Navigating the controversies of cognitive screening

Chris Frank MD CCFP(COE)(PC) FCFP Frank Molnar MSc MD CM FRCPC

Clinical question

Who and when should clinicians screen for cognitive impairment, and what tests should they use?

Bottom line

The number of Canadians with dementia is increasing, a fact apparent to family physicians in their daily work. At the same time, commonly used tests to screen for cognitive impairment, such as the Montreal Cognitive Assessment (MoCA) instrument, have become less accessible owing to introduction of new copyright or training fees (a phenomenon Molnar et al[1] call the "free to fee" cycle).

The Canadian Task Force on Preventive Health Care recommends "not screening asymptomatic adults 65 years of age or older for cognitive impairment. (Strong recommendation, low-quality evidence.)"[2] The recommendation does not apply to "[patients with] symptoms suggestive of cognitive impairment … or who are suspected of having cognitive impairment by clinicians, family or friends."[2] However, this recommendation has been challenged as dementia symptoms are often not reported.

An open-access article titled "One size does not fit all: choosing practical cognitive screening tools for your practice" in the *Journal of the American Geriatrics Society* recently reviewed cognitive screening tests that have been validated in primary care.[1]

Evidence

We previously published an article in *Canadian Family Physician* challenging these recommendations on the grounds that clinicians often cannot tell if patients are asymptomatic, because dementia symptoms are often not reported to physicians.[3] Persons living with dementia (in particular, those with dementia due to Alzheimer disease) often lose awareness of their cognitive losses (ie, experience anosognosia). Family members and friends often incorrectly attribute cognitive changes to normal aging and do not express concerns to the patient's physician. Patients and family members might be fearful of the consequences of reporting cognitive loss (eg, losing a driver's licence). Unsuspected is not the same as asymptomatic.

Approach

How can we increase our index of suspicion to better differentiate unsuspected cognitive loss from truly asymptomatic cognitive loss? One promising approach is risk stratification, which can help to better focus our time and energy on those patients at higher risk of cognitive impairment. In our earlier article, we included a list of behavioural red flags suggestive of cognitive impairment and indicating formal cognitive screening (see Box 1 in "Cognitive screening of older patients"[3]). Others have recommended focused or targeted screening based on risk stratification, using factors such as age and comorbidities associated with dementia.[4-7] The 5th Canadian Consensus Conference on the Diagnosis and Treatment of Dementia (CCCDTD5) recommends targeted cognitive screening of patients, in particular elderly patients, who have any changes in cognition, function, or behaviour.[7] The CCCDTD5 recommendations provide more detailed guidance on risk stratification, stating that screening is appropriate if there are potential early or warning signs such as the following: reported cognitive symptoms by the patient or an informant; evidence of loss of ability in the instrumental activities of daily living (eg, missing appointments, medication nonadherence, decreased self-care, difficulty handling finances); late-life behavioural changes or psychiatric disorders (eg, depression, anxiety, psychosis, mania); or elevated risk of cognitive disorders (eg, advanced age, Parkinson disease, recent delirium, diabetes, stroke or transient ischemic attack, untreated sleep apnea, recent head injury).[7]

While undertaking detailed risk stratification makes perfect sense in theory, doing so would be challenging, if not impossible, for busy clinicians in practice and thus unlikely to be widely and correctly employed. As a result, many cases of cognitive impairment might be missed (ie, by confusing unsuspected cognitive impairment with asymptomatic cognitive impairment). One way to effectively implement these recommendations might be to integrate CCCDTD5 risk factors into electronic medical records (EMRs); accordingly, when the risks were identified in the record, the EMR would prompt clinicians to consider cognitive screening if it had not been recently done. It would be helpful if a group such as the Canadian Consortium on Neurodegeneration in Aging (**https://ccna-ccnv.ca/about-us/**) and members of the College of Family Physicians of Canada collaborated to develop an EMR risk-based flagging system.

