



MRS Awards 2021

Public Policy/Social Research

Highly Commended:

Ipsos MORI

**REACT (REal-time Assessment
of Community Transmission):**

daily data to fight a pandemic

SUMMARY

Since May 2020 Ipsos MORI has tracked monthly the prevalence of COVID-19 (“REACT 1”) and COVID-19 antibodies (“REACT 2”) in England, for the Department of Health and Social Care and Imperial College London.

REACT was innovative in its integration of medical tests and associated infrastructure into an industry-leading “push to web” survey methodology, ensuring the survey was carried out to very high scientific standards. We contributed to the public health response (providing test results daily) and Government decision making (through daily datasets), including monitoring the effectiveness of the vaccination programme. REACT had a strong methodological focus, testing feasibility and ways of sustaining response.

The Secretary of State for Health called the study “remarkable” and “outstanding”. Our collaborators at Imperial College London have described Ipsos MORI as “always professional, efficient and responsive”.

Regular REACT reports led to high profile media coverage, including in televised Downing Street briefings. We highlighted the results using video and infographics to help inform the general public and encourage safer behaviours.

REACT demonstrated the enduring value of high-quality survey research. The REACT studies were two of the most challenging ever undertaken by Ipsos MORI. Ipsos MORI was proud to help the national fight against COVID-19.

SYNOPSIS

In late April 2020 Ipsos MORI was asked by the Department of Health and Social Care to work with leading epidemiologists at Imperial College London to set up two population surveillance studies to track the prevalence of COVID-19 (“REACT 1”) and COVID-19 antibodies (“REACT 2”) in the English population. The Government needed to set up a high-quality surveillance capability almost overnight. Within just one month, we had successfully set up and completed the first REACT 1 survey of 400,000 people, yielding 120,000 test results, as well as developing the methodology for the national REACT 2 survey.

Both REACT 1 and REACT 2 were random probability “push to web” surveys, carried out monthly, with around 150,000 people in England responding within each 2-week measurement window. Participants were randomly selected from the GP register in England, sent a survey invitation to register to participate followed by a test kit if they agreed to take part. The result of the home test was provided within three days (for the PCR test) or in real time from the lateral flow devices (also known as ‘blood prick devices’) used for antibody community surveillance.

REACT 1 provided estimates of prevalence unbiased by testing availability or symptom reporting, measuring change over time. REACT 2 enabled the Government to look in detail at infection levels, and more recently the effectiveness of the vaccination programme. These studies complemented the Office for National Statistics’ Covid-19 Infection Survey and the Kings College London Covid Symptom study – also known as the ‘ZOE app’.

The innovative nature of the work

REACT 1 and REACT 2 was innovative because it integrated medical tests and associated infrastructure into an industry-leading “push to web” survey methodology. Test results had to be provided to both participants and NHS Test and Trace daily, and updated survey data was provided daily to Imperial College London to feed into Government decision-making.

Ipsos MORI, working closely with the Department of Health and Social Care, Imperial College London, Adare, Formara, the Finishing Line, Questback, the Delivery Group, Controlant, and Eurofins Biomnis, developed an end-to-end supply chain to ensure the home testing and associated surveys were carried out to very high scientific standards. Tens of thousands of home test kits were packed and despatched by Formara and the Finishing Line every day with an extremely low error rate given the unfamiliar task (see image 1).

For REACT 1, Ipsos MORI set up a courier “cold chain”, in two weeks equipping 5,000 courier vehicles provided by The Delivery Group with refrigeration equipment to keep hundreds of thousands of completed tests between 2°-8°C from doorstep to the laboratory. We built up capacity to collect 20,000 completed tests a day from every part of England (see image 2).

Ipsos MORI also worked closely with Controlant and consultants to develop a system monitoring the “cold chain” at every point on the swab journey from home to laboratory to ensure completed tests were viable for testing (see image 3).

For REACT 1, Eurofins developed a hub to receive thousands of completed tests daily from The Delivery Group, which were then sent to the laboratory for testing. Typically, Ipsos MORI received results within 48 hours and returned them the same day to participants by email, SMS and letter.

For REACT 2, Ipsos MORI developed a website so tens of thousands of participants every day could upload a photograph of their test result for analysis by Imperial College London.

Ipsos MORI integrated data from the NHS, two web surveys, and the test results, so the pandemic was under continual surveillance, as well as contributing to the public health response by provision of results rapidly to participants and NHS Test and Trace.

