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.

Education Secretary's statement on coronavirus (COVID-19): 16 May

Welcome to today's briefing from Downing Street. I am joined by Dr Jenny Harries, the deputy chief medical officer.

First, I want to update you on the latest data on the coronavirus response.

2,489,563 tests for coronavirus have now been carried out in the UK, including 136,486 tests carried out yesterday;

240,161 people have tested positive, that's an increase of 3,451 cases since yesterday;

10,484 people are currently in hospital with coronavirus, down 12% from 11,872 this time last week.

And sadly, of those tested positive for coronavirus, across all settings, 34,466 have now died. That's an increase of 468 fatalities since yesterday. This figure is in all settings not just hospitals.

Before we begin questions from the public and from the media I want to remind people of the details of the next phase of our fight against coronavirus.

First, in order to monitor our progress, we are establishing a new COVID Alert Level System, with five levels, each relating to the level of threat posed by the virus.

The alert level will be based primarily on the R value and the number of coronavirus cases.

And in turn that alert level will determine the level of social distancing measures in place.

The lower the level, the fewer the measures; the higher the level, the stricter the measures.

Throughout the period of lockdown which started on 23 March we have been at Level 4.

Thanks to the hard work and sacrifices of the British people in this lockdown, we have helped to bring the level of infection down and we are now in a position to begin moving to Level 3, in very careful steps.

We have set out the first of three steps we will take to carefully modify the measures, gradually ease the lockdown, and begin to allow people to return to their way of life – but crucially avoiding what would be a second peak that overwhelms the NHS.

After each step we will closely monitor the impact of that step on the R and

the number of infections, and we will only take the next step when we are satisfied that it is safe to do so.

Step 1, from this week, means those who cannot work from home should now speak to their employer about going back to work. You can now spend time outdoors and exercise as often as you like. You can meet one person outside of your household in an outdoor, public place provided you stay two metres apart.

Having taken the first step in carefully adjusting some of the measures and our advice to people on what to do, we have also updated what we are asking people to do, which is to Stay Alert, Control the Virus and Save Lives.

If everyone stays alert and follows the rules, we can control coronavirus by ensuring the R number does not go above one and reducing the number of infections. This is how we can continue to save lives, and livelihoods, as we begin as a nation to recover from coronavirus.

At this time of year GCSE and A level students would have been making final preparations for their exams, while others were enjoying their summer term.

If you are one of them, can I say how sorry I am that this has happened to you this year.

The sacrifices that you and all young people have made have been especially tough.

It is now almost eight weeks since we asked schools, nurseries and colleges to close to all but a small number of children.

Once again I would like to say an enormous thank you to all the school, college and childcare staff who have been going above and beyond the call of duty to care for smaller groups of children of critical workers, vulnerable children as well as making sure there are resources available at home for children to learn, interacting with them and making sure that children know you are there for them. You have been simply outstanding and we’re so grateful for what you have done.

We have been quite clear all along, that we would only start inviting more children back into schools when our five key tests had been met. That position has not changed and it is what is guiding our actions.

But we do want to see all children back in school because we know how much children grow and benefit from being in school.

We can now start the planning for a very limited return to schools for some pupils potentially as early as next month.

Let me explain how this will work because I know that some people, including parents and teachers, are very anxious about this.

If the rates of infection are decreasing, it will give us a green light to get children back into childcare and more of them back into school from 1

June.

As part of a cautious phased return, those in Reception, Year 1 and Year 6 will be allowed back into school in smaller class sizes. We are also planning to get some secondary school students back – those in years 10 and 12 – to make sure they have the opportunity to come back to school on a limited basis and have some face to face time with teachers.

We are prioritising these children because they stand to lose more by staying away from school. The first years of school are pivotal for children to develop social and behavioural skills and to learn the basics that are going to have a huge bearing on how well they do in their life. Students in Years 10 and 12 need support in the run up to vital exams next year and it's vital that we do all we can to help them succeed and help them do well.

This is particularly important for vulnerable and disadvantaged young people.

There are some who would like to delay the wider opening of schools. But there is a consequence to this. The longer that schools are closed, the more children miss out. Teachers know this. Teachers know that there are children out there who have not spoken to or played with another child of their own age for the last two months.

They know there are children from difficult or very unhappy homes for whom school is their happiest place in their week. It's also the safest place for them to be and it's thanks to their teachers and the support that their teachers give to them that they are safe and happy.

