

Oxford University pushing science to the limit in vaccine hunt

April 23 2020, by Sylvain Peuchmaurd



The UN says finding a coronavirus vaccine is the only possible way to bring the world back to "normality"

Oxford University is launching a human trial of a potential coronavirus vaccine, with the daunting aim of making a successful jab available to the public later this year.

Of the more than 100 research projects around the world to find a [vaccine](#)—described by the United Nations as the only route back to "normality"—seven are currently in clinical trials, according to the London School of Hygiene and Tropical Medicine.

Such trials are already underway in China and the United States and are due to begin at the end of this month in Germany, where the federal vaccine authority gave the green light on Wednesday.

The British government strongly supports Oxford University's work, and the first human trials were to start on Thursday, Health Minister Matt Hancock said.

He hailed the "promising development", pointing out that it would normally take "years" to reach such a stage of vaccine development.

In its first phase, half of 1,112 volunteers will receive the potential vaccine against COVID-19, the other half a control vaccine to test its safety and efficacy.

The volunteers are aged between 18 and 55, are in good health, have not tested positive for COVID-19 and are not pregnant or breastfeeding.

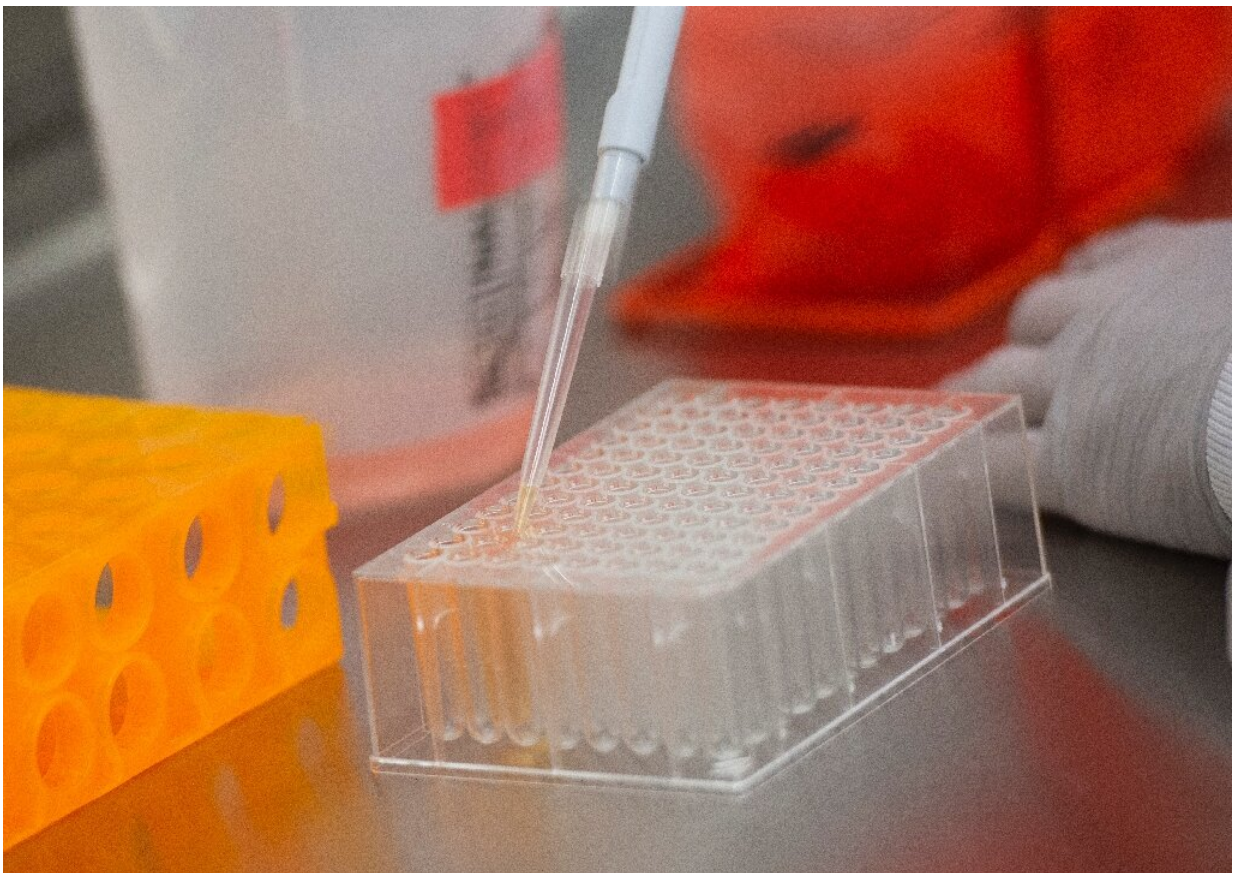
Ten participants will receive two doses of the experimental vaccine, four weeks apart.

Professor Sarah Gilbert's team hopes for an 80 percent success rate, and plans to produce one million doses by September, with the aim of making it widely available by the autumn if successful.

But the teams carrying out this research say on their website that this timetable is "highly ambitious" and could change.

The government's chief medical officer Chris Whitty acknowledged on Wednesday that the likelihood of getting a vaccine within the year was "incredibly small".

"If people are hoping it's suddenly going to move from where we are in lockdown to where suddenly into everything is gone, that is a wholly unrealistic expectation," he warned.



There are more than 100 research projects under way around the world to find a vaccine

Financial gamble

The strategy of not waiting for each step to be completed before launching production is a financial "gamble", according to Nicola Stonehouse, professor of molecular virology at the University of Leeds.

But the current crisis makes it a necessary gamble, she told AFP.

The Oxford vaccine is based on a chimpanzee adenovirus, which is modified to produce proteins in human cells that are also produced by COVID-19.

It is hoped the vaccine will teach the body's immune system to then recognise the protein and help stop the [coronavirus](#) from entering [human cells](#).

The adenovirus vaccine is known to develop a strong immune response with a single dose and is not a replicating virus, so cannot cause infection, making it safer for children, the elderly and patients with underlying diseases such as diabetes.

The government, under fire in the media over its handling of the crisis, set up a task force last weekend to coordinate research efforts and to develop capability to mass-produce a vaccine as soon as it is available, wherever it comes from.

It is also supporting research at Imperial College London, which hopes to start clinical trials in June.

Their research focuses on a vaccine exploiting a different principle, using RNA, the messenger molecules that build proteins in the cells, to stimulate the [immune system](#).

Finding a vaccine is the only possible way to bring the world back to "normality", UN Secretary-General Antonio Guterres warned last week,

calling for an acceleration of projects.

The UN on Monday adopted a resolution calling for "equitable, effective and rapid" access to a possible vaccine.

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