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Iain Bell | Deputy National Statistician and Director General for Population & Public Policy

The Lord Patel KT
Chair, Science and Technology Committee (Lords)
House of Lords
London
SW1A 0PW

2 July 2020

Dear Lord Patel,

I write in response to the Science and Technology Committee's call for evidence for its inquiry on *the science of COVID-19*.

As the Committee may be aware, the Office for National Statistics (ONS) is the UK's National Statistical Institute, and largest producer of official statistics. We aim to provide a firm evidence base for sound decisions and develop the role of official statistics in democratic debate. To do this during the coronavirus (COVID-19) pandemic, we are regularly publishing detailed commentary on the impacts of COVID-19 on the UK economy and society, reacting quickly to the need for rapid information from both decision-makers and the public.

COVID-19 Infection Survey

One such development of particular interest to your inquiry is the COVID-19 Infection Survey. We are working in partnership with the Universities of Oxford and Manchester, Public Health England and Wellcome Trust to provide data from the Infection Survey for England. The survey helps track the extent of infection and transmission of COVID-19 within communities and helps address one of the most important questions the country needs to know – how many people in the UK have the coronavirus (COVID-19) infection at a given point in time.

Participants provide samples taken from self-administered nose and throat swabs to test whether they currently have the virus. They are asked to take tests every week for the first five weeks, then every month for 12 months. Around 10% of participants are also asked to provide a blood sample once a month for 12 months, taken by a trained nurse, phlebotomist or healthcare assistant. These blood tests will help determine what proportion of the population has developed antibodies to COVID-19. Participants are chosen from respondents to previous ONS surveys to create a representational sample of the whole population.

IQVIA, a human data science company, are running the field operation, the National Biosample Centre in Milton Keynes test the swab samples and Oxford University test the blood samples.

The vision for the COVID-19 Infection Survey was always that it should cover the whole of the UK and while the pilot was focused on England, we have been successful at securing support from each Devolved Administration. Working with the Welsh Government we extended the survey into Wales on 24 June with 500 households per week being contacted to take part. A further 500 households will be added each week as the survey continues to develop. The Northern Ireland launch is planned for the end of July and discussions with the Scottish Government have commenced.

To date, over 32,000 people in England have enrolled in the survey, with plans to extend this to over 300,000 over the next 12 months and all four UK nations.

As the ONS have extensive experience in running very large household surveys that gather vital information from a genuinely representative sample of the entire population, we are using that capability to help our health expert colleagues create a reliable picture of the scale of COVID-19 infection and antibody development. This will inform the key decisions that lie ahead in this pandemic,

for example, it is vital for the Scientific Advisory Group for Emergencies (SAGE) to calculate estimates of R, who are regularly publishing these on gov.uk.

Results from the survey have been published[1] weekly since 14 May. The latest of these[2] show that that the estimated number of people in England infected with COVID-19 has decreased since the start of the study, but that decline has levelled off in recent weeks. At any given point between 8 June and 21 June, an average of 51,000 individuals (95% confidence interval: 21,000 to 105,000) had COVID-19, compared to 145,000 (95% confidence interval: 92,000 to 216,000) between 27 April and 10 May. During the 14-day period from 8 June to 21 June, there were an estimated 4 new COVID-19 infections for every 10,000 individuals per week in the community in England. This equates to an estimated 22,000 new cases per week (95% confidence interval: 10,000 to 49,000).

Results also show that around 5.4% (95% confidence interval: 4.3% to 6.5%) of individuals who provided blood samples tested positive for antibodies to COVID-19.

All estimates are subject to uncertainty, given that a sample is only part of the wider population. The 95% confidence intervals are calculated so that, if we were to repeat this study many times, with many different samples of households, then 95% of the time the confidence intervals would contain the true value that we are seeking to estimate.

Collaboration on the Infection Study is carried out in our Secure Research Service, a technology platform with a service wraparound which enables researchers to access Government deidentified, sensitive data safely and securely. It is the only government data lab that has enabled remote access, supporting significant research projects during lockdown. As the ONS is joint data controller, the Infection Study data will be made available for wider research, in line with the ONS' vision of enhancing the use of the nation's data assets.

Cross-Government Collaboration

The ONS are also working in partnership with the Department for Health and Social Care (DHSC), IPSOS-MORI, University College London and Public Health England to deliver a COVID-19 surveillance study in care homes. The Vivaldi Study was commissioned by the DHSC and aims to measure the prevalence of COVID-19 in care homes and the use of disease control measures in each setting. This will inform decisions around the best approach to care home testing in the future. Information on the use of disease control measures will help local public health teams provide effective guidance to care homes. First results from the Vivaldi Study will be published on 3 July, which we will send to the Committee.

Additionally, the Best Practice and Impact Team from the ONS have supported the DHSC in producing the first two Test and Trace statistical publications and the first Personal Protection Equipment statistical publication to ensure best practise was used to communicate the statistics accurately and the methodology transparently.

I hope this evidence is helpful to the Committee, and I look forward to speaking to you on 6 July. Please do not hesitate to contact me if I can be of any further assistance.

Yours sincerely,

Iain Bell

[1] COVID-19 Infection Survey Pilot statistical bulletins
[2] COVID-19 Infection Survey Pilot: England, 25 June 2020