



# Covid-19: New government study aims to track infection and immunity in population

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The UK government has launched a nationwide surveillance study to track the prevalence of infection with SARS-CoV-2 in the general population.

The study will include swab testing and serology testing to look at both the current rates of infection and how many people are likely to have developed antibodies to the virus. The government is inviting UK households to take part in the study and expects 25 000 to take part in the first phase. It aims to extend this to 300 000 households over the next 12 months.

The results will help guide the government's strategy on when to relax the current lockdown measures, with initial study findings expected in May. Health secretary Matt Hancock said: "These results will help us better understand the spread of the virus to date, predict the future trajectory, and inform future action we take, including crucially the development of groundbreaking new tests and treatments."

All study participants will provide samples from self-administered nose and throat swabs to show whether they currently have covid-19 and will answer questions during a home visit by a trained health worker. They will be asked to take further tests every week for the first five weeks and then every month for the next 12 months.

Around 1000 households will also provide a blood sample taken by a healthcare professional to see whether they have developed antibodies to SARS-CoV-2. These participants will be asked to give further samples on a monthly basis for the next 12 months. This smaller sample reflects the current absence of a mass market home testing antibody kit, with only a small number of reliable laboratory tests available.

Swab tests will be taken from all participating households regardless of whether individuals are reporting symptoms, with test results communicated back to participants by their GPs. But blood tests will not be done in any households in which someone has symptoms of covid-19 or is currently self-isolating or shielding.

The study forms part of "pillar 4" of the government's covid-19 testing strategy, which promised UK-wide surveillance testing in addition to population data already being collected by Public Health England. The trial is being led by the Department for Health and Social Care and the Office for National Statistics. It is being sponsored by the University of Oxford and supported by data science company IQVIA UK and the National Biosample Centre in Milton Keynes.

Ian Jones, professor of virology at the University of Reading, said that combining the two different types of testing in one study will provide important data on the prevalence of infection. "Where this has been done elsewhere the level of infection has been 20 to 50 times higher than the known positives and we must wait to see if this is also the case in the UK," he said.

Babak Javid, principal investigator from Tsinghua University School of Medicine, Beijing, and consultant in infectious diseases at Cambridge University Hospitals, said that swab testing households multiple times over the year regardless of whether they had covid-19 symptoms should overcome potential biases that could occur in testing only people with symptoms. But he cautioned: "In the absence of a reliable antibody test, it won't capture past infections in the surveyed households."