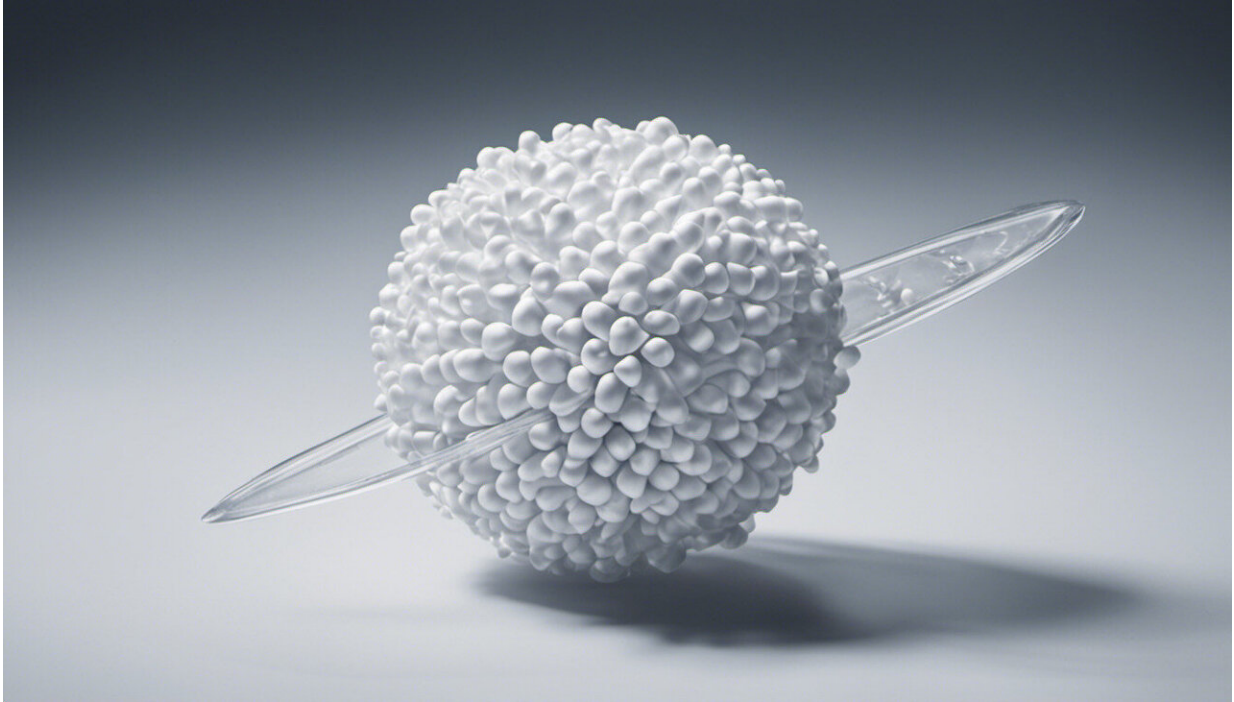


World-first trial for universal flu vaccine

October 4 2017



Credit: AI-generated image ([disclaimer](#))

The world's first widespread human testing of a flu vaccine which researchers hope will protect more over 65-year-olds against influenza has begun in the NHS.

More than 10,000 people aged 65 and over will be asked to take part in a study supported by the National Institute for Health Research (NIHR) and delivered by the University of Oxford in Berkshire and Oxfordshire.

The recruitment target is 500. Researchers believe the [vaccine](#) could have a major impact on the worldwide fight against the [virus](#), which affects about a billion people worldwide a year with 250,000 to 500,000 annual deaths, mainly in the over-65 age group. Current vaccines are only effective in 30 to 40 percent of over 65s as the immune system weakens with age and researchers believe the new vaccine could increase this. For those who receive the jab but still get the flu, researchers believe the new vaccine could also reduce the severity and duration of the illness.

It is believed the vaccine will offer a stronger protection against flu because it uses a different mechanism to get the body to protect against the virus. Under the microscope, the flu virus looks like a spherical cushion with lots of pins sticking out of it. The existing flu vaccines use surface proteins that lie on the outside of flu cells – the heads of the pins - to stimulate the body's immune system to produce disease-fighting antibodies. But as the virus changes each year, so do the surface proteins, haemagglutinin and neuraminidase, meaning the [flu vaccine](#) needs to change too.

Global scientists therefore have to predict what each new annual strain of flu will look like. Unfortunately, sometimes by the time the vaccine has been made, the strain of virus that is causing illness has changed, and the vaccine doesn't work well. The new vaccine is different as it uses the core proteins of the virus –inside the cushion – instead of the [surface proteins](#). These core proteins remain virtually unchanged in all influenza A viruses, giving researchers the opportunity to create vaccines that will work against all of them. Humans get infected by both influenza A and B, but it is influenza A that causes the majority of severe illnesses and deaths.

Crucially, the new vaccine stimulates the immune system to boost influenza-specific T-cells, instead of antibodies, that kill the virus as it

tries to spread through the body. Everyone has some influenza-specific T cells already, but numbers of them are often too low to be protective. Previous research found that these T-cells can help fight more than one type of [flu virus](#), and researchers believe this means more people could be protected and the severity and duration of flu may be reduced.

About 10,000 over 65s registered at six GP practices will be asked to take part in the trial in Berkshire and Oxfordshire this winter. This includes 25 people who will be sought for extra blood tests at the university. They will receive the regular, annual immunisation in combination with the new vaccine, which has successfully undergone safety testing in 145 people, or the regular immunisation and a placebo shot, so the two can be compared. Patients will not be told whether they are receiving the new vaccine or placebo.

The vaccine was developed by Oxford University's Jenner Institute with Vaccitech, a spin-out company from the institute. The study is being sponsored by Vaccitech and managed by the University's Nuffield Department of Primary Care Health Sciences with support from the NIHR Clinical Research Network Thames Valley and South Midlands, a Department of Health-funded organisation which provides staffing to ensure research studies are run in the health service.

Professor Sarah Gilbert, Professor of Vaccinology at the University and co-founder of Vaccitech, said: "Every year, flu in older adults causes serious illness and sometimes death. We want to improve the situation, but in order to do that we need volunteers to help us test a new vaccine. If you are invited to take part, please consider doing so."

More information: For further information on the trial please visit the flu vaccine study trial homepage: www.trialspark.com/trials/flu-study

Provided by University of Oxford

Citation: World-first trial for universal flu vaccine (2017, October 4) retrieved 3 May 2024 from <https://medicalxpress.com/news/2017-10-world-first-trial-universal-flu-vaccine.html>

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