It is possible that some physicians use risk stratification by proactively screening patients older than a certain age (eg, 85 years old), given the high prevalence of dementia in this group (34%).[8] A high index of suspicion in very old patients would seem to be a minimum expectation that all clinicians should be able to meet.

Terminology can be confusing when discussing cognitive screening. The World Health Organization defines *screening* as

> the presumptive identification of unrecognized disease in an apparently healthy, asymptomatic population by means of tests, examinations or other procedures that can be applied rapidly and easily to the target population.[9]

However, we refer here to *screening* as a quick process that determines if a problem is present or not (eg, cognitive impairment vs no cognitive impairment). Diagnosis is a lengthier and more detailed review of function, physical examination, and investigations to determine the cause of the cognitive impairment (eg, delirium, depression, head injury, dementia, or neurocognitive disorder). We will focus on screening tests.

As of August 2020, the MoCA website (**www.mocatest.org**) indicated that registered users of the MoCA could sign in and opt for training and certification at financial cost, or could decline the training and certification program by signing a disclaimer. Some primary care practitioners might opt to pay for the MoCA training and certification and, potentially, declare this a practice expense deduction. However, given this new hurdle and the financial cost associated with the use of the MoCA as of December 2020, other clinicians have asked what other cognitive screening tests might be available that have been validated in their clinical setting and are free of cost.

The open-access article by Molnar et al reviewed cognitive screening tests that have been validated in primary care.[1] They took 16 cognitive screening tools validated in at least 2 primary care settings selected by the United States Preventive Services Task Force (USPSTF)[10,11] and used practical criteria, including cost, online accessibility, time to administer, and ease of scoring, to narrow the list down to a cognitive screening tool kit of 5 options, as follows: SLUMS (the St Louis University Mental Status examination); the Mini-Cog test; the Lawton Instrumental Activities of Daily Living scale; and 2 proxy informant-based tests—the AD8 Dementia Screening Interview and the Functional Activities Questionnaire.[1] Quick tests (requiring less than 5 minutes to administer) are appealing in family medicine. Eliminating the SLUMS test, which requires more than 5 minutes, left 4 options: the Mini-Cog, the Lawton Instrumental Activities of Daily Living scale, the AD8, and the Functional Activities Questionnaire.

Implementation

In our experience, merely listing cognitive screening tests that busy clinicians cannot find and cannot access online is of very limited benefit. Molnar et al committed a substantial amount of time and resources to locate official, downloadable cognitive screening test forms and instructions, which can be found in Table 2 of the article (**https://onlinelibrary.wiley.com/doi/full/10.1111/jgs.16713**).[1]

The CCCDTD5 recommended many more cognitive screening tests[7] than did the USPSTF. This is likely because different methodologies were used: the USPSTF used a formal systematic review of cognitive screening tools validated in multiple primary care settings, whereas the CCCDTD5 used consensus based on validation in a variety of clinical settings beyond primary care. Because of validation in non–primary care settings, and owing to the length and complexity of some CCCDTD5 tests and the need for extra training to apply them, many of the CCCDTD5 recommended tests might be more suited to specialty settings. We believe that the list of options developed in the article by Molnar et al provides practical, real-world options for family physicians.[1]

Searching for the holy grail of a best cognitive screening tool for all situations might be folly. Clinicians should not rely on any single cognitive screening tool but instead develop a tool kit of reasonable, free, open-access cognitive screening tools that they believe best fit their needs and clinical situation, and that have been validated in their clinical setting.[1] The USPSTF[10,11] and the CCCDTD5[7] have provided valuable resources and guidance with which to make this selection. To assist readers in making evidence-informed decisions, we have provided links to all the relevant resources in the reference section.

Dr Frank is a family physician specializing in care of the elderly and palliative care at Queen's University in Kingston, Ont. **Dr Molnar** is a specialist in geriatric medicine practising in the Department of Medicine at the University of Ottawa in Ontario and at the Ottawa Hospital Research Institute.

