

Dementia risk scores have high error rates

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Current dementia risk scores have high error rates and limited clinical utility for estimating 10-year risk, according to a study published online June 13 in *JAMA Network Open*.

Mika Kivimäki, Ph.D., from University College London, and colleagues evaluated the clinical value associated with four widely used dementia risk scores in estimating 10-year dementia risk. The analysis included 465,929 U.K. Biobank participants without dementia at baseline (2006 to 2010) and validation in 4,865 participants of the Whitehall II study, through linked [electronic health records](#).

The researchers found that if the threshold for a positive test result was calibrated to achieve a 5 percent false-positive rate, all four risk scores detected 9 to 16 percent of incident dementia and missed 84 to 91 percent (failure rate). For a model that included age only, the corresponding failure rate was 84 percent.

When calibrated to detect at least half of future incident dementia, the ratio of true to [false positives](#) ranged from 1 to 66 for the Cardiovascular Risk Factors, Aging and Dementia (CAIDE) *APOE*-supplemented clinical score, 1 to 116 for the Australian National University Alzheimer Disease Risk Index (ANU-ADRI), and 1 to 43 for the model using age alone. For the CAIDE clinical version, the C statistic was 0.66 versus 0.73 for the CAIDE-*APOE*-supplemented, 0.68 for the Brief Dementia Screening Indicator, 0.59 for ANU-ADRI, and 0.79 for age alone. Similar performance was seen in the Whitehall II study cohort.

"These findings suggest that the scores were of limited value in targeting people for [dementia](#) prevention," the authors write.

More information: Mika Kivimäki et al, Estimating Dementia Risk Using Multifactorial Prediction Models, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.18132](https://doi.org/10.1001/jamanetworkopen.2023.18132)

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