The poorest children, the most disadvantaged children, the children who do not always have support they need at home, will be the ones who will fall furthest behind if we keep school gates closed. They are the ones who will miss out on the opportunities and chances in life that we want all children to benefit from what teachers and schools deliver for them.

So we're asking some children to come back from the 1 June. And we are asking schools to adopt a number of strict protective measures.

This includes reducing class sizes, and making sure pupils stay within these small groups, creating a protective and small bubble around them.

Schools will also be rigorous about hygiene, cleaning and hand washing. School staff can already be tested for the virus but from 1 June we will extend that to cover children and their families if any of them develop symptoms. Track-and-trace methods will then be used to prevent the virus from spreading.

Together, these measures will create an inherently safer system, where the risk of transmission is substantially reduced – for children, their teachers and also their families.

My department has been issuing full and detailed guidance on how to implement these measures and prepare for wider opening. We have worked closely with the sector, listening to those who work in the classroom. We will continue to do

so, to ensure schools have the support they need.

It goes without saying that we will be carefully monitoring the impact this first phase has and we will use this to guide us when we consider our next steps.

This phased return is in line with what other European countries are doing to get their own schools, colleges and nurseries back.

I know a lot of you may be worried about sending your children to school. Every one of us wants the very best for our children and I know how stressful this time has been for many families. I want to reassure you that this approach is based on the best scientific advice, with children at the very heart of everything we do.

Education is one of the most important gifts we can give any children.

So when we are advised that we can start to bring some children back to school we should do so, so that they don't miss out on the enormous opportunities to learn, to be with their friends and to benefit from everything that their teachers and schools can offer them. We owe it to the children in order to be able to do that.

I would like now to hand over to Jenny and then we will take some questions.

Additional £58 million to help Scotland tackle coronavirus

Press release

The UK Government has today announced an additional £58 million to help the devolved administration in Scotland respond to the challenge of the coronavirus.

This comes on top of the existing £3.5 billion package given to Holyrood to

help it tackle the crisis.

This additional funding follows the announcement of a new Infection Control Fund in England to reduce the spread of coronavirus in care homes.

Welcoming the announcement, Scotland Secretary Alister Jack said:

> No one part of the UK will face this pandemic alone, and today's announcement of a further £58 million of UK Government funding for the devolved administration in Scotland demonstrates how we continue to tackle coronavirus together.
>
> While different parts of the UK are beginning to move at slightly different speeds, we remain fully committed to getting through this crisis as one United Kingdom.
>
> This latest cash boost for Scotland is a result of additional funding being announced for the care homes across England. Our frontline carers are heroes in this crisis, going above and beyond and putting their own lives on the line, and it is right we do everything we can to protect them.

This package is the latest in a range of UK-wide support for businesses and individuals in Scotland. This includes a £330 billion of loans and guarantees for businesses, access to the Job Retention Scheme and support for the self-employed. The UK military is providing both the Scottish Government and the NHS with additional specialist skills and expertise and our UK-wide PPE strategy meaning our heroic front-line workers in Scotland have the protection they need to tackle the coronavirus pandemic. The UK Government has also expanded testing capacity right across the UK with centres opened recently at Glasgow and Aberdeen airports.

Published 16 May 2020

COVID-19 detection dogs trial launches

- 'COVID dogs' to be trialled as potential non-invasive detection approach for the virus in the future
- The dogs, who successfully detect certain cancers, will undergo intensive training to see if they can spot coronavirus before symptoms appear
- Clinical trial backed by half a million pounds of government funding for innovative schemes

Trials for specially-trained 'COVID dogs' that may be able to detect

coronavirus in humans, even before symptoms appear, are set to begin as part of new research. This will establish whether they could be used as a potential new non-invasive, early warning measure to detect coronavirus in the future.

World-leading researchers at the London School of Hygiene and Tropical Medicine (LSHTM) will carry out the first phase of a trial in collaboration with the charity Medical Detection Dogs and Durham University, backed by £500,000 of government funding. This aims to determine whether dogs are able to detect coronavirus in humans from odour samples.

The trial brings together leading disease control experts from the universities with Medical Detection Dogs, who have already successfully trained dogs to detect the odour of many different diseases in humans, such as cancer, malaria and Parkinson's disease.

This new trial will look at whether the dogs, a mixture of labradors and cocker spaniels, can be trained to detect coronavirus in people too, even if they are not showing symptoms.