Competing interests
None declared

References

1. Molnar FJ, Benjamin S, Hawkins SA, Briscoe M, Ehsan S. One size does not fit all: choosing practical cognitive screening tools for your practice. *J Am Geriatr Soc* 2020;68(10):2207-13. Epub 2020 Jul 28. Available from: **https://onlinelibrary.wiley.com/doi/full/10.1111/jgs.16713**. Accessed 2021 May 22.
2. Canadian Task Force on Preventive Health Care; Pottie K, Rahal R, Jaramillo A, Birtwhistle R, Thombs BD, et al. Recommendations on screening for cognitive impairment in older adults. *CMAJ* 2016;188(1):37-46. Epub 2015 Nov 30. Available from: **https://www.cmaj.ca/content/cmaj/188/1/37.full.pdf**. Accessed 2021 May 22.
3. Molnar F, Frank C. Cognitive screening of older patients. *Can Fam Physician* 2020;66:40 (Eng), e12-3 (Fr). Available from: **https://www.cfp.ca/content/66/1/40**. Accessed 2021 May 22.
4. Brodaty H, Low LF, Gibson L, Burns K. What is the best dementia screening instrument for general practitioners to use? *Am J Geriatr Psychiatry* 2006;14(5):391-9. Available from: **http://gpcog.com.au/uploads/ckfinder/userfiles/files/Brodaty%20et%20al%20What%20is%20the%20best%20dementia%20screening%20instrument.pdf**. Accessed 2021 May 22.
5. Yokomizo JE, Sanz Simon S, Machado de Campos Bottino C. Cognitive screening for dementia in primary care: a systematic review. *Int Psychogeriatr* 2014;26(11):1783-804. Epub 2014 Jul 15. Available from: **https://www.researchgate.net/publication/263934479_Cognitive_screening_for_dementia_in_primary_care_A_systematic_review**. Accessed 2021 May 22.
6. Ismail Z, Rajji TK, Shulman KI. Brief cognitive screening instruments: an update. *Int J Geriatr Psychiatry* 2010;25(2):111-20. Available from: **https://onlinelibrary.wiley.com/doi/pdf/10.1002/gps.2306**. Accessed 2021 May 22.

7. Ismail Z, Black SE, Camicioli R, Chertkow H, Herrmann N, Laforce R Jr, et al. Recommendations of the 5th Canadian Consensus Conference on the Diagnosis and Treatment of Dementia. *Alzheimers Dement* 2020;16(8):1182-95. Epub 2020 Jul 29. Available from: **https://alz-journals.onlinelibrary.wiley.com/doi/full/10.1002/alz.12105**. Accessed 2021 May 22.
8. Chambers LW, Bancej C, McDowell I, editors. *Prevalence and monetary costs of dementia in Canada*. Toronto, ON: Alzheimer Society of Canada; 2016. Available from: **https://alzheimer.ca/sites/default/files/documents/Prevalence-and-costs-of-dementia-in-Canada_Alzheimer-Society-Canada.pdf**. Accessed 2021 Jun 11.
9. World Health Organization [website]. *Promoting cancer early diagnosis*. Geneva, Switz: World Health Organization. Available from: **https://www.who.int/activities/promoting-cancer-early-diagnosis**. Accessed 2021 May 22.
10. US Preventive Services Task Force; Owens DK, Davidson KW, Krist AH, Barry MJ, Cabana M, et al. Screening for cognitive impairment in older adults: US Preventive Services Task Force recommendation statement. *JAMA* 2020;323(8):757-63. Available from: **https://jamanetwork.com/journals/jama/fullarticle/2761651**. Accessed 2021 May 22.
11. Patnode CD, Perdue LA, Rossom RC, Rushkin MC, Redmond N, Thomas RG, et al. Screening for cognitive impairment in older adults: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA* 2020;323(8):764-85. Available from: **https://jamanetwork.com/journals/jama/fullarticle/2761650**. Accessed 2021 May 22.

Can Fam Physician 2021;67:509-11. DOI: 10.46747/cfp.6707509