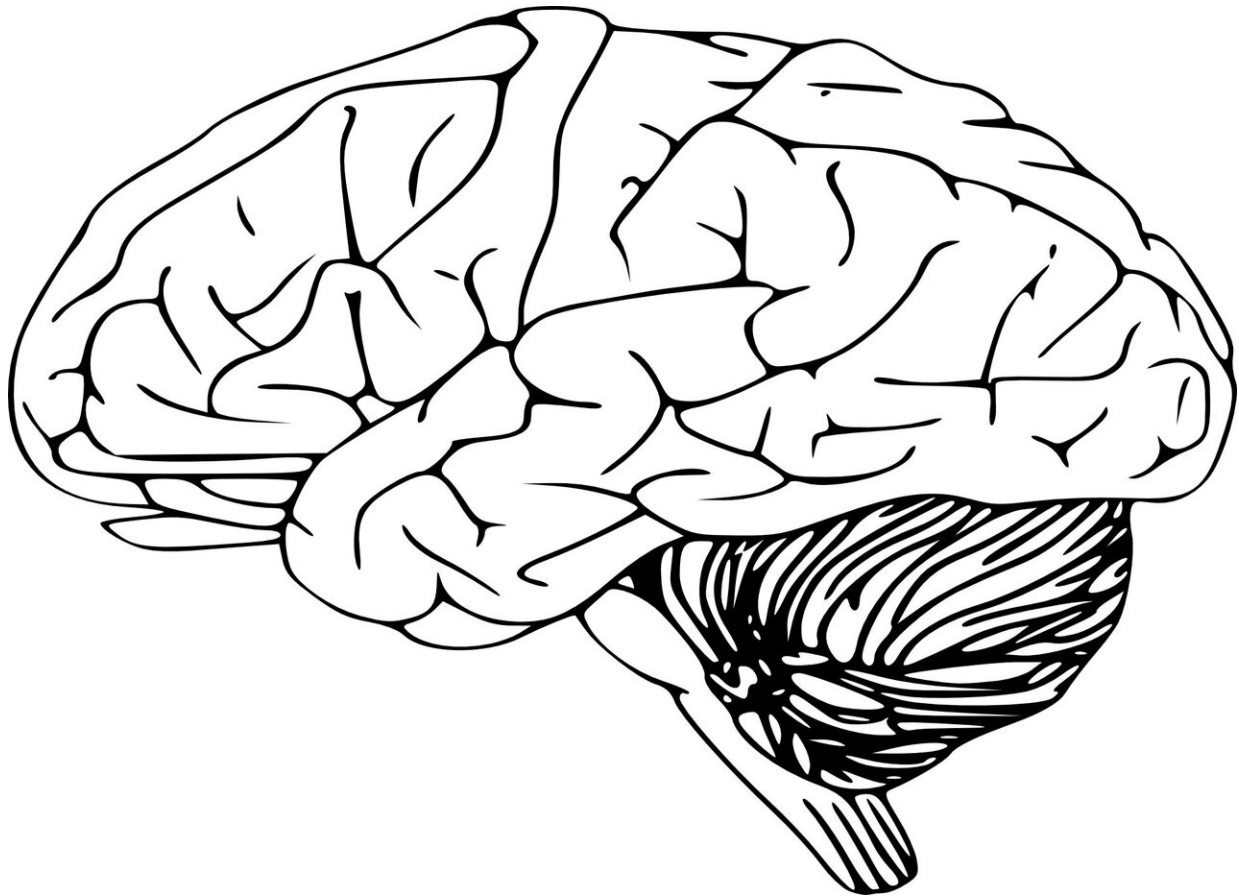# At-home cognitive assessment performs as well as widely used, clinician-led test

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Credit: Pixabay/CC0 Public Domain

The Baycrest-developed, at-home Cogniciti Brain Health Assessment performs as well as a widely used, clinician-led test at assessing patients'

cognitive health, reports a new study.

The Brain Health Assessment is as accurate as the widely used Montreal Cognitive Assessment (MoCA) at identifying problems with memory and attention. In fact, for those with near-normal performance, the Brain Health Assessment performs better than the MoCA at detecting subtle cognitive decline and impairment. In addition, the Brain Health Assessment is self-administered and available online, making it much easier to administer than the MoCA, which requires a clinician.

These results, published in the *Journals of Gerontology*, suggest that the Brain Health Assessment can provide important information in the clinical assessment of memory and thinking. "Typically, patients must complete cognitive assessments in-person at a clinic. Because the Brain Health Assessment can be taken at home, it can save time for both patients and clinicians," says Dr. Angela Troyer, Program Director of Neuropsychology and Cognitive Health, and Professional Practice Chief of Psychology at Baycrest.

The Sam and Ida Ross Memory Clinic at Baycrest is the first clinic in the world to use the Brain Health Assessment to assess mild cognitive impairment, a preclinical stage of dementia.

"The Brain Health Assessment is very useful because it identifies those patients who have a high probability of having mild cognitive impairment. Based on the Brain Health Assessment combined with other information we obtain in the Memory Clinic, I can more confidently and directly refer patients to a special program to learn strategies to improve their memory," says Dr. Morris Freedman, Medical Director of Cognition and Behaviour Services and Head of the Division of Neurology at Baycrest.

The Brain Health Assessment, developed by a team of Baycrest

clinicians and scientists, takes around 20 minutes to complete and consists of a background questionnaire and four cognitive tasks assessing memory and attention. It was specifically designed for older adults and includes tasks sensitive to changes in the brain associated with aging and age-related cognitive disorders.

As a publicly available instrument that produces a personalized report for each user to access, the Brain Health Assessment has been taken over 115,000 times on cogniciti.com.

However, in this study, researchers were interested in a different use of this tool: by clinicians as part of a broader assessment of patients' cognition. Ninety-one older adults who were referred to Baycrest for assessment of mild cognitive impairment undertook a gold-standard diagnostic 3-4 hour neuropsychological assessment with a trained examiner. All participants also completed both the at-home Brain Health Assessment and the clinician-led MoCA.

They found that overall, the Brain Health Assessment detected mild cognitive impairment as accurately as the clinician-led MoCA did, but the Brain Health Assessment was superior in detecting normal cognitive function, with 23% of the sample correctly identified as normal, versus 8% for the MoCA.

"When combined with additional clinical information, the Brain Health Assessment was more effective at providing a reassuring normal result in these cases, reducing the need for further testing," says Dr. Brian Levine, Senior Scientist at Baycrest's Rotman Research Institute.

According to Dr. Troyer, accessible and accurate cognitive assessments like the Brain Health Assessment allow clinicians to detect changes in cognition early and to prescribe interventions for patients and their families to help manage their brain health.

Adds Dr. Troyer, "Individuals with early signs of cognitive decline may be able to slow this decline by following a healthy lifestyle, such as eating a heart-healthy diet, getting regular exercise, sleeping well and staying cognitively and socially engaged."

This study was supported by funding from the Centre for Aging + Brain Health Innovation (CABHI), powered by Baycrest, as well as the Saul A. Silverman Family Foundation and the Morris Kerzner Memorial Fund.

The research team is currently validating a French version of the Brain Health Assessment. With additional funding, they could extend it to other languages as well, increasing the reach of this critical tool.

  More information: Theone S E Paterson et al, Accuracy of a Self-Administered Online Cognitive Assessment in Detecting Amnestic Mild Cognitive Impairment, *The Journals of Gerontology: Series B* (2021). DOI: 10.1093/geronb/gbab097

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