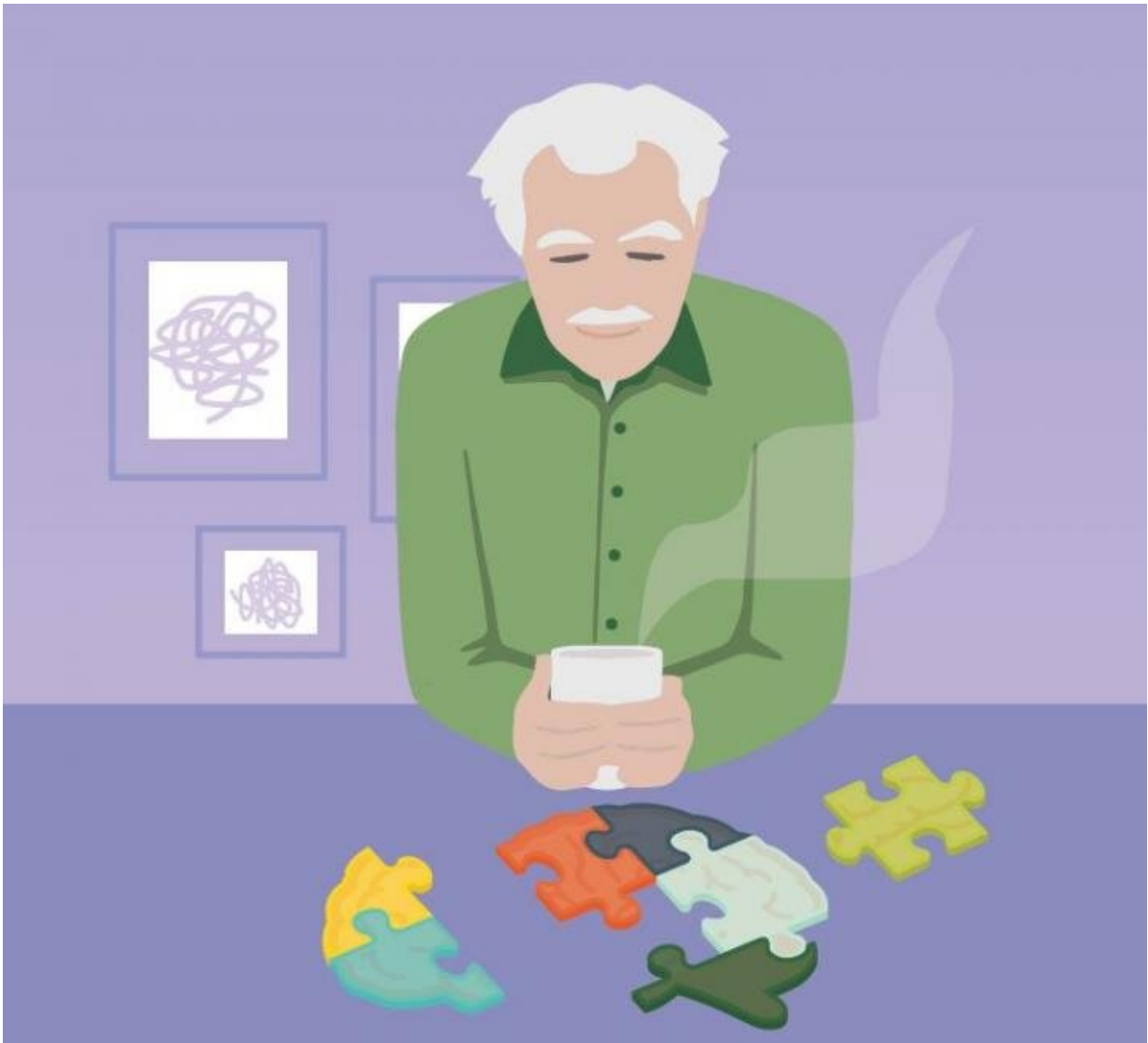


Can a calculator predict your risk of dementia?

