematic review for treatment also used RCTs to examine harms associated with the treatment of MCI and found no evidence that pharmacologic treatments were associated with an increased number of serious adverse events or psychosocial harms (e.g., depression and lack of independence) compared with controls. Seven RCTs that examined the effects of dietary supplements or vitamins or the effects of nonpharmacologic treatments reported that no serious adverse events occurred.
USPSTF (2014)	**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 are associated with adverse effects, some of which are serious, including central nervous system disturbances and arrhythmia. Gastrointestinal symptoms are also common.

ADAS-cog, Alzheimer's Disease Assessment Scale

CTFPHC, Canadian Task Force on Preventive Health Care

EPC, Evidence-based Practice Center

ERSC, Evidence Review and Synthesis Centre

MCI, mild cognitive impairment

MMSE, Mini-Mental State Examination

RCT, randomized, controlled trial

USPSTF, U.S. Preventive Services Task Force

Status

This synthesis was prepared by ECRI Institute on February 21, 2017. The information was verified by USPSTF on March 16, 2017.