

PET scans show many Alzheimer's patients may not actually have the disease

By [Tara Bahrapour](#) July 19

A significant portion of people with mild cognitive impairment or dementia who are taking medication for Alzheimer's may not actually have the disease, according to interim results of a major study underway to see how PET scans could change the nature of Alzheimer's diagnosis and treatment.

The findings, presented Wednesday at the Alzheimer's Association International Conference in London, come from a four-year study launched in 2016 that is testing over 18,000 Medicare beneficiaries with mild cognitive impairment (MCI) or dementia to see if their brains contain the amyloid plaques that are one of the two hallmarks of the disease.

So far, the results have been dramatic. Among 4,000 people tested so far in the Imaging Dementia-Evidence for Amyloid Scanning (IDEAS) study, researchers from the Memory and Aging Center at the University of California at San Francisco found that just 54.3 percent of MCI patients and 70.5 percent of dementia patients had the plaques.

A positive test for amyloid does not mean someone has Alzheimer's, though its presence precedes the disease and increases the risk of progression. But a negative test definitively means a person does not have it.

The findings could change the way doctors treat people in these hard-to-diagnose groups and save money being spent on inappropriate medication.

"If someone had a putative diagnosis of Alzheimer's disease, they might be on an Alzheimer's drug like Aricept or Namenda," said James Hendrix, the Alzheimer Association's director of global science initiatives who co-presented the findings. "What if they had a PET scan and it showed that they didn't have amyloid in their brain? Their physician would take them off that drug and look for something else."

For decades, diagnosing Alzheimer's has been a guessing game, based on looking at a person's symptoms rather than testing for definitive evidence of the brain disorder. A firm diagnosis was not possible until an autopsy was performed.

Now, a spinal tap or PET scan can detect the telltale amyloid deposits, and researchers are trying to develop a simple blood test that would do so. PET imaging can quantify the amount of amyloid and also show where it is in a person's brain.

But spinal taps are invasive, and PET scans cost \$3,000 to \$4,000 and are typically not covered by insurance. In 2013 the Centers for Medicare & Medicaid Services (CMS) declined to cover the tests, citing insufficient evidence that they would make a difference for patients with a disease for which there is no cure and limited treatment available.

But CMS agreed to fund the bulk of the \$100 million IDEAS study by reimbursing participants for their PET scans, and researchers hope positive results will persuade them to cover it in the future.

Over 400 physicians enrolled their patients in the study, and they initially filled out forms describing how they would care for them based on their clinical symptoms. After seeing the PET imaging results, they changed their care plans for two-thirds of the patients in the study.

“We thought we would be able to see about a 30 percent change, but we're getting a 66 percent change, so it's huge,” Hendrix said. “We see high percentages of people who are on a drug and didn't need to be on those drugs.”

Also on Wednesday, the Alzheimer's Association announced the launch of a \$20 million two-year clinical trial to see if lifestyle changes can prevent cognitive decline.

Modeled after a larger 2014 study in Finland that showed positive results, the U.S. POINTER study will work with 2,500 older adults at risk for cognitive decline. It will test whether two years of intervention that includes physical exercise, nutritional counseling, social and cognitive stimulation, and improved self-management will help cognitive function in participants 60 to 79 years old.

Similar studies are also underway in Singapore and Australia.

Research has shown that each of these factors contributes to cognitive health, but researchers believe that, as with heart disease, combating Alzheimer's is likely to require a multipronged, or “cocktail” approach combining drugs and lifestyle changes.

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