

Digital devices may help in identifying signs of Alzheimer's

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A study conducted by Lilly, Evidation Health and Apple



Initial results from a feasibility study conducted by Eli Lilly and Company, Evidation Health, and Apple Inc. showed that an iPhone, Apple Watch, iPad and the Beddit sleep monitoring device, in combination with digital apps may be able to differentiate people with mild cognitive impairment (MCI) and mild Alzheimer's disease dementia.

The exploratory results were presented at the Association for Computing Machinery's KDD conference in Anchorage, and are published on the conference [website](#) as one of the top papers of the conference.

In ways not previously detected through common clinical screening tools, data obtained through the use of Apple devices suggested an ability to differentiate between individuals with mild cognitive impairment and mild Alzheimer's disease dementia, and those without symptoms. The 12-week study evaluated 113 participants, ages 60-75, in real-world settings to determine whether Apple devices in combination with mobile applications, were able to help identify cognitive and behavioral differences among the study participants with and without mild cognitive impairment.

Evidation established a secure study platform to obtain study participants' consent to collect and analyze 16 terabytes of data across a number of sources, including: passively derived sensor data from the smart devices, questionnaires about mood and energy, and simple assessment activities on the Digital Assessment App.

The App included psychomotor tasks, such as dragging one shape onto another or tapping a circle as fast and as regularly as possible, reading tasks and a typing task.

"With further study, we may be able to screen people at high risk or detect dementia and Alzheimer's earlier with the devices we use in our everyday lives," said Christine Lemke, co-founder and president of Evidation Health. "These early findings

suggest the potential of novel digital measures that are based on data generated and controlled by individuals."