Background

- Early detection of cognitive impairment or dementia is important for effective patient management.
- Cognitive assessment screens that are currently used in primary care settings perform well for identifying dementia; however, these tests often fail to detect mild cognitive impairment (MCI).1,2
- **Objective:** Investigators developed and validated a 10-minute tablet-based software platform for the detection of dementia and MCI: the University of California San Francisco (UCSF) Brain Health Assessment (BHA).

Methods

- The UCSF BHA includes 4 subtests that measure different aspects of cognition: language, memory, visuospatial skills, and executive function and speed. The UCSF BHA also includes a brain health survey that is answered by a person who is familiar with the patient.
- The study population was composed of 347 older adults from the UCSF Memory and Aging Center:
  - 185 neurologically healthy controls
  - 99 patients with diagnosed MCI
  - 42 patients with diagnosed dementia
  - 21 patients considered normal, but with concerns
- The sensitivity of the UCSF BHA for the detection of dementia and MCI was compared to that of the gold-standard Montreal Cognitive Assessment (MoCA); a specificity level of 85%, which is higher than most reported studies, was emphasized to minimize false positives.
- 145 patients underwent brain magnetic resonance imaging to assess the correlation of subtest performance with specific brain volumes.

Results

- Sensitivity levels (at 85% specificity) were as follows:
  - UCSF BHA: 100% for dementia and 84% for MCI
  - MoCA: 79% for dementia and 25% for MCI
- MRI findings indicated that subtest performance correlated with volumes of expected regions of the brain related to memory, executive speed, and visuospatial functions.

Conclusions

- In this study population, the 10-minute tablet-based UCSF BHA demonstrated good sensitivity and specificity for detection of dementia and MCI.
- Further study of the validity of the UCSF BHA on more diverse populations is ongoing, as is the implementation of the UCSF BHA in primary care settings.