The complex data flows meant Ipsos MORI had to innovate by developing a number of bespoke systems to manage them. We used Python scripts to automate a large number of daily data processing tasks, to check the very large volume of early data within 24 hours of any survey launch. We also developed an elaborate system of data production, integrating data flows from Eurofins Biomnis, web surveys and courier suppliers to produce daily datasets for Imperial College London.

REACT had a strong methodological focus. For REACT 2, four feasibility studies were required before the national survey of antibody prevalence could be carried out. We helped Imperial College evaluate the accuracy of the Lateral Flow Test devices, the usability of home testing kits and also trials of other types of test kit.

For REACT 1, it proved challenging to sustain response rates over time, due to the increased availability of testing, the requirement to report all results to NHS Test and Trace, and the diminishing public concern about the pandemic more recently. From the early months Ipsos MORI carried out an extensive programme of experiments to maximise response, including with the number, mode and sequencing of reminders, varying the messaging of reminders, tailoring the invitation messages to different age groups, as well as experiments with the length of the fieldwork period, and giving those in the most deprived areas more time to respond.

The demonstrable outcomes

REACT data has provided an accurate and localised view of the spread of COVID-19, feeding directly into the Government's policy response. The REACT data has been used by SAGE to compute the R (reproduction) number in conjunction with other data sources. The findings from the surveys have directly informed the decisions to bring in regional and national "lockdowns", the definition of the "tiers" across the country, and the lifting of restrictions in 2021.

The speed and scale of testing have enabled the study to quickly detect rising rates of infections and local hotspots, enabling timely public health responses from government. REACT has secured impact by its regular reports, leading to high profile media coverage and has been used in the Prime Minister's televised press briefings. We produced a video of how the programme worked, and an infographics highlighting key study

findings to help inform the general public and encourage safer behaviours.

In addition, the random sampling design means we have identified several thousand people who tested positive yet displayed no symptoms. By informing participants they were positive and needed to self-isolate, the REACT study has enabled scientists to have a better understanding of how the virus is transmitted and limited the spread of COVID-19.

The REACT study has been critical to ensure that the Government's decision-making is based on robust, current evidence and that responses are targeted and appropriate. Our client, Abbie Sherwin at the Department of Health and Social Care, said REACT:

"provided very early information about the epidemiological trajectory at regional and national levels: informing Officials, Ministers and others and continues to support COVID-19 policy development and implementation across Government which ultimately affects everyone in England."

The Secretary of State for Health called the study "remarkable" and "outstanding". Helen Ward, one of our collaborators at Imperial College London said

"The REACT programme has been a really rewarding research collaboration for the scientists at Imperial, but none of it would not have been possible without the logistics support we received from colleagues at Ipsos MORI. They have been a pleasure to work with, always professional, efficient and responsive."

Ground-breaking daily data to fight a pandemic

First and foremost, Ipsos MORI is proud to have significantly contributed to the national fight against COVID-19, and to have demonstrated the enduring value of high quality survey research. While many aspects of the British response to the pandemic have been widely criticised, the survey research community can hold its head up high and be proud of what was achieved.

REACT 1 and REACT 2 were undoubtedly two of the most challenging studies ever undertaken by Ipsos MORI in the fifty-plus years of its existence. To deliver an extremely complex and robust study, involving developing strong working relationships with three new partner organisations, in just a few weeks at a moment of national crisis was an enormous and unprecedented challenge.

REACT required a research team of 36 at Ipsos MORI to provide seven-day contract management and delivery of the REACT programme –including everything from the survey design/ethics advice, sampling, management of the incredibly complex data streams, and participant handling and communications management around the programme.

REACT has been a monumental endeavour:

- Over 12.5 million people in England invited to take part (22% of England's population).

- Almost 2 million swab tests were completed.
- Almost 1 million antibody tests were completed.
- Over 6.3 million web surveys were completed.
- Our survey helpline comprised 75 staff and worked 7 days a week from 8am to 10pm. We dealt with over 1.1 million incoming calls and responded to over 110,000 emails.

Ipsos MORI is committed to ensuring that REACT has an enduring impact. We intend to work closely with the Department of Health and Social Care and Imperial College London on dissemination, to ensure that the wider research community can benefit from what we have learned, and other countries can build on our work when setting up their own surveillance systems.

