

New taste and smell test could diagnose Alzheimer's long before memory loss starts

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A simple smell and taste test could revolutionize diagnosis of Alzheimer's—long before symptoms of memory loss even arise.

Scientists are working on a ground-breaking medical screening for the disease which could also improve [treatment options](#). The research is based on growing evidence that people with Alzheimer's can lose their [sense of smell](#) and taste many months or even years before other symptoms, such as memory loss, become apparent.

An [early diagnosis](#) is critical for those with the disease. New drug technology can slow, or even reverse the progress of Alzheimer's, but

only if the disease is detected early enough. The drug, lecanemab, is one of two new treatments for the disease.

The research, led by WMG at the University of Warwick together with Superlunary Labs and with support from University Hospitals Coventry & Warwickshire (UHCW) NHS Trust, New-Food innovation, and Alzheimer's Society, could lead to U.K.-wide screening services where members of the public can take a simple smell and taste test. Those who perform poorly can then be referred for further tests which could result in an Alzheimer's diagnosis.

The novel solution provides accurately simulated flavor samples (known as virtual flavor, developed in collaboration with New Food Innovation) via an easy-to-use low-cost dispenser, which could be used by a nurse as part of an annual health check, in pharmacies, care homes, community centers and even in the home.

While in the trial stages at the moment, academics hope that one day an inclusive mobile Alzheimer's screening unit could reduce significant pressures on the NHS and ease waiting times for those who are struggling to get an appointment with their GPs.

Professor Alan Chalmers from WMG at the University of Warwick said, "In this simple screening test, people will be given different flavors to smell and taste—they then determine which is sweeter, less astringent, smells more of lemon, for example. It's an easy, non-invasive test which can be rolled out to people quickly across the U.K.

"At the moment, people who present with symptoms of memory loss are referred for MRI scans and spinal fluid tests to confirm a diagnosis. By the time [memory loss](#) occurs things are often too late; pioneering drug treatments only perform well in the early stages of degeneration. MRI scans and spinal fluid tests are currently not done before there is an

indication of the disease as they are incredibly invasive, can cause distress and are expensive and time-consuming for the NHS. Failure of the flavor test can give the necessary early indication.

"Our preliminary data shows that there is a difference in the flavor detection of those with Alzheimer's compared to those without the disease, so we hope to get further backing and implement these screening tests U.K.-wide.

"It's important to note that the loss of smell and taste associated with Alzheimer's is quite different to that of long COVID. While COVID could cause a loss of the sense of taste and smell, long COVID can alter your sense of flavor—a combination of taste, smell and mouthfeel—rather than diminish it."

This research will be showcased by the University of Warwick alongside the Alzheimer's Society, at an All-Party Parliamentary Group (APPG) on dementia, today, 14 June. The APPG is hosted by Sir Jeremy Wright, MP for Kenilworth & Southam and vice-chair of the all-party parliamentary group on Dementia.

Sir Jeremy Wright MP added, "I am delighted to be hosting an event at the House of Commons focusing on a development that could contribute to a significant improvement in the mass diagnosis of Alzheimer's, alongside the new strides in treatments that have been announced in recent months."

Dr. Richard Oakley, associate director of research at Alzheimer's Society, said, "It's really exciting to see how researchers are thinking outside of the box about potential methods to detect the diseases that cause dementia at the earliest stages. This is so important now that new disease-modifying treatments are just around the corner.

"The NHS needs to be ready for these new treatments. We can't be in a situation where new drugs are being approved but people can't access them early when they work best. Alzheimer's Society will continue to stand up for people living with dementia and push for more accurate, earlier dementia diagnosis in the NHS."

Malcolm Barnes, director of Superlunary Labs added, "Simplicity of the device and test is key to collecting big data across different age groups and demographics."

Provided by University of Warwick

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