June 25 2021



Researchers have built and validated an online calculator that empowers individuals 55 and over to better understand the health of their brain and how

they can reduce their risk of being diagnosed with dementia in the next five years. Credit: Project Big Life

Canadian researchers at The Ottawa Hospital, the University of Ottawa, the Bruyère Research Institute and ICES have built and validated an online calculator that empowers individuals 55 and over to better understand the health of their brain and how they can reduce their risk of being diagnosed with dementia in the next five years.

Their process was published today in the *Journal of Epidemiology and Community Health*, and the calculator is available at projectbiglife.ca.

Dementia is an umbrella term for loss of memory and other thinking abilities severe enough to interfere with daily life. Every year, 76,000 new cases of dementia are diagnosed in Canada, a number expected to increase as the population ages.

There is no cure or treatment for dementia. However, about a third of dementia may be preventable through lifestyle factors like physical activity, healthy eating, reducing alcohol and [tobacco use](#), and managing conditions like diabetes and [high blood pressure](#).

The researchers based the dementia calculator on survey data from over 75,000 Ontarians.

"What sets this dementia risk calculator apart is that you don't need to visit a doctor for any tests," said Dr. Stacey Fisher, the lead author of the study who performed the research largely in Ottawa while she was a Ph.D. student supervised by Dr. Doug Manuel and Dr. Peter Tanuseputro at The Ottawa Hospital. "People already have all the information they need to complete the calculator in the comfort of their

home." Dr. Fisher is currently a postdoctoral fellow at the University of Toronto and Public Health Ontario.

Factors in the Dementia Population Risk Tool (DemPoRT) include:

- Age
- Smoking status and lifetime exposure
- Alcohol consumption
- Physical activity
- Stress
- Diet
- Sense of belonging
- Ethnicity
- Immigration status
- Socioeconomic status of the neighbourhood
- Education
- Activities where assistance is needed
- Marital status
- Number of languages spoken
- Health conditions

The calculator can be used by individuals to assess their dementia risk and help them modify their lifestyle. The researchers also have a goal for policy makers to use this algorithm to do the same thing for the [general population](#).

Through this research, the team has developed the first predictive tool designed to predict dementia at a population level. It can predict the number of new cases in the community, identify higher-risk populations, inform dementia prevention strategies, and will be used to support Canada's national dementia strategy. By using regularly collected health data and surveys, [population](#) health experts have all the information they need to use the algorithm.

"This tool will give people who fill it out clues to what they can do to reduce their personal risk of dementia," said Dr. Peter Tanuseputro, senior author of the study, and scientist at The Ottawa Hospital, investigator at the Bruyère Research Institute, adjunct scientist at ICES and assistant professor at the University of Ottawa. "The COVID-19 pandemic has also made it clear that sociodemographic variables like ethnicity and neighbourhood play a major role in our health. It was important to include those variables in the tool so [policy makers](#) can understand how different populations are impacted by dementia, and help ensure that any prevention strategies are equitable."

The [dementia](#) calculator will be added to a list of existing calculators on Project Big Life that help Canadians estimate their own life expectancy based on habits and lifestyle choices.

The [calculator](#) was based on data from the Statistics Canada Canadian Community Health Surveys housed at ICES. Currently designed for use in Canada, it can be adapted for any of the 100 countries around the world that collect health [survey data](#).

More information: Development and validation of a predictive algorithm for risk of dementia in the community setting. Stacey Fisher, Douglas G Manuel, Amy T Hsu, Carol Bennett, Meltem Tuna, Anan Bader Eddeen, Yulric Sequeira, Mahsa Jessri, Monica Taljaard, Geoffrey M Anderson, Peter Tanuseputro. *Journal of Epidemiology and Community Health*. June 25, 2021.

Provided by The Ottawa Hospital

Citation: Can a calculator predict your risk of dementia? (2021, June 25) retrieved 4 May 2024 from <https://medicalxpress.com/news/2021-06-dementia.html>

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