

Government begins large scale study of coronavirus immunity

- Antibody testing will help to understand levels of immunity and the role of genetics
- Up to 20,000 people of all ages and walks of life to take part for at least 6 months

Up to 20,000 people are being asked to take part in a new government-funded study to further track the extent of the coronavirus spread across England, Scotland and Wales.

The research will measure blood antibodies to help determine what proportion of the population has already had the infection, the duration of immunity after being infected, and why the virus affects people differently.

Led by UK Biobank and supported by the Department for Health and Social Care (DHSC), the study, which was developed with the Wellcome Trust, also draws on the world-leading scientific expertise of the University of Oxford. It forms part of Pillar 4 of the [Government's COVID-19 testing strategy](#) to conduct UK-wide surveillance testing to learn more about the spread of the virus.

In total, 20,000 thousand people will take part. The study participants will be chosen from existing, consented UK Biobank volunteers, as well as their adult children and grandchildren. This is the first time UK Biobank has opened up a research study to the next generation of participants, which will help to ensure that all regions, ages and socio-economic groups are represented .

Each month, participants will be asked to provide a sample of blood using a finger-prick device, and to complete a short questionnaire about any relevant symptoms they may have experienced. The de-identified samples will be returned to UK Biobank for processing before being sent for validated antibody testing at the University of Oxford.

This information will help inform future Government strategy on the ongoing response to the virus, including lockdown and social distancing measures. The first results from initial participants are expected to be available in early June.

Secretary of State for Health and Social Care Matt Hancock said:

Our response to this pandemic is rightly guided by the science and based on the best available evidence – so I'm determined to do everything we can to learn more about coronavirus.

This UK Biobank study will build our understanding of the rate of COVID-19 infection in the general population and, importantly, it will add to our knowledge about the risk factors that mean the

virus can affect individuals differently.

Alongside the ongoing ONS and Imperial College research, the results of this study will assist our virus modelling and inform future plans for managing the pandemic.

Established by the Wellcome Trust and the Medical Research Council, UK Biobank has been following the health of 500,000 UK participants over the last 10 years through detailed health records, genetic and lifestyle data. As a result, it is uniquely well-placed to investigate whether the immune response to coronavirus differs between people with different genetic backgrounds.

UK Biobank Principal Investigator, Sir Rory Collins said:

We believe most people have mild or no symptoms of infection with coronavirus, but a small proportion fall very ill. This study will help determine the proportion of people who have been infected and, crucially, how long they are immune from further infection.

Much better understanding of what proportion of the population has been infected, how long antibodies to coronavirus stay in the blood, and whether immunity wears off, are vital to managing this pandemic.

Abby Taylor, Head of Strategy and Performance at Wellcome, said:

This study will gather valuable data to further understand COVID-19 and will provide an excellent resource for the scientific community to understand the spread of infection and help guide national efforts to ease lockdown.

UK Biobank participants have already created a unique resource for health research and their active support to such a vital study cannot be underestimated. Understanding immunity to this virus is crucial in predicting future risk posed by coronavirus and supporting the development of new treatments and vaccines.

Naomi Allen, Chief Scientist of UK Biobank, said:

Colleagues at Oxford's Target Discovery Institute have developed, in record time, an accurate test for measuring antibody levels to coronavirus, which will help us to understand what proportion of the population have been infected and how long immunity is likely to last for. This study is therefore hugely important to help us manage the longer-term consequences of the pandemic".

Medical Research Council Executive Chair, Fiona Watt, said:

This study highlights, yet again, the benefits of our long term investment in UK Biobank. The partnership between the researchers and UK Biobank volunteers – extending across generations – is truly remarkable.

This is the third coronavirus surveillance testing survey to be announced. The UK Biobank research will complement data generated by the [ONS population study](#) (launched on 23 April). Both studies will take blood samples to provide data on how many people have antibodies to the virus.

The [Imperial College/Ipsos Mori testing programme](#) (launched on 29 April) is using swabs to understand the level of active infection in participants. It is also undertaking user acceptance testing of antibody tests designed for home use.

Public Health England is also analysing blood samples from people across a wide range of ages, locations and professions, to help detect past and current rates of infection as well as any changes in the virus.

Notes to editors:

1. UK Biobank aims to collect monthly blood samples and symptom data from participants, as well as from their children and grandchildren aged over 18, to measure antibodies and enable an assessment of the extent of previous coronavirus infection in different locations and age groups across England, Scotland and Wales.
2. The study will also enable an assessment of the proportion of asymptomatic cases in the UK. By coupling antibody data with existing genetic and lifestyle data and regular updates of health outcomes available for UK Biobank participants, it will help researchers to understand why different people respond differently to infection with the coronavirus.
3. Potential volunteers will be selected from a group who are already participants with UK Biobank and have expressly consented to be contacted about further research. They will also be asked to invite their adult children to volunteer.
4. A capillary blood collection kit will be sent to participants on a monthly basis, to take ~500 µL of blood (a tenth of a teaspoon) The de-identified blood samples will be sent to the University of Oxford for analysis for the presence of antibodies.
5. Participants will receive feedback on the progress of the study and the overall findings, but they will not receive their individual results.