Minister for Innovation Lord Bethell said:

"Bio-detection dogs already detect specific cancers and we believe this innovation might provide speedy results as part of our wider testing strategy.

"Accuracy is essential so this trial will tell us whether 'COVID dogs' can reliably detect the virus and stop it spreading."

If successful, these dogs could provide a fast and non-invasive detection method alongside the government's robust 5-pillar testing strategy. It is one of a number of testing measures being explored in order to ensure the government's response to the virus is as extensive as possible.

The initial phase of the trial will see NHS staff in London hospitals collect odour samples from people who are infected with coronavirus and those who are uninfected. The 6 bio detection dogs will then undergo thorough training to identify the virus from the samples.

More than 10 years of research gathered by Medical Detection Dogs has shown that the dogs, which could each screen up to 250 people per hour, can be trained to detect the odour of disease at the equivalent dilution of one teaspoon of sugar in 2 Olympic-sized swimming pools of water.

Professor James Logan, lead researcher for the work and Head of the Department of Disease Control at the London School of Hygiene and Tropical Medicine, said:

> Our previous work has shown that malaria has a distinctive odour, and with Medical Detection Dogs, we successfully trained dogs to accurately detect malaria. This, combined with the knowledge that respiratory disease can change body odour, makes us hopeful that

> the dogs can also detect COVID-19.
>
> I would like to thank the UK government for their support of this pioneering research through this funding. We're excited to do this trial, and confirm whether these bio detection dogs can be used to screen for COVID-19.
>
> If successful, this approach could revolutionise how we detect the virus, with the potential to screen high numbers of people.

Medical Detection Dogs and the universities put forward a proposal for the clinical trial to the government, which has been accepted following strong evidence that the dogs can detect other diseases in humans with a high level of accuracy.

The dogs will only be deployed if backed by strong scientific evidence and is part of the government's approach to explore all possible options to tackle coronavirus.

Dr Claire Guest, Co-founder and CEO of Medical Detection Dogs, said:

> We are delighted that the government has given us the opportunity to demonstrate that dogs can play a role in the fight against COVID-19. They have the potential to help by quickly screening people, which could be vital in the future
>
> We have already demonstrated our expertise in canine disease detection by successfully training dogs to detect diseases like cancer, Parkinson's and malaria, and we apply that same science to train life-saving Medical Alert Assistance Dogs to detect odour changes in individuals caused by their health condition.
>
> We are sure our dogs will be able to find the odour of COVID-19 and we will then move into a second phase to test them in live situations, following which we hope to work with other agencies to train more dogs for deployment. We are incredibly proud that a dog's nose could once again save many lives.

- Find out more about the trial.
- Access photos and videos of the dogs.
- LSHTM are finalising the ethics approvals for the sample collection to begin, and will likely have confirmation in the next week. The basic training with the dogs has started.
- The COVID dogs are in early stage training so are not yet working with COVID-19 samples. Therefore, at this stage it is not possible to arrange filming opportunity of them training with COVID-19 samples.
- LSHTM is a world-leading centre for research, postgraduate studies and continuing education in public and global health. LSHTM has a strong international presence with over 3,000 staff and 4,000 students working in the UK and countries around the world, and an annual research income

of £180 million.

- LSHTM is one of the highest-rated research institutions in the UK, is partnered with 2 MRC University Units in the Gambia and Uganda, and was named University of the Year in the Times Higher Education Awards 2016.
- Their mission is to improve health and health equity in the UK and worldwide, working in partnership to achieve excellence in public and global health research, education and translation of knowledge into policy and practice. Find out more.
- Medical Detection Dogs is the world-leading organisation for research into canine olfactory diagnostics. They train dogs to detect the odour of disease with the aim of developing faster, more efficient and less invasive diagnostics that lead to better patient outcomes.
- Their bio detection research includes cancer, neurological disease and bacterial infections and has the potential to benefit millions. They apply what they know about the science of canine olfaction to benefit people by training medical alert assistance dogs, which help individuals manage complex, life-threatening medical conditions. Find out more.
- Durham University is a globally outstanding centre of teaching and research based in historic city of Durham in the UK.

Kate Bingham appointed chair of UK Vaccine Taskforce

Kate Bingham has today (16 May) been appointed chair of the UK's Vaccine Taskforce – the group set up by the Government's Chief Scientific Adviser, Deputy Chief Medical Officer, Business Secretary and Health Secretary to lead UK efforts to find and manufacture a COVID-19 vaccine.

This is a cross-government role and Kate Bingham will report directly to the Prime Minister.

Kate Bingham is a leading figure in the life sciences sector and her appointment will enable the Vaccine Taskforce to accelerate the development of a safe and effective vaccine, one of the long-term solutions to controlling the coronavirus pandemic and saving lives without social distancing or contact tracing in place.

Kate will co-ordinate the work already underway across Government, academia and industry to rapidly develop vaccines, and ensure that as and when a viable one becomes available, it can be produced in mass quantities and safely administered to the public – both in the UK and around the world.

The Taskforce is ensuring the work being done to find a vaccine in the UK complements and supports global efforts. The UK is a leader in the global response, committing £250 million to the international drive to develop a coronavirus vaccine through the Coalition for Epidemic Preparedness

Innovations and hosting the upcoming global pledging conference for Gavi, the Vaccine Alliance, on June 4th.

Kate is uniquely qualified for the role, having worked in the biotech sector in the UK and internationally for 26 years – most recently as Managing Partner at SV Health Investor. Her work has led to the launch of six drugs for the treatment of patients with inflammatory and autoimmune disease and cancer.

Business Secretary Alok Sharma, who has been tasked with ministerial responsibility for the government's work on vaccines said:

> Discovering a vaccine is going to be vital in the plan to defeat COVID-19. Kate's appointment as chair of the UK's Vaccine Taskforce will give us exceptional leadership and focused energy as we seek to make this essential breakthrough.
>
> We stand firmly behind the work of Kate and the Taskforce as they lead efforts to discover and mass produce a COVID-19 vaccine that could save millions of lives in the UK and around the world.

Chair of the Vaccine Taskforce Kate Bingham said:

> Our immediate aim on vaccines is two-fold: to ensure everyone in the UK that needs to be vaccinated against COVID-19 can be as soon as practicable. Secondly, to ensure adequate global distribution of vaccines to bring the quickest possible end to the pandemic and the economic and social damage it causes.

Health and Social Care Secretary Matt Hancock said:

> We are determined to harness the UK's world leading scientists and institutions to discover and develop a vaccine to tackle this global virus.
>
> Kate's work will be critical to this effort. She has an excellent track record in the biotech industry, and brings vast experience working with drug and therapeutic discoveries which gives us a head start in finding and manufacturing a COVID-19 vaccine.

Government Chief Scientific Adviser Sir Patrick Vallance said:

> All vaccines that come into development are long shots and to stand the greatest chance of making a crucial breakthrough we need we need great leadership. That is exactly what Kate Bingham will bring.

> There are many vaccines worldwide in development and its vital that the UK continues to play its leading role in trialling potential vaccines and stands ready to get behind any viable vaccine candidates.

ENDS

Notes to Editors

The Taskforce is supporting efforts to develop a COVID-19 vaccine as soon as possible by providing industry and research institutions with the resources and support needed. This includes working with regulators and scaling up manufacturing, so that when a vaccine is identified, it can be produced quickly and at scale.

The Bioindustry Association is working closely with the Taskforce, bringing together a whole range of businesses keen to use their expertise to mass-produce vaccines, as soon as one is ready.

About Kate Bingham

Kate is temporarily stepping back from her full time role as Managing Partner at SV Health Investors, a leading international life sciences venture capital firm to take on this role as Chair of the Taskforce. At SV she is responsible for biotech investments and activities in the UK and serves or has served on the boards of companies in the UK, US, Ireland, Sweden and Germany. Her investments include small-molecule drug discovery and development projects, biotherapeutic development projects, and drug discovery platforms in a broad range of clinical areas.

Kate played a leading role in setting up the UK's Dementia Discovery Fund (DDF) and serves on the DDF Investment Committee. The DDF was created by six leading pharmaceutical companies (Biogen, GSK, Johnson & Johnson, Eli Lilly, Pfizer, Takeda), together with the UK Department of Health and Alzheimer's Research UK. Launched with initial commitments of £70m it now has £250m to invest in new potential disease modifying therapeutics for dementia.

Prior to joining SV, Kate worked in business development for Vertex Pharmaceuticals, a biotechnology company in Cambridge, MA and at Monitor Company, a strategy consulting firm. She has an MA in Biochemistry from Oxford University (First class) and studied on a Kennedy Scholarship at Harvard Business School (MBA Baker